

The (im)permanence of fading smoke: A conservation case study of Diane Victor's soot drawings.

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Declaration

I declare that this mini-dissertation submitted in partial requirements for MSoc Sci Tangible Heritage Conservation was written by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or qualification.

Ethics statement

I declare that I obtained all the applicable research ethics approval and have observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the policy guidelines for responsible research.



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Abstract

Even though soot has been used for thousands of years, it is relatively unexplored as a medium in contemporary art. Only a handful of artists internationally have created works from soot. The South African artist Diane Victor is one such artist who has explored the medium, using candles to create magnificent artworks on paper, and more recently on stone and glass. The main focus of this mini-dissertation is a detailed artist interview that records Diane Victor's technique, material use and preferences regarding transport, installation and exhibition of her soot drawings. More importantly, the artist's interview explores the artist's intent regarding the stability and longevity of her soot drawings, as Diane Victor does not use fixatives on her soot drawings. This preference imparts a certain fragility to the artworks placing them at risk of smudging, lifting of pigment and abrasion, in addition to tears, staining and distortion of the paper through improper handling, poor exhibition techniques or accidental events. Although Diane Victor has returned to and reworked drawings she has made in the past to repair damage to the image, she would instead leave damage to the paper substrate to the expertise of conservators, and there is as such a need to better understand her preferences in addition to the material itself. The artist interview attends to the former, whilst a detailed visual documentation of soot drawings samples attends to the latter. Using various lighting techniques and microscopy, the dissertation hopes to highlight the relationship between the paper fibres and the soot; to establish a baseline for future research into how these fragile artworks could be stabilised and conserved.

Keywords:

Diane Victor, soot drawing, paper conservation, contemporary art, instability, artist intent, artist interview, ephemeral media

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Chapter 1

Introduction

1.1. Background and context

Soot as a medium for artworks has been around since the first human decided to paint on cave walls (Royal Society of Chemistry [sa]). Globally, a small number of artists have experimented with capturing carbon-based residues from candles, torches, and gunpowder to create artworks. The impermanence and fragility of the resulting artworks are fascinating to collectors and the public as they are complex in preservation. However, the conservation of smoke drawings is a field that has not been widely explored yet. This dissertation focuses on the soot drawings on paper of South African artist Diane Victor, who, from 2005 to the present, has likewise experimented with the technique (David Krut Projects 2020).

Diane Victor is a well-known contemporary South African artist. She is mainly known for her etchings and prints, commenting on social injustices in the South African socio-political context. In addition, Victor is a part-time lecturer in the Visual Arts department at various institutions, including the University of Pretoria (David Krut Projects, 2020). Victor started experimenting with candle smoke on paper in the early 2000s with an initial project depicting the fragility of the life of people living with HIV¹ (Stevenson, 2005). Since then, she has repeatedly used and perfected the technique and widened the scope of her themes to include capturing portraits of those who have been wronged by society and psychologically and emotionally unstable people. Her works have been exhibited worldwide, including at the Museum of Modern Art (New York, USA), The Victoria and Albert Museum (London, UK), as well as the Iziko Museum in Cape Town, South Africa (Warren Editions [sa]).

While in previous interviews, her technique has been discussed, there has been little focus on the conservation aspect of her soot artworks, how they are handled, stored, exhibited, and conserved (Artnet, 2021a; Artskop 3437, 2019; Moving Cube, 2020; Sendziuk, 2015). An

¹ HIV (human immunodeficiency virus) is a virus that attacks the body's immune system and if untreated leads to AIDS (acquired immunodeficiency syndrome). From the 1990s to early 2000s the HIV infection rate in South Africa reached epidemic proportions and to this day still has the highest number of people living with HIV in the world.

interview with Diane Victor thus forms the core of this dissertation. Artist interviews are a primary source of information about the artist's technique, processes, and material use. It is essential to document this information within the artist's lifetime and so that it is available for future conservation treatments and interviews (Wharton & Rubio, 2013). With the collaboration of the artist, in the second part of the dissertation, different techniques, the artist's soot drawings themselves, fixatives and different papers are documented, to achieve a deeper understanding of the relationship between the soot and the paper. Comparing the artist's soot drawings to my own on different kinds of paper can help to answer whether or not a conservator would be able to repair Diane Victor's soot drawings.

1.2. Diane Victor

Diane Victor was born in the town of Witbank in the South African province of Mpumalanga in 1964. She studied Fine Art, focusing on printmaking at the University of Witwatersrand in Johannesburg until 1986. Initially, the artists Pieter Bruegel and Hieronymus Bosch inspired her. In interviews, she has mentioned that things that upset her, such as social injustices, war and corruption, especially the South African legacies of colonisation and segregation, and the problems encountered in the post-apartheid² era, motivated her to create art. Her artworks portray her anger and pessimism towards today's society (Artnet, 2021a; van Woerden Duneas, 2012:3). Victor once explained that she was not trying to change society with her art, but instead making people think about what is still happening in South Africa, even after apartheid had ended (van Woerden Duneas, 2012:10).

Diane Victor is known for her etchings, prints and her charcoal and soot drawings. She is also known for her confronting imagery, which is, even though beautifully executed, not made to please the viewers' eye but to provoke and stir up the viewers' emotions (Sendziuk, 2015). Her artworks are exhibited worldwide, including the Museum of Modern Art in New York, United States of America, The Baltimore Museum of Art in the USA, and locally in the Iziko South African National Gallery in Cape Town (Artnet, 2021a). She has also won several awards, including the SASOL New Signatures Award in 1987, the Volkskas Atelier Award in 1988 and

² Apartheid meaning separateness in the South African language of Afrikaans was a system of institutionalised racial segregation that existed from 1948 until the early 1990s in both South Africa and South-West Africa (today known as Namibia). The post-apartheid era refers to the end of apartheid and the transition of power to one of majority rule with the African National Congress (ANC) coming into power in 1994 with the election of Nelson Mandela as president.

the Gold Medal Award for Visual Art from the South African Academy of Arts and Sciences, among others (art.co.za [sa]; XYZ, 2013).

Diane Victor initially discovered the technique of smoke drawing while teaching at Rhodes University, in the Eastern Cape. One of the students tried to create art with a candle, and Victor showed her the method. While the student appeared to be uninterested in the method, the artist was inspired by it, above all, by its symbolism of fragility. The exchange between students and teacher draws Victor to teaching and guest lecturing at various institutions, which she has done regularly until about 2012. She appears to be enthusiastic about teaching in institutions and her studio because it exposes her to new ideas and different techniques (van Woerden Duneas: 2012:6). Later, in 2004, Victor participated in a group exhibition on HIV, *'Open End: Images of men and women living with HIV'* (Stevenson, 2005). She started interviewing nuns at the St. Raphael-HIV/ Aids Day Clinic and Soup Kitchen in Grahamstown, Eastern Cape, and eventually interviewed the patients. Inspired by them, she photographed her interviewees and re-created their portraits using candle smoke. This resulted in a series of 40 portraits made with soot on paper (Fried Contemporary, 2014:5, 7; van Woerden Duneas, 2012:15).

Diane Victor continues to be fascinated by the fragility and vulnerability of the medium and the process of making the artwork. Unlike printmaking or drawing on paper, working with soot is much less controllable; the process is more fluid. The candle has to be kept moving to avoid soot build-ups, and since Victor has to work with the paper situated above her head to catch the smoke, it is not always possible to see through the flame how the artwork turned out until she is finished (Fried Contemporary, 2014:7). Victor has not only experimented with soot on paper but has also done several artworks with soot on glass panels. This way, she could create more texture, as she could hang two to three panels in front of each other (Fried Contemporary, 2014:20).

Especially concerning her soot artworks, the connection between medium and meaning is incredibly important to Diane Victor. Seeing that soot is a fragile medium, most of the topics or people Victor covers in her art also represent this fragility. As mentioned above, her first series of smoke drawings portrayed people with HIV/ Aids (van Woerden Duneas, 2012:15f.). Further exhibitions and series that included her smoke drawings were the Missing Children series in 2005/2006, a series of animal heads, as well as a few portraits and full-body images of people in 2011, and *'Which Hunt'*, which included four smoke on paper artworks: of a Pitbull-type dog, a hyena, a monkey and a bug respectively (art.co.za [sa]).

Diane Victor herself has tried out various methods to extend the longevity of her works. However, not all these techniques preserve the actual paper and artwork, but rather the appearance of the technique. For the artworks ‘White Noise’ and ‘One Horn’, Victor used heat resistant plastic film to support her smoke drawing. Then, she exposed the film to gelatine pigment tissue and then etched the drawing onto a copper plate using acid baths. This process destroys the original smoke drawing but preserves the imprint of the work. This technique differs significantly from her other smoke drawings, executed on paper. Still, it is worth mentioning, seeing that it preserves the image for longer, although not in its original medium, but as a print instead (Warren Editions [sa]).

1.3. Problem statement

All cultural materials change over time based on their nature and interaction with the environment (DePauw:2019). Organic based materials are especially prone to several factors that can cause deterioration.

Paper is a relatively fragile material consisting of cellulose fibres from plant material, including cotton, wood, sizing and other additives. As paper ages, the cellulose fibres break and therefore decrease in length. Two factors contribute to the ageing of paper: oxidation and acid-catalysed hydrolysis. The oxidation of paper is an inherent vice of the material itself due to bleach residue from manufacture and metals and other pollutants present in the additives of the paper, but light exposure also causes oxidation. The acid-catalysed hydrolysis is caused by relative humidity and the acidity of the paper itself. Certain types of plant materials also contribute to the deterioration of paper. Wood, for example, contains lignin, which causes the paper to yellow (Guild, 2018).

Although carbon is stable, the lightly applied soot as a medium in artworks is highly fragile, and its longevity is somewhat limited, as the soot ‘sits’ on top of the paper. This makes the image vulnerable to being disturbed, either lifted or abraded, by something being placed on top of it, or shaken off, which can occur due to vibration caused by handling or transport. This creates problems in handling, storing and exhibiting these artworks without causing them damage. Artworks with loose friable media such as charcoal, pastels or soot, in this case, are usually finished with the application of a fixative, which can allow for layering and adding details, as well as ensuring that the fine dusting of these particulate media is not lost, and the image is protected. Spray fixatives can, however, alter the surface colour and texture of these

works and are not always appealing to artists. Victor is one such artist who feels that fixatives change the appearance of her works. She prefers not to treat them as, in addition, the fragility of the media mirrors the meaning of fragility in her chosen subject matter. However, as increasing numbers of her works have been accessioned into collections worldwide, she has mentioned that she would be interested in increasing the lifespan of her artworks, as this would make the art available for future generations.

Recording these details on artist technique, choice of materials, artistic intent when creating the soot drawings (Sheesley, 2007:162), as well as Victor's position on the continued preservation of her artworks, can become a valuable guide for decision making in both curatorial and conservation decisions (Stigter, 2012:102), particularly when artistic intent differs from curatorial and conservation plans and preservation strategies.

Interviews between conservators and artists of contemporary art have achieved increased importance over the last 30 years. In 1990, the Visual Artists' Rights Act (VARA) was published in the United States of America, protecting the artists' intent (VARA, 1990). This will be discussed in detail in chapter three. Unlike interviews done from a sociological or anthropological perspective, the artist's interview with a conservator focuses on aspects of material use and technology of the artist. It is less interested in social facts about the artist herself. The interview, therefore, aims to create practical knowledge which can be used by conservators in the studio and which helps them in their decision-making process when approaching the care and restoration of the artist's works and understanding the intentions, preferences and thoughts of the artist concerning their works (Wharton & Rubio, 2013).

As Diane Victor is not alone in her use of soot drawings and other artists have created soot artworks either in the past or continue to do so now (see chapter 2), this research has a bearing on all artists involved in this medium, including Steven Spazuk, Wolfgang Paalen, and Lee Bontecou. Questions around storage and possibly restoration or cleaning works could be applied to all existing soot on paper artworks, seeing that there is little research about the conservation aspect of this medium available currently. This mini-dissertation thus contributes to understanding Diane Victor, the artist and her work, but also complements our understanding of soot artworks in general and fills a gap in current conservation literature.

1.4. Research questions

The present dissertation has three main areas of questioning regarding the conservation of Diane Victor's soot drawings, and these require different research approaches.

1. Firstly, Diane Victor's technique and material use need to be recorded and understood to conserve her soot drawings better. Both the in-depth interview with Diane Victor and the experimentation in replicating her technique assist in developing this understanding.
2. Secondly, Diane Victor's feelings about the fragility, potential damage to her artworks, and the acceptable range of remedial treatment methods are identified through direct questioning. The artist interview again proves an invaluable tool to document the artist's intent and wishes for the artworks she created.
3. Lastly, identifying a way to potentially stabilise the artworks to increase their longevity without compromising their look and feel requires investigation. To begin to answer this final question, a deeper understanding of the relationship between the paper and the soot is needed. Although visual examination under varying lighting conditions can show different elements in terms of adherence, penetration and topography, other more advanced analytical techniques can yield an even deeper understanding of the materials, and the desire to increase the resistance of the artworks to potential damage can then be carried out without altering the appearance of the artworks.

Although a solution to increasing the long-term stability of the artworks is beyond the scope of the present mini-dissertation, the research certainly provides an initial starting point through experimentation, documentation and archiving the artist's intent.

1.5. Aims and objectives

The study aims to contribute to the conservation of soot as an artistic medium in general. Soot drawings and techniques used by other artists are discussed in the literature review (chapter three) so that a basis of different applications and materials used can be established. This serves as an essential reference guide for the practical component of the dissertation. The focus, however, is on the South African artist Diane Victor and her soot drawings. The study of the artist's materiality is achieved using an artist interview. With the interview between the author and the artist, a database of her techniques and materials, including paper and candles, is

established, including what she has used in the past and is currently using. Furthermore, her thoughts and desires about retouching of her soot artworks, storing and exhibitions, as well as her expectations from this dissertation, are highlighted. While doing the interview, it is taken into consideration that the interview as a primary resource, which falls under oral history, is not always a neutral database, and at times can be inaccurate (Wharton & Rubio, 2013: [sp]). These factors depend on the setting of the interview (in the artist's studio, in a neutral place, at the conservation studio), the mindset of the artist (whether the interview is taking place during the time the artist is busy creating artworks, is pressed for time, etc.), and various other factors. Even though the artist's intent is to give an accurate account of techniques and other things, these factors might influence the recollection of thoughts the artist is experiencing. Another aspect is how the interview process itself can affect the artist's portrayal of themselves during the interview, as Wharton and Rubio (2013: [sp]) note, as the interview serves to represent them in an academic setting, and the artist might choose to portray themselves in a specific light. Once a relationship is established, and Diane Victor was willing to engage in experiments regarding the paper and candles she uses, the practical part of the dissertation could be set up. This practical section of the research aims to study the paper used by Diane Victor and its relationship with soot. The focus was on finding out why the paper and soot behave in a certain way when a fixative is applied and how the surface topography differs on samples that do not have fixatives applied on top of them versus samples that do. The experiment also looks at different kinds of paper and how their fibre structure and relationship with the soot differ. To better understand this relationship, I created my own samples, however as these may vary slightly from those of the artist who has mastered the soot drawing technique, Diane Victor provided an additional two samples of her smoke drawings, which she created explicitly for this study on hot pressed paper to compare and contrast.

1.4. Ethical considerations

Seeing that the artist Diane Victor is a human participant in this study, permission to interview her, record the interview and publish the results was received from the artist and is confirmed in a letter of consent signed both by the student, the supervisor and Diane Victor. The interview is compiled in chapter four, highlighting the most important aspects of her technique, storage methods, and exhibitions. In contrast, the entire transcribed interview is attached to the dissertation in Appendix 2.

As sampling is destructive, no matter how small the sample, using existing artworks was out of the question, and so the research is based on purpose-made samples. The samples used in this study I created under Victor's guidance, whilst she made two of her own for this study, understanding that these would be purposefully damaged for sampling and testing. The appropriate permissions were obtained, and as per University of Pretoria regulations, all research material created and used for this study, including the samples, will be held at the department and kept for 15 years.

1.5. Significance, feasibility and limitations of the study

When looking at artists that have used soot in the past versus the little amount of research done on this medium, it can be argued that this study is significant. Little has been written about soot drawings in general and their preservation, documentation, and significance as a medium in particular. Additionally, no research focuses on the conservation of Diane Victor's soot drawings.

As the research is a mini-dissertation, it has a narrow focus on the soot on paper drawings of Diane Victor. It is primarily based on an in-depth interview with the artist and documentation and an initial analysis of sample soot drawings.

As all equipment, materials, and tools are available at the University of Pretoria conservation laboratory, and laboratories available to the student on Main Campus (SEM), and Diane Victor is locally based, the Covid-19 pandemic did not hamper access to the artist and facilities.

1.6. Chapter Outline

Chapter 1: Introduction

In the preceding introduction, I have given a brief background and context to the study and introduced the South African artist Diane Victor, her drawing technique using soot, also referred to as smoke or soot drawings, and the general use of soot as a drawing medium. The research questions and structure of the dissertation are also described, as are the aims and objectives. The study's ethical considerations, significance, and feasibility are likewise discussed, and an outline of the research is offered as a roadmap.

Chapter 2: Methodology

Chapter two discusses how the dissertation looks at the methods used for the research, using a qualitative approach. The data sources and collection processes followed are explained and the analysis process. This chapter includes a description of the chosen epistemology and research paradigm, among others, and motivates how these are suited to answering the research questions.

Chapter 3: Literature Review

Chapter three reviews published academic sources about the different techniques used by various artists who have used soot as a medium and identify the support materials they use, namely canvas, board and paper. This information was used to prepare for the interview with Diane Victor and provides a background for the research into soot drawings. Any information about treatment that has been done on these artworks and understanding how they are currently stored and, if possible, in what condition they are in is included in the literature review.

Chapter 4: Interview

This chapter describes the main themes discussed in the interview with Diane Victor and discusses the results and methods she has tried in the past to consolidate her soot drawings. The discussion is divided into three sections:

1. Art-making process, materials and inspiration
2. framing, packaging and how she does it and why, including an explanation of how these artworks can be damaged
3. her thoughts on longevity and restorations of her artworks

The full transcript of the interviews is attached in Appendix 2.

Chapter 5: Experiment

Chapter five focuses on the photographic documentation with a camera, USB microscope and scanning electron microscope. Different samples are evaluated, including the ones provided by Diane Victor and my own samples. The chapter attempts to describe the relationship between the paper and the soot and to gain an in-depth understanding of both.

Chapter 6: Conclusion

The final chapter discusses the results of the research. It attempts to answer the research questions, namely, how does the artist feel about the impermanence and potential damage of her artworks, can experimentation with materials and technique aid to stabilise artworks, and finally is there a way to preserve and stabilise the soot artworks to extend their longevity, and how.

Chapter 2

Methodology

Chapter two describes the chosen epistemology and research paradigm and how these suit the selected research questions. In addition, the chapter describes the data sources and data collection processes, as well as the methods used for the research and the process of analysis.

2.1. Research paradigm

Research has been described as a systematic enquiry, where data is collected, organised, and analysed to establish facts and reach conclusions leading to an improved understanding of a particular research topic. The primary purpose of this mini-dissertation is to address a deficit in understanding the conservation challenges of Diane Victor's soot drawings on paper by contributing knowledge that draws attention to soot as an artistic medium.

The research uses the positivist interpretivist paradigm, which falls under the objectivist epistemology. The objectivist epistemology defines that knowledge can be gained through abstract and logical reason. Humans can think objectively and see the reason for a true statement or fact through logic. This way, humans can establish specific values and standards to make sense of the world (Thomas, 2010). The positivist interpretivist research paradigm is often used as a methodological approach in the social sciences and includes sampling and questionnaires (Pham, 2019:2).

In addition to this approach, several research methodologies are dictated by the aim of the research and the questions to be answered. A qualitative research methodology was selected for this dissertation as qualitative research looks at meaning-making, narratives and understanding ideas and values on a particular topic. Qualitative research is appropriate to the present dissertation, which has a one-on-one interview with the artist Diane Victor at its core. Although initial guiding questions were used, a qualitative research interview does not have a strict structure (see Appendix 2). Where required, these were followed with open-ended questions as the interview progressed. The open-ended questions allowed the artist to become an active participant and shape the interview and its meaning by narrating her experiences with increased freedom and minimal interruptions or redirection. This is an important consideration as by trying to stick to a particular rigid set of questions, the interview would have been steered

in a particular way. Allowing the artist to talk freely and guide the interview herself helps to understand her thought process and does not push her into answering questions in a pre-determined way, which may have resulted in a different narrative. It is important to remember that as an interviewer, I understand my power in mediating the narrative of the interview and that the outcomes can be directly correlated to my influence in the interview process, as the outcome often depends on how questions and especially follow-up questions, were asked. (DiCicco-Bloom & Crabtree, 2006: 314; Stigter, 2016:230).

2.2. Methodology and research approach

This research uses qualitative data to set up a profile for the artist Diane Victor's soot drawings. The research approach is divided into three phases: a systematic literature review, an in-depth interview with the artist herself as primary data, and finally, the analysis of soot samples provided by the artist.

The first part of this mini-dissertation focuses on a review of published literature on artists that have used techniques and materials similar to Diane Victor's smoke drawings. It establishes their material use and possible use of fixatives and other ways to consolidate their artworks. The literature review reveals how artists have experimented with soot and similar mediums, including gunpowder, and how little published literature is available on the conservation of these artworks. The literature review helps to form important questions that were asked in the artist interview with Diane Victor. These questions predominantly revolve around material choice, the creation process and conservation of her soot drawings. This includes her past and present use of paper, as well as types of candles and wick size, experiments she has done in the past with different sources of soot and her experimentation with fixatives.

Qualitative primary data is obtained in the second research phase by observing Diane Victor's soot artworks and interviewing the artist herself. Interviewing the artist and recording her responses about her experiences regarding the medium and creating soot drawings is a form of oral history, and therefore a primary source. By making use of oral history in the form of an interview, I can get a more in-depth understanding of Diane Victor's artworks and the processes behind them; as opposed to referring to secondary data in the form of data gathered by other researchers during past interviews and existing publications (Baylor University Institute for Oral History, 2012:1). This is important because conservation has not been the focus of previous interviews and publications.

Based on the primary evidence from the artist interview, the second part of this mini-dissertation in chapter five focuses on samples done by myself and those provided by the artist. Replicating Diane Victor's technique helps me understand how soot is deposited on different types of paper and how the application of fixatives before or after affect this soot deposition, changing the appearance and adherence of the soot to its substrate. Diane Victor created two A3 sized soot portraits on the paper she usually uses as control samples. This allowed me to compare and contrast the texture and application of the soot and fixatives on a series of samples I created for the research. These include regular cartridge paper (280g), thin, smooth crafting paper, thicker smooth crafting paper, watercolour paper (180g), brown craft paper, blotting paper, drawing paper (160g), El Toro white paper (240g), Triplex board (1mm), Fabriano Disegno 5 (hot press paper), and so-called Student Board. Three samples were prepared for each type of paper used; the first untouched, the second coated with soot and fixative on top, and the third with fixative applied before the soot. The experimentation and visual documentation with a camera, USB digital microscope, and scanning electron microscope, are discussed in greater detail in chapter five.

By doing an artist interview followed by an experiment of soot samples on paper, this dissertation becomes a reliable source for future references for conservation treatments of soot artworks on paper and preparation and consolidation methods for artists working with soot.

2.3. Sampling strategy

Before starting the experiment, detailed photographic documentation of Diane Victor's mock-ups is done. The mock-ups are created together with Diane Victor, and those samples are used for the experimentation. Damage is intentionally created on the samples to mimic damage that occurs on actual artworks. Seeing that the soot is so fragile, damage can occur easily. Typically, damage can be expected during poor handling, the transport of unframed artworks, as well as framing the artwork by an inexperienced framer. Damage usually includes fingerprints, which dislodge or lift the soot particles, as well as smudging. Even if an artwork is framed, damage can still occur during installation or de-installation due to physical forces, including tears and punctures caused by failing hanging systems which could cause a framed artwork to fall off the wall and the glass to break and damage the artwork. To mimic the damage, the samples are scratched using a blunt tool. Fingerprints are also applied to mimic smudging.

The experiments, photographic documentation and microscopy are conducted under close supervision of Soyeon Choi, Head Paper Conservator from the Yale Centre for British Art, as well as Aniko Bezur, the Wallace S. Wilson Director of the Technical Studies Laboratory at the Yale University Institute for the Preservation of Cultural Heritage. Using information gathered in the literature review and artist interview, a set of paper and soot samples, as well as various methods to consolidate the samples, are assessed during the experiment, which is discussed in more detail below. The samples are part of the study, and after completion of this dissertation, they will be stored in the department for 15 years. Alternatively, they will be returned to the artist if they request them.

2.4. Data analysis and interpretation

Transcribing interviews after recording is an important step in the documentation and archival process of the interview as a primary resource. In this case, the denaturalised transcription method is used for the transcription. It leaves out the description of mumbles, gestures, filler words and body language, and therefore only “represents unblemished data” (Mero-Jaffe, 2011:232). In this context, a naturalised transcription approach is unnecessary because the interview is not necessarily concerned with the artist’s emotions but instead focuses on her creation process, techniques, and the gathering of practical data about her installation, transport and storage processes. Seeing that any data that I might have to interpret, such as body language, is left out of the transcription, no data is expected to be falsely interpreted. When the artist uses words and processes that are not commonly known, an explanation is included with the necessary references (Mero-Jaffe, 2011:232). For ease of reading, the interview data has been collated into themes in chapter four, whereas the full unedited transcript appears in Appendix 2.

2.5. Research quality

The samples used in the experimentation are all handmade, and thus, each is unique, which could affect the results because handmade samples are never identical. They, therefore, differ in the thickness of the soot because the flow of the candle will be slightly different in every sample that was created. As such, it was important to have Diane Victor supply samples for the project in addition to creating my own. This issue of Diane Victor’s samples not being the same is mitigated by having a change in tonality on the samples. The samples are in A3 format, and

she moves the candle along under the sample but moves slower towards the end so that more soot deposits. This way, there is a lighter shade and a darker shade on the same sample, and it is possible to examine the different tonalities. As Victor used her preferred paper and candles, little bias should be involved when analysing the results.

Chapter 3

Literature Review

3.1. Introduction

Little research has been done on soot or smoke as a medium in art. Artists known for having used this medium are Diane Victor in South Africa, Steven Spazuk, a French-Canadian artist; Wolfgang Paalen, an Austrian-Mexican artist, as well as Lee Bontecou, an American artist. Other artists use gunpowder to draw or make art, which is similar to soot, seeing that both mediums are carbon-based, with the difference that gunpowder also has components of potassium nitrate, charcoal, and sulphur (Jung Ju & Wen Tsai 2012:55, 57).

This chapter discusses several of the artists mentioned above, their techniques and experiments done on their works, except Diane Victor's techniques, which was previously described in chapter one. A closer look is then taken on conservation treatments of fragile media, including the use of JunFunori on powdering pigments and paper manuscripts and the decision to re-draw a soot artwork at the Hamburger Kunsthalle in Germany.

3.2. Artists using soot or similar mediums

Artists using gunpowder as a medium include Edward Ruscha³ (born 1937), Matthew Stromberg⁴, Aoife van Linden Tol⁵ (born 1978), Rosemarie Fiore⁶ (born 1972) and Cai Guo-Qiang. These artists all use paper as support, but Aoife van Linden Tol has used gunpowder on canvas, books, and metal objects as well (Jung Ju & Wen Tsai, 2012 55f). The artist Cai Guo-Qiang, who is Chinese but currently based in the United States of America, started using gunpowder as a medium in the 1980s (Cai Guo-Qiang [sa]). Gunpowder predominantly consists of potassium nitrate (75%. It only contains small amounts of charcoal (15%) and sulphur (10%), and in this way, it differs from soot, which mainly consists of carbon (Rinvenc,

³ Edward Ruscha is a US artist associated with West Coast Pop Art (Wainwright, 2021)

⁴ Matthew Stromberg is a USA-based professor at the Savannah College of Art and Design (Sickler, 2008).

⁵ Aoife van Linden Tol is a London based artist working with bombs and pyrotechnics (Aoife van Linden Tol, 2015).

⁶ Rosemarie Fiore is a New York based artist who creates art with the help of mechanisms found in everyday objects, including lawn mowers and fireworks (Rosemarie Fiore Studio, 2020).

Doutre, Dion, & Learner, 2020:273). Once the gunpowder artwork is detonated, however, carbon residue and some of the gunpowder are left behind, which can be compared to soot drawings. Guo-Qiang uses thick, hand-made canvas manufactured in Kochi, Japan (Rinvenc, Doutre, Dion, & Learner, 2020:276). The only reference that was found is that he used a binder when experimenting with rice coated in gunpowder on canvas so that the surface of the rice grains would become tacky (Rinvenc, Doutre, Dion, & Learner, 2020:277). In an interview with the Getty Conservation Institute Podcast, Cai Guo-Qiang and scientists from the Getty talked about the longevity of his gunpowder artworks (The Getty, 2018). The scientists state that they are currently developing a fixative that does not negatively affect the artwork; however, these results are not currently available. The Getty scientists also studied the longevity and changes in carbon as a pigment over time. Such artworks would be sensitive to light exposure (particularly UV light), temperature and humidity fluctuations, and atmospheric pollutants, especially sulphurous pollutants (Maravilla, [sa]). Longevity and changes are studied using accelerated ageing tests and ageing in an artificial ageing chamber. Light sensitivity is the dominant agent of deterioration that the Getty tested for (The Getty 2018).

Another test done on 20 samples of Guo-Qiang's work included microfadeometry⁷ and artificial weathering⁸. The microfadeometry was done with an Oriel tower light source, Spectra-Physics Digital Exposure intensity controller and recorded with a spectrophotometer. The artificial weathering was done in an Atlas Zenon Arc Weatherometer chamber. Samples were tested for 576 hours in total. This equipment is not available locally for this dissertation but was thought to be important to note down for possible future testing (Rinvenc, Doutre, Dion, & Learner, 2020:289).

Wolfgang Paalen (1905-1959), a Mexican-Austrian artist known for his surrealist artworks, has used the technique of applying soot with a candle or blowtorch to paper in the late 1930s already (Artnet, 2021b). He is seen as the inventor of the technique 'fumage', which describes the use of candle smoke or smoke from a blowtorch as an artistic medium. His first fumage artwork, 'Dictated by a Candle,' was exhibited at the 'International Exhibition of Surrealism' in London in June 1936. The following year, he started integrating 'fumage' into his artworks

⁷ Microfadeometry tests light fastness of materials by projecting a tiny spot of intense light onto the testing material. The length of exposure can range anywhere between minutes to a few hours until change occurs, depending on the kind of material that is tested (The Getty Conservation Institute, 2019).

⁸ Artificial Weathering describes the processes of artificially weathering objects by exposing them to extreme conditions using UV light, high humidity, as well as temperature (Broughton, 2012).

made with oil on canvas, similar to what Spazuk does. ‘Pays interdit’⁹ (1936-1937) is his first artwork in which soot and oil were combined into one artwork. Some of his fumage artworks, however, he drew with smoke only (Neufert, [sa]: 2); belvedere, 2020:3). Unlike Diane Victor, who draws images with candle soot on paper, Paalen used soot on canvas as an interpretation of his thoughts, or the “formation of thoughts from the misty cloud in the head, that prevails a clear thought” (Springerin, 2020:49). These fumage artworks on paper, that are in a private collection in Berlin, Germany, do now show clear images, but rather this representation of cloudy thoughts. The technique does appear to be the same that Diane Victor uses (Springerin, 2020:49). Paalen predominantly used both paper and canvas for his fumage artworks and sometimes worked on wood. Some suggest that even the artist Salvador Dali used fumage in some of his works, for example ‘Autumnal Cannibalism’ (1936). Unlike Diane Victor, these three artists mainly mix the soot with other media (TATE [sa]; Artnet 2021b).

Steven Spazuk has been drawing with soot, which is also referred to as ‘fumage’ since 2001. He uses candles to deposit the smoke onto his canvas but also used other techniques to define the arts, including the application of acrylic paint before using soot and scratching away soot to define the artwork (Spazuk [sa]). Adelson Galleries’ (2021) description of his technique does appear to be similar to Diane Victor’s technique. He first draws a figure onto his canvas using a candle’s smoke and then scratches away some of the soot to create details. He often uses acrylic paint underneath, but he also reveals the underlying paint by scratching away the soot. In an email correspondence with the artist, Spazuk stated that he coats his artworks with two or more coats of an “archival acid-free superfine varnish” (Spazuk, 2021). He did not reveal the brand he uses. He also stated that no restorations of his works have been necessary so far (Spazuk, 2021).

Otto Piene, a German-American artist and co-founder of the Group Zero, also used soot in his artworks. Unlike the other artists mentioned here, Piene used solvent and pigmented paper, which he lit on fire, resulting in soot residue on the paper. His works are also coined with the German term ‘Rauchbilder’ translated as ‘smoke pictures’ (The Mayor Gallery, 2021). He uses a similar technique as Diane Victor; he places the paper over his head and then uses a candle to draw with the smoke. Unlike Diane Victor, he often applies shapes to the paper beforehand. Piene used the matte varnish ‘Marabu Firnis matt’ for his soot works on canvas as a spray fixative. It appears that he always had several of these spray cans in his studio. Unfortunately,

⁹ Translated from French as ‘Forbidden country’

this exact product is not being sold anymore, and the new edition by the brand Marabu is more matte in appearance than the previous one (Brüning, 2021).

The American artist Lee Bontecou uses a blowtorch to create soot. She also works with paper as a support (Jones 2004:50). This differentiates her from the artists mentioned above, who use candles to create the soot. Bontecou's technique and artworks have been studied by Linda Owen (2008) after an early artwork was brought into the National Gallery of Art and displayed damage, including a long mark and smaller scratches from an unknown cause (Owen 2008:47). Instrumental analysis, including examination under a stereobinocular microscope, Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM), were used to research the relationship between the soot deposit and paper (Owen 2008:48). The study also indicates that Bontecou's artworks have a layer of fixative applied to them. The artist cannot recall what fixative she used in the past but currently uses an acrylic-based matte spray fixative (Owen 2008:51). With the information gathered during the analyses, Owen (2008:52) determined how to treat the damage of the artwork. The big scratch was in-painted using powdered pigment (burnt umber and ivory black) mixed with ethanol. Seeing that using a paintbrush would result in further loss of original material, "A very fine line of water was painted just shy of the edge of the loss. The inpainting material could then be applied and would flow up to the edge of the water line" (Owen 2008:52). Bontecou states that she has retouched some of her works before using the blowtorch, but this would not have been possible with the present artwork, seeing that a fixative had already been applied to it. Diane Victor (2019) likewise has retouched some of her artworks with candle soot, although this is not a common practice because it is difficult to do and somewhat changes the appearance of the artwork.

Further cleaning of Lee Bontecou's artwork took place using a pointed rubber tool, which was wiped on a cotton cloth to create an electrostatic charge. This charge was strong enough to pick up dust particles from the artwork without touching it (Owen 2008:52). Seeing that little information about the preservation, storage, or treatment of soot drawings was found, Owen's paper is an excellent guide for my own study, which hopes to contribute to the conservation of soot drawings.

3.3. Artistic Intent

As briefly mentioned in the introduction, artistic intent has increasingly gained more attention, as well as importance, in the field of conservation (Quabeck, 2021; Gordon & Hermens, 2013;

Owen, 2008). Artist interviews, which contribute to documenting artistic intent, help conservators understand the artist's techniques and processes involved in creating a particular work. A research paper relying on an artist interview is Linda Owen's (2008) paper about the artist Lee Bontecou (born 1931) and her soot drawings. Additionally to the practical knowledge, this type of interview produces insight into the artist's intentions and feelings towards conservation efforts (Wharton & Rubio, 2013). Artists can help identify damage in otherwise poorly documented works and whether or not conservation treatment would be appropriate in the context of the work (Owen, 2008:47). In addition to the artist, galleries, framers and assistants familiar with the artist's works could be involved in this type of data collection to get an in-depth understanding of the artworks, preferred framing and exhibition methods, among others (INCCA, 2016:3). While artistic intention in the context of contemporary art often refers back to the meaning of the artwork itself and discusses the importance of how the artist interprets their artwork versus how the public interprets it, it also refers to an artist's intention when it comes to the tangible aspects of the artwork, which includes conservation-related aspects (Gendin, 1964:193). The artist interview that forms the core of this research focuses on these tangible aspects and touches on how Diane Victor includes the medium's fragility with the themes she discusses in her artworks, which incorporate the fragility of life and its fleeting nature. Seeing that Diane Victor uses soot, an impermanent medium, and that she clearly states in the artist interview that initially, she never intended for the artworks to last forever, the meaning of artistic intent which relates to the artist's relationship between them, and their artwork can still be applied in this case.

There are various ways the notion of artistic intent has been interpreted. The Idealist art theory states that artworks have their own agency about the meaning they convey (Dykstra, 1996:210). This is often applied to Old Masters artworks, for which one can only assume meaning and intent. Working together with contemporary artists gives galleries, art historians, conservators and the like the opportunity to consult the artist about these factors. This is important because it is well known that artists worldwide feel differently about the interpretation of their works, as well as possible restoration efforts (Dykstra, 1996:208).

The publications, letters and public lectures by the fine artist James Abbott McNeill Whistler (1834-1903) describing his intentions and wishes for his artworks, frames and future treatments show that the notion of the artist's intent is not at all recent. Whistler, in fact, wrote notes about future conservation of his artworks and collaborated with curators, giving his opinion about exhibitions and how to display his works (Hill Stoner, 1997:107). Not only does Whistler give

his recommendations, but he also explains why he prefers specific treatments for his artworks. Even though this does not replace a trained conservator's informed opinion about a conservation approach, these notes help to give a general direction for treatment efforts. Whistler, for example, stated that he wanted his artworks cleaned and re-varnished with a non-yellowing varnish. He explained that the colours in his paintings were of such tones that they easily discolour when dusty, or when the varnish starts to yellow and therefore change his painting's aesthetic, which he finds undesirable (Hill Stoner, 1997:109). It is also important to mention that another reason for this is that the varnishes available to him at the time easily yellowed. This explanation for his treatment choices gives the conservator an idea of why frequent cleaning is required for Whistler's paintings. Because conservators understand why he wanted his paintings cleaned regularly- to preserve the freshness and brightness of the colours, which is the core of his artistic wishes- they are able to choose a stable non-yellowing modern alternative to keep the colours and intended appearance without having to 'clean' regularly.

With contemporary art, time-based media, and the use of ephemeral materials such as the soot Diane Victor uses for her soot drawings, artists become more and more vocal on the longevity and subsequent 'interference' of their works through conservation and restoration. In South Africa, artistic intent and artistic integrity are not yet widely understood and recognised by cultural heritage institutions. However, this is not the case everywhere. In the United States of America, the Visual Artists' Rights Act (VARA) was published in 1990. VARA implemented moral rights, rights of attribution, as well as rights of integrity to visual artists. Visual Art, under the act, is described as "a painting, drawing, print, or sculpture, [...] that [...] bears the signature or other identifying mark of the author", as well as "a still photographic image produced for exhibition purposes only, [...] signed and consecutively numbered by the author" (Visual Artists Rights Act, 1990). This legislation is important for conservators in the USA to consider because it prohibits any extreme alterations, damage or destruction of artworks and therefore encourages the consultation with artists (Garfinkle, Fries, Lopez & Possesky, 1997:166). Recording the artist's intent and having this data available when restoring or treating an artwork can guide the conservator and prevent any treatments that the artist may see as damaging. VARA specifically focuses on intentional damage and negligence that occurs to artworks, and not about the artist's intent on intangible aspects, including fragility and ephemerality of artworks, such as Diane Victor's soot drawings, which is made of a material that is not meant to last (VARA, 1990). However, VARA can be seen as an important piece of

legislation and a step into protecting the artist's intent, something that should be implemented in legislation worldwide. This is to some extent in the public sector, seeing that some institutions require documentation of the artist's intent as part of the artwork's documentation.

The artist's intent is an essential part of the documentation of artworks. This is especially true for artworks done in ephemeral media, such as soot. It is also important to mention that artists' thoughts about conservation treatment do not always go along with best practices and ethics in conservation. Here, the artist interview is especially important to discuss the artist's intent and how one can merge it with best practice (Stigter, 2012: 108). Diane Victor's opinion on the longevity of her artworks forms an important part of the artist interview, even though it is currently not protected under South African law. Ethically, conservation treatments should consider the artist's intent, not only about tangible aspects, including the artworks' physical attributes but also about the artist's wishes about aspects including longevity of their works, especially when it comes to ephemeral media, like soot.

3.4. Conservation treatments for soot artworks

A few conservators have consolidated or restored carbon-based artwork and mediums with similar characteristics, including being fragile to the touch and sensitive to vibration. One method was to use the polysaccharide JunFunori to consolidate powdering pigments, including ochre on bark substrates or desert dust on car surfaces, which was done at the National Museum of Australia (Brian, 2021). JunFunori is a purified extract from dry seaweed, which stems from the red algae 'Gloiopeltis furcata' found in the Pacific around Japan's, China's and Korea's coastlines (Talas Online, 2021a; Kremer Pigmente [sa]). According to the manufacturer, JunFunori is best used to consolidate fragile paint layers but can also be used as a facing and retouching, together with a glue binder (Talas Online, 2021a). JunFunori is water-soluble and has been used to combine deionised water with isinglass, a glue made from the swim bladders of sturgeon fish. This particular mixture of water, isinglass and JunFunori have been used to consolidate flaking paint on a collage made by the German artist Kurt Schwitters (Masson & Ritter, 2004:94). The National Museum of Australia has used JunFunori by ultrasonic misting¹⁰

¹⁰ An ultrasonic mist maker, also called an ultrasonic atomiser, creates mist by transferring high frequency sound waves into mechanical energy, which is then put into the water and there it creates standing waves in the liquid located in the mist maker. As the liquid enters the surface, the ultrasonic waves transfer it into droplets, which then creates a fine mist (Hareendran, 2021).

or applying it with a facing¹¹. According to the Senior Objects Conservator of the National Museum of Australia, this method has been particularly successful for flaking pigments. However, there was no mention of using it on pigments on paper (Brian, 2021). In Japan, JunFunori is often used as a sizing agent to re-adhere and as a facing for matte paint layers in paper conservation (Messenger, Rouchon, 2013:12). Only a few references of JunFunori being used in paper conservation were found, including the Queensland Art Gallery in Australia, where conservators used JunFunori as an adhesive to re-adhere flaking white paint back onto a Japanese folding screen (Daekne, 2020). The British Library has used JunFunori on a late 18th-century Concertina binding from Burma, a paper-based manuscript. The manuscript was fragile, distorted and had loose or missing fragments. After restoration and humidification¹², JunFunori was applied with a nebuliser in a 1.4% solution. Applying it in the form of a mist, the JunFunori solution was able to settle between the friable elements and the paper and adhere them together. The manuscript was then lined with Japanese Kozo paper (Todd, 2016).

3.5. Conclusion

Reviewing the available literature has shown that little has been published on actual artworks made from soot. Artists that have used soot in the past have either used a spray varnish to fixate their artworks or have left it as is. However, there appear to be no further studies into the subject of exploring soot on paper or canvas, its ageing and deterioration. It doesn't seem easy to receive information about treatment, storage, or exhibition from museums and conservators. This could be due to the current lockdowns caused by Covid 19, which makes it difficult to get a hold of institutions or private people. Studies done on similar mediums, such as gunpowder, can perhaps give an insight into what one could expect from soot, seeing that some soot deposits are left behind when gunpowder is detonated. For future studies on soot artworks on paper, it is important to study older works, such as the ones by Wolfgang Paalen, that a private collector in Berlin owns. These works, which were done in the late 1930s, can give a clear insight into the deterioration of the soot and the paper over time, as well as possible chemical

¹¹ A facing is used in conservation to either temporarily consolidate or strengthen an artwork with another material of paper or cloth (the facing) and a reversible adhesive to stabilise the artwork, usually when structural treatments such as relining or moving. Facings can also be applied to an object or artwork as part of the cleaning process (Alba, Martín-Rey and Doménech-Carbó, 2019).

¹² Humidification of paper involves re-introducing moisture to the paper in order to relax it by adding water. This can be done by spraying water onto the paper. The water should either be in the form of droplets, mist or vapour, depending on the treatment and condition of the paper (Watkins, 2002).

reactions between the paper and the soot (Springerin, 2020:49). Furthermore, it is important to gather more information about the specific brands other artists, such as Steven Spazuk and Lee Bontecou, are using for their works, seeing that Spazuk's artworks appear to have similar images as Diane Victor's works. Further research could focus on interviews with different artists, including Steven Spazuk and Lee Bontecou, and photographic documentation of their soot artworks to establish if they experience added texture from the fixative spray they use or have used in the past. This is important because Diane Victor has highlighted that this textural change is something she tries to avoid (see chapter four). Unfortunately, this information is not readily available yet.

Since there is little information on conservation treatments on fragile and friable surfaces, researching the relationship between the paper fibres and the soot in the fourth chapter of this dissertation is important because it will help identify conservation materials worth experimenting with. JunFunori has promising qualities and has been used successfully on friable surfaces in the past and could, therefore, warrant experimentation as a potential fixative for soot artworks.

This literature review also shows that Diane Victor is a renowned South African artist with great experience in different fields. Having worked in European countries and the United States of America, she has been able to work with other artists and experiment with her soot artworks as well. As Diane Victor has been immersed in academia at the University of Pretoria, and the University of Johannesburg, both research-intensive institutions, this has allowed her to look further into the longevity of her soot artworks; most notably to investigate different ways to preserve the appearance of the artworks. Understanding the limited longevity of some of her artworks, Victor revisited two of her soot on plastic works *White Noise* and *One Horn*, which she later recreated as an etching. Seeing that most of the interviews and articles focus on the meaning and images of her artworks, the interview that forms part of this dissertation will contribute to gathering information about her technique and conservational aspects to her works, as well as her thoughts in increasing the longevity of her soot artworks on paper.

Chapter 4

Interview with Diane Victor

4.1. Introduction

This chapter presents a detailed interview with the artist Diane Victor. Diane Victor's processes are discussed over two interview sessions on 26 April and 6 May 2021. As mentioned in chapter one, artist interviews can be vital resources for conservators and conservation practice when approaching artworks by a particular artist. The full interview transcript is included in Appendix 2. The information here is condensed, interpreted, and separated into three sections: Diane Victor's material choice and techniques in making soot drawings, framing, packaging, transport and exhibition, and finally, her thoughts on the longevity of her artworks and their restoration.

4.2. Diane Victor's material choice and techniques in making soot drawings

The following section summarises Diane Victor's choice of paper and drawing and her technique in creating her soot on paper drawings.

4.2.1 Paper selection

The 'Open End: Images of men and women living with HIV' exhibition in 2005 was the first time Diane Victor used soot as a drawing medium. While teaching at Rhodes University, she encouraged students to use unusual mediums to create art. One student chose to experiment with soot but did not enjoy the process. Then, due to time constraints, Diane Victor decided to use soot on paper for the 'Open End' exhibition. Seeing that the soot has to be applied fast, it was a medium she could use to create a reasonable number of artworks within a short period of time. She took photographs of HIV patients at the St. Raphael HIV/Aids clinic in Grahamstown in the Eastern Cape, South Africa, and then used the photographs as reference images to create 36 soot portraits (Van Woerden Duneas, 2012:5). For this first project, Diane Victor used regular 200g Ashrad cartridge paper as a support for the soot drawings, as this was all she had access to at the time. She has tried many different kinds of paper ever since and has developed preferences. She finds that most commercially available papers are not smooth enough and give the soot an undesired texture. When looking into different papers, Diane goes

into art supply stores to physically feel the papers they have available. In South Africa, she uses the brand Fabriano for her large-scale soot artworks and lighter, hot press paper for smaller artworks. As the name indicates, hot press paper is rolled through two heated rollers. This compresses the paper fibres more than the cold press process, creating a smoother surface (Lewis, 2020). The advantage of the hot press paper is in how the smoke rolls over it, only touching it slightly, allowing for a greater variety of delicate layers and colours in the soot. Paper that has a tooth, like the Fabriano paper, holds the smoke and slows it down because it is caught in the fibres, which gives the smoke a different appearance, in addition to the texture it portrays. The smoother paper gives the soot less texture, a characteristic which Diane Victor prefers. It is also easier to rework the image through additional brushwork to remove some of the soot to increase details, such as in the eyes of portraits.

As Diane Victor has travelled much, she also experimented with papers in the United States of America, where the range of papers is much broader than in South Africa. The quality of hot press papers there is much better. The paper is sold in sheets in the US and is often unavailable in South Africa. Unfortunately, most of the speciality paper stores Diane Victor used to go to have closed down in favour of online sales. As she depends on feeling the texture of the paper before purchasing it, this is no longer possible. Therefore, she has adapted her technique to using the local paper in South Africa. She is now also trying the technique on new surfaces, including glass or stone, as could be seen in her exhibition 'Folly, Frailty and Fear' at the University of Johannesburg Art Gallery (UJ Arts & Culture, 2021). She has also experimented with foam core, with works exceptionally well. However, seeing that foam core is not a stable archival material and its perception as a backing board and not a support for artworks has made the choice unpopular. She has thus abandoned its use as a support for soot drawings.

4.2.2 Size

Her artworks range in size from small (an A4 paper) to large. The size depends not so much on the medium and technique but instead on the size of vehicle available to transport them. Due to their inherent fragility, soot artworks cannot be rolled up or stacked, but rather they need to be secured individually in a box or crate for storage and transport.

4.2.3 Candle selection

Diane Victor uses cheap candles with a high paraffin content as a drawing medium. These candles give off a lot of smoke, making drawing with them easier. She usually uses thin white candles, such as Prices' Lighthouse Candles. To create thinner or thicker lines, she sometimes binds a few candles together or uses different sizes of wicks. She usually has a few candles at hand when she creates an artwork, some with a shorter wick, which creates a smaller flame, enabling her to draw more detailed pictures, and some with longer wicks, which have a larger flame. To create fine details, birthday candles are used. As with the paper, Victor experimented with different kinds of candles. Diane mentions that some Western countries have environmental regulations on the candles, which alters the amount of soot released, thus being unusable for her technique because they do not create the smoke she needs to draw her artworks. The paper ends up getting burned or seared. She has also worked with animal fat, including rhino fat for a specific project, and sheep fat. Drawing with animal fat was difficult because the candles tend to melt, and they give off an unpleasant smell. The result, however, she found very satisfying because the candles give off beautiful smoke. The smoke of paraffin lamps is too slow and difficult to control for the artist.

4.2.4 Creation process

To create a soot drawing, Diane Victor first draws light outlines and proportions using a pencil. She does this because it is difficult to work upside down, looking through the flame and having to move the candle reasonably fast while also creating proportions at the same time. Diane Victor works with the artwork hanging upside down from the ceiling or on an angled board. This way, she can catch the candle smoke best. For the small drawings, she takes the drawing down every five minutes to see her progress, whilst the larger drawings continuously hang from the ceiling for the duration of the creation process.

Once she is done applying the soot, she often reworks the image using make-up or any other very soft brush to add detail by removing some of the soot. Soft makeup brushes are preferred because they dislodge a few soot pigments instead of drawing a harsh line, giving the painting a more organic look. The brushes she uses pick the soot up and do not move it around in the paper. Often, one can see the brush strokes in her artworks, even though Victor tries to intervene as little as possible. Victor often goes back again with the candle to add soot to some areas. However, if she adds too much soot, the drawings become very dark, to the point where

the image becomes unrecognisable. She often burns the unsuccessful attempts and uses the ash this generates for ash drawings.

The creation process usually takes her between 20 to 30 minutes to create a portrait soot drawing, but much longer for the larger drawings. The actual process of drawing with the candle is not long; it becomes muscle memory as one learns to move the candle in a certain way to achieve different kinds of effects. She adds that often, she leaves the soot drawing unfinished and comes back later. Diane Victor does, however, note that in areas where multiple layers of soot were applied, these were easy to manipulate with a brush within the first hour. Still, it would be difficult to add detail with a brush the next day as chunks of soot would come off, taking away the organic feeling of the drawing. This, however, she felt has no impact on the soot or the paper and ultimately does not leave the artwork looking any different than if she had finished in a single session. The soot, in general, remains sticky. Seeing that the artwork hangs from the ceiling, a few pigments can fall off. Still, Victor remarks that this is usually no more than would typically fall off during minor vibrations that occur when moving the drawing. If she leaves the drawings for a few days, Victor says that she would take them down, place them into a drying rack, and then cover them to protect them from dust and insects. She says that insects leave perfect tracks on her artworks, which is a problem, especially when working in the Eastern Cape.

4.3. Framing, packaging, transport and exhibition

As much damage can be incurred from handling during the framing, packaging, transport and exhibition, it was important to understand how the artist attempts to minimise damage to her fragile artworks during these necessary steps from creation to exhibition.

4.3.1 Framing & packaging

Once Diane Victor finishes a soot drawing, it is packed away safely. As mentioned above, she has a drying rack that she covers with a plastic cover to avoid dust settling on the artwork or insects walking over the artwork. This way, she can store the artworks without having to worry that anything is being placed on top of it, as could easily happen in a map drawer she uses for other artworks. She states that the ideal thing for the soot drawings is to get them framed because it is the best protection a smoke drawing has. The artworks are float mounted into the

frame using T-hinges. In this process, only archival tape is used for the float mounts. The process of float mounting makes the artwork appear as if it is floating in the frame. To achieve this, the artwork is raised slightly above the backing board, instead of the traditional approach where the backing slightly covers the edge of the paper. The T-hinges are often made from self-adhesive linen hinging tape. Two strips of linen tape are put in a T-shape in each corner of the artwork's back, in a way that one strip will stick to the artwork and the other to the backing board (Academy of Art University, 2014). Then, the artworks are box framed, a deep frame with the artwork mounted several centimetres from the glass, which is Diane Victor's preferred framing method. Box framing is the ideal framing method for the smoke drawings on paper, as they are not in contact with the glass or mount. Diane Victor established a specific process with the framers at Stuart Trent in Pretoria to float mount her artworks. She highlights that she also leaves ample space along the edges of the paper because she tapes the paper onto a board when applying the soot; this spacer allows the framers to put some pressure on the front of the paper without having them touch the soot and the edge is trimmed off once the artwork is framed. She has tried different framers in the past but found that many are inexperienced with soot as a medium, which led to many damaged artworks. Working with only one trusted framer gives her the ease of mind that her drawings are safe.

Due to financial constraints, however, she cannot always frame every drawing immediately, especially larger images, as the cost is prohibitive. Once a painting is sold, she will take it to the framer. In addition, buyers often want a specific type of frame that fits their collection.

As mentioned previously, Victor does not fix her artworks, and their surface is very fragile and easily damaged. Therefore the artworks cannot be rolled or stacked. Diane Victor uses bespoke cardboard boxes to store her soot drawings, using heavy-duty, three-ply, non-archival cardboard because she explains that this form of storage is not meant forever. Thinner cardboards' lids would sink in over time and end up touching the drawings, damaging them. Victor states she would always choose box framing the artworks for long-term storage instead of having archival cardboard boxes made, as the costs are comparable.

4.3.2 Transport

Transport of these fragile artworks, as mentioned previously, presents a serious challenge. As a result, Victor usually transports her artworks to exhibitions herself. Once, she had to transport a few smoke drawings that she had to transport to Gauteng from Rhodes University. For this

purpose, she had a 1.5m by 1m wooden box made with shelves in which she could tape the artworks. On another occasion, Diane Victor made three 2.5 m long drawings for a show at the Goodman Gallery in Cape Town. Seeing that these drawings were so large, she had them box framed immediately and transported them in their frame in a truck as it was the safest option.

4.3.3 Exhibition

During exhibition installation, Diane Victor prefers to be involved in the process of handling and installing her works. Sometimes, galleries suggest methods of installing the works that the artist has to go along with but does not entirely agree with, such as using white foldback clips to exhibit unframed works. Even though the clips were backed with cardboard in between, they left an indent on the paper, which is not desired. However, the artist uses old-fashioned foldback clips and sprays them white to match the paper. According to her, these are more sensitive towards the paper than the modern foldback clips. At a show at the University of Johannesburg Art Gallery in April 2021, some of her works were framed and others unframed. Diane Victor states that this is unusual for her shows. Seeing that Covid 19 delayed the show a year back and some of her works were already pre-bought, she asked the buyers if she could still exhibit these works at the show. The bigger, unframed ones had not been bought yet, hence why they were unframed. Diane Victor states that this would not happen with exhibitions at bigger art galleries with a larger audience, such as Goodman Gallery; it would either be framed or unframed.

4.4. Diane Victor's thoughts on the longevity of her artworks and their restoration

Diane Victor has tried various methods of increasing the longevity of her soot drawings. Firstly, she has tried sizing the paper beforehand. For this, she worked together with printmaking shops. One of the methods she tried was to size the paper with gum Arabic, but it did not allow her to remove soot with a brush after applying it. Then she also tried to apply the soot drawing onto Plexiglas and transfer it onto a paper sized with gum Arabic. She has also tried transforming the smoke drawings into photogravures, as well as making a lithograph from it, using aluminium lithograph plates and an emulsion. Unfortunately, the depth of the drawings always got lost in the process, leaving the artwork looking flat. Diane Victor also stated that she used a large variety of fixatives, including the brands Talens and Gumbacher, as well as other fixatives available to her in South Africa, and even hair spray, to try and fixate the soot after

completing the drawing. The most noticeable thing was that the fixatives change the complete tonal range of the artwork from brown to grey. It also loses depth, making it look flat, and adds texture to the artwork, which is not what the artist desires. Diane Victor found the same results using spray fixatives, atomisers, and fixatives used for photographs.

Diane Victor also states that she has never read up on the techniques other artists use to create smoke drawings, but rather on their methods of fixating their drawings to make them less fragile. After completing her first series of smoke drawings, she began this research and realised she wanted to use this technique in the future.

When Diane Victor originally started making the soot artworks, she never intended for them to last forever. She states that she intended they would be destroyed. However, once galleries became involved and there was a demand for these works, money was exchanged; suddenly, these artworks had market value. Initially, the portraits of the people living with HIV were exhibited unframed, but once the Iziko Museum in Cape Town showed interest in them, they were framed. Because people invest in these artworks, they expect them to last. Diane Victor highlights that this money exchange for art is, in fact, a huge problem for her, but she has to make a living from her art so that she can continue creating works. According to the artist, the first series of smoke drawings that she created should not be there anymore, but because money was exchanged, it is now an investment, and the buyers expect it to last. In this, she is not alone. Ger van Elk (1941-2014), a Dutch contemporary artist, shared the same sentiment that he does not necessarily see his creations as something of monetary value but as “sculpted poetry” (Stigter, 2012:107). The financial exchange for his artworks was also a means for him to continue creating artworks (Stigter, 2012:107).

Diane Victor is certainly open to any repairs on her artworks. If a smoke drawing becomes damaged during an exhibition and is supposed to be exhibited again elsewhere, Diane Victor states that she reworks the artwork. However, if not, and if it was not sold, she burns the work. On other occasions, she allowed the damaged area to become part of the artwork and its deterioration, especially as most of her soot drawings deal with the meaning of fragility, reflected in the choice fragile and fugitive medium. When she reworks an artwork, it is usually for buyers whose works have sustained damage, for example, from the frame falling off the wall. If glass fragments have left lines in the soot drawing, Diane Victor would first go in with a soft makeup brush, break the sharp edges, and then add more soot. Repairing the image will often change it, which cannot be avoided, as the smoke is uncontrollable. One aspect that Diane

Victor is not comfortable with it when a damaged smoke artwork is exhibited in a museum or gallery, and there is no context given as to why it is damaged. She would then instead go in and rework it for the institution or have them explain the life cycle of the soot artwork to the viewer and make them understand soot as a medium and its fragility. What is also important to mention is that the artist views deterioration as a normal aspect of the artworks' life cycle. If an artwork remains unframed, soot attracts dust easily. Some would see this as an alteration that should be repaired, but Diane Victor sees it as a patina. She states that soot changes over time, newly applied, it looks shiny, but later, it will become duller due to the smoke accumulating dust particles. What does not change is its tacky surface.

The artist admits that she never intended to create many smoke drawings. However, she was encouraged by galleries and museums to do so, and because of the demand, she continued making them. This was also when she started looking into methods to stabilise soot better. She acknowledges that initially, she did not give much thought to how the works were going to survive long-term because they were not meant to last, and in some way, she highlights, she feels that she has created a little monster. According to the artist, she should have stopped using the medium after making the series of portraits of missing children or only used it for sensitive aspects. However, due to pressure from galleries, she continued using the medium, developed her own technique and created more smoke drawings, not just using paper but also other supports, including glass and stone. Diane Victor admits that she struggles with this and wishes she could put an expiry date on her works. However, once people purchase her works, they take on ownership, and she feels buyers would ignore the concept of an expiry date.

If someone were to find a technique to stabilise the soot and make it last long-term, Diane Victor mentions that she would change how she works with the medium. Not so much in terms of its technique but more so in its application to certain themes. She would not incorporate the meaning of fragility anymore, and it would also lose its uniqueness as a fragile medium and become more mainstream.

When it comes to the professional conservation of her artworks, Diane Victor sees herself as the best person to repair damage to the image. The technique of applying smoke to paper becomes instinctual due to muscle memory. However, when it comes to fixing damage related to the paper, she concedes conservators may be better equipped. Diane Victor is very conscious that there may come the point where she will no longer be able to rework her artworks and that some of the smoke drawings might outlive her, and conservators would then have to restore

the soot as well. However, for now, she thinks she is most likely to replicate her own technique best but is also happy to discuss her methods with people, for instance, if they are out of the artist's reach. Overall, she is very open to skilled conservators working on her soot drawings, and she is available for anyone looking for advice on her art to contact her. What worries her is that people would heavily alter her works and exhibit or re-sell them or cut the artwork up and sell a portion, which has happened before.

Diane Victor always advises the buyers to get the soot drawings framed, but she cannot enforce it. She also tells the buyers to keep the drawing out of the sunlight and to use acid-free boards if it is stored. This is because the artist is more worried about the paper deteriorating than the soot, which is inert.

4.5. Conclusion

The interview summarised here gives a detailed insight on Diane Victor's thoughts and feelings surrounding her processes, techniques, conservation practices and the question of increasing the longevity of her soot artworks. It can be seen as an important guideline for future practices around her soot drawings, especially for conservators dealing with her artworks and galleries or private people wanting to exhibit her soot drawings. The interview also highlights that Diane Victor is open to experiments regarding her soot drawings, and it shows that she has tried various experiments herself in the past. Still, none of them led to a satisfying result. Most importantly, this interview establishes a framework for the experiments in the following chapter because methods the artist has tried in the past and has deemed unsuccessful can be excluded. It also establishes values that are important to the artist and need to be accounted for, such as the soot not showing the texture from the paper and the soot not discolouring from the use of fixatives.

Chapter 5

Experiments of soot on paper

Chapter five complements the data collected during the artist interview by getting a deeper understanding of the materials involved in Diane Victor's soot on paper artworks. The chapter explores the source of soot and the relationship between the soot and the paper fibres. The literature review in chapter three suggests that the best way to protect artworks in friable media is to seal them using spray fixatives, as friable media sit on the surface of the substrate. However, the artist interview in chapter four reveals that Diane Victor is averse to using fixatives as she feels these discolour and alter the texture of her soot drawings. Although this dissertation does not aim to find a fixative solution or increase Diane Victor's soot drawings' longevity, the research attempts to understand and document the artist's techniques and her preferences as these have a bearing on conservation decision-making. Therefore, Victor's technique was replicated to create samples, with and without fixatives which are then documented in photographic form. These samples are then compared to two samples created by Diane Victor. Visual examination and microscopy are used to gain a deeper understanding of the relationship between the paper, the soot and fixatives.

5.1. Understanding the Science behind Candles

Candles are an essential component of this study, as, without them, the soot drawings could not be created. They usually consist of candle wax and a wick. A candle's wax ingredients can have important consequences on the candle's smoke, which is then transmitted onto the soot drawing. There are many candles available on the market today. However, Diane has mentioned that candles rich in paraffin work best for her as they create the 'best' smoke to deposit on the paper. Paraffin is the most common main ingredient used in candles worldwide (National Candle Association, 2020a). It is often mixed with stearin (stearic acid), which causes a higher melting point of the wax and makes the candle burn longer (Walker, 1978:154). A candle wick is usually made from braided or knitted bundles of fibre (National Candle Association, 2020b). The candles that Diane Victor uses for her soot drawings use braided or knitted cotton wicks (Prices Candle, 2021).

Once a candle is lit, the exposed part of the wick burns. The heat melts the candle wax, which is then vaporised by the flame. The flame is also supplied with oxygen from its surrounding air. The reaction of flame and wax vapour, as well as flame and oxygen, releases carbon dioxide and water vapour into the air.

The blue inner part of the flame is the hottest area of the flame. There, complete combustion occurs, meaning that all carbon from the wax is turned into carbon dioxide (Hammack & DeCoste, 2016:6). In colder areas on the outside of the flame, where it is yellow, incomplete combustion occurs. Carbon monoxide is formed because there is not enough oxygen available in this area. Solid carbon particles from the wax are emitted in the flame and are referred to as incandescence (Hammack & DeCoste, 2016:8). Smoke is formed from incomplete combustion and consists of these solid carbon particles present in the flame and the gasses the flame emits. The more incomplete combustion occurs, the more smoke is emitted (Hammack & DeCoste, 2016:90). Therefore, what Diane Victor catches on the paper are the carbon particles and perhaps other components, which were released from the vaporising candle wax. Carbon dioxide from complete combustion and carbon monoxide from the incomplete combustion processes are gaseous and therefore cannot be captured by the paper.

The candle's ingredients would have to be known to fully understand what other reactions occur. The composition of Price's Candles, who produces the Lighthouse candles that Diane Victor uses, is not publicly available and is beyond the scope of the present research. Most studies identify three stages of candle burn, in which different amounts of soot particles are emitted. During the 'normal burn' stage, the candle flame is small, and no particle emissions are visible to the naked eye. The 'sooting burn' stage emits the most soot particles, and the 'smouldering burn', which occurs once the candle flame has been extinguished, emits white particles. It is important to note that the particle emission heavily depends on the burn stage, which is also affected by surrounding air circulation (Fine, Cass & Simoneit, 1999:2354). However, Lau et al. (1997:1625) researched the organic compounds of materials used in candle production by analysing paraffin candles in the form of a burn test. The results of Lau et al. (ibid) suggest that several polycyclic aromatic hydrocarbons (PAH) were found in the gases given off by paraffin candles and include mostly naphthalene (152.05 nanogram/g wax burned). Other PAHs found include pyrene, fluoranthene and phenanthrene (Lau et al., 1997:1625). PAHs are produced during the incomplete combustion process; some are toxic and form part of soot. Another study done by the European Candle Association in 2007 shows that the total volatile organic compounds emitted by paraffin candles are relatively low, ranging

between 3.07 to 5.09 micrograms/g of wax burned. The 2007 study detected no naphthalene, unlike the study done by the European Candle Association in 1994 (European Candle Association, 2007). A study done by Fine, Cass & Simoneit (1999) on paraffin church candles shows that the particles that are emitted consist of alkanes. No aldehydes or PAH were identified in this study. However, they could not analyse the paraffin candle's emission during the sooting stage of the flame. Seeing that other studies have detected small amounts of PAHs, it is possible that they were present (ibid: 2360).

This information shows that it is very likely that the deposit on the paper includes not only soot but also polycyclic aromatic hydrocarbons and other volatile organic components, which are by-products of the incomplete combustion of the candle fire. Further studies must be conducted to determine the exact components deposited on the paper. Seeing that carbon is inert, these additional organic hydrocarbon molecules, which occur in various sizes, will age differently than the carbon. This can affect the overall soot, no matter how small the detected amounts are.

Table 1 - XRF results of the soot on paper sample

Name	Paper Backing	Soot
MgO	1.37	1.64
Al₂O₃	< LOD ¹³	< LOD
SiO₂	< LOD	< LOD
P	< LOD	< LOD
S	0.04	0.05
Cl	0.07	0.08
K₂O	< LOD	< LOD
Ca	3.13	3.39
Ti	0.51	0.59
V	< LOD	< LOD
Cr	< LOD	< LOD
Mn	< LOD	< LOD
Fe	0.40	0.47
Cd	< LOD	< LOD
Pb	< LOD	< LOD

To detect any inorganic components, a 5i X-ray Fluorescence (XRF) Spectrometer was used with a typical Geological setup with 15, 30, and 50kV excitation potentials to cover the entire periodic table between Mg and U. The elements observed were typical for paper. No major differences between the paper and soot analyses were detected, as the differences seen in table 1 are within the standard deviation of the instrument. A typical Geological setup with 15, 30 and 50kV excitation potentials was used to cover the entire periodic table between Mg and U.

¹³ < LOD (below levels of detection)

5.2. Understanding Paper

Paper is usually defined as a material that consists of a web of disintegrated cellulose fibres pressed into a sheet by an aqueous suspension. The paper commercially used today, especially the process of turning cellulose fibres into a pulp and creating sheets from an aqueous suspension, was first invented by the Chinese around 105 CE (Roberts, 1996:2; Hunter, 1974:50). However, other materials with similar properties to paper were available long before the invention of paper. One of these materials is papyrus. To make a papyrus sheet, thin slices of papyrus are cut off the plant and laid out next to each other. Then, a second layer is on top of that, in the different direction. This sheet is then pressed together, a process called lamination. During this process, the liquids released from the plant material's cellulose then act as a glue, keeping the fibres together (The University of Michigan Papyrus Collection, 2004). This process is entirely different from the papermaking process, yet it exhibits similar qualities. What is interesting to note is that the word *paper* is derived from the word *papyrus* (Britt, 2020). In Southern America, the Maya used Huun and Amatl, which consisted of beaten bark, as a form of paper (Hunter, 1974:17, 25). Paper can be made from different fibre sources. When the art of papermaking arrived in Japan in the 8th century, fibres were derived from the bark of the Mulberry tree (Hunter, 1974:53, 56).

The knowledge of papermaking travelled west from China along what is now known as the silk route, a trade road seeking to connect the Pacific with the Mediterranean regions. Before arriving in Europe, this modern papermaking technique first arrived in the Middle East and North Africa. Along this route, the source of fibres used for papermaking also varied, with hemp and flax being the most commonly used. Papermaking was only introduced to Europe between the 12th and 13th centuries through either Spain or Italy. (Hunter, 1974:60). In the 19th and 20th centuries, cotton rags were the main ingredient of paper, before this, flax and hemp were used. However, with the increased demand for paper in Europe from the mid-20th century onwards, wood became the main ingredient because there were not enough cotton rags available to meet the demand (Roberts, 1996:3). Today, paper is made from wood and cotton, and a small percentage of other fibres are now being used because they are more environmentally friendly and can be re-grown faster (Georgia Institute of Technology [sa]). These fibres include bamboo, jute, hemp, flax, wheat, barley and even rice, which, as mentioned above, have been used in East Asia for centuries (Roberts, 1996:5). This dissertation focuses on high-quality artist paper, which in Europe is predominantly made of both cotton and highly purified wood pulp.

Since many different components can go into paper and many kinds of wood, paper does not have a set chemical composition. The treatment paper undergoes, which varies according to what material the paper is made of, also influences its chemical composition (Roberts, 1996:17).

5.3. Pre-Experiment and preparation of paper samples

I prepared my own soot samples on different kinds of paper, guided by the information gathered during the interview with Diane Victor. Creating these additional samples was done so that I could better understand how the different papers affect how the soot is applied and understand the issues that Diane Victor experienced with certain papers, such as added texture.

The papers used to create these samples were available from a local art store. Three sets of papers were used, and each set included samples of the following papers, cut roughly into A5 size (420mm by 295mm):

- normal cartridge paper (280g)
- thin, smooth crafting paper
- thicker smooth crafting paper
- watercolour paper (180g)
- brown craft paper
- blotting paper
- drawing paper (160g)
- El Toro white paper (240g)
- Triplex board (1mm)
- Fabriano Disegno 5 (hot press paper)
- Student board

These paper samples were attached to Perspex boards, which allowed me to work from below, as Victor would in her studio.



Image 1: Creating samples with candle soot (left), and some of the resulting samples (right)

Paper sample set 1: Soot was applied directly onto the paper's surface.

Paper sample set 2: Fixatives were sprayed on top of the soot application.

Paper sample set 3: Pre-coated paper with fixative, prior to soot application.

Sample set 3 was further separated to allow experimentation with three different locally available spray fixatives used for this part of the experiment: Pebeo Fixatif (Pastel, Pencil, Charcoal), Ashrad Artist's Fixative (Clear matt medium for charcoal, crayon, chalk, pastel, pencil and flowers), Spraymate Artist Fixative (charcoal and pencil). All three fixatives selected are matt.



Image 2: Reworking the soot samples with paint brushes the way Diane Victor would, to add define details such as eyes. At this stage damage was simulated using gloved and ungloved fingertips to touch and smudge the soot, as well as pressing objects against the surface of the image.

In addition, I tried to rework the samples, like Diane Victor would with her soot drawings. I used soft brushes to remove some of the details. I also added some charcoal details to the samples, removing the soot simultaneously. The charcoal is much darker than the soot, has a different texture, and stands out in the drawings. Adding charcoal, which also consists predominantly of carbon, to the samples eliminated this process as a possible treatment for damaged soot drawings. Next, I replicated typical damage to the soot drawing samples by adding fingerprints and abrasions to the soot deposits, as shown in figure 2.

5.3.1 Sample set 1: No fixative applied

The first sample papers had no fixative applied, just as Diane Victor does at the moment. As she mentioned in the interview, some papers gave the soot more texture than others. Furthermore, the soot could be removed extremely easily from all papers (Image 1), even from papers with more tooth. Images 2 and 3 show the soot deposits on cartridge paper and on Triplex board. Abrasions are clearly visible on both samples, and some soot appears to have

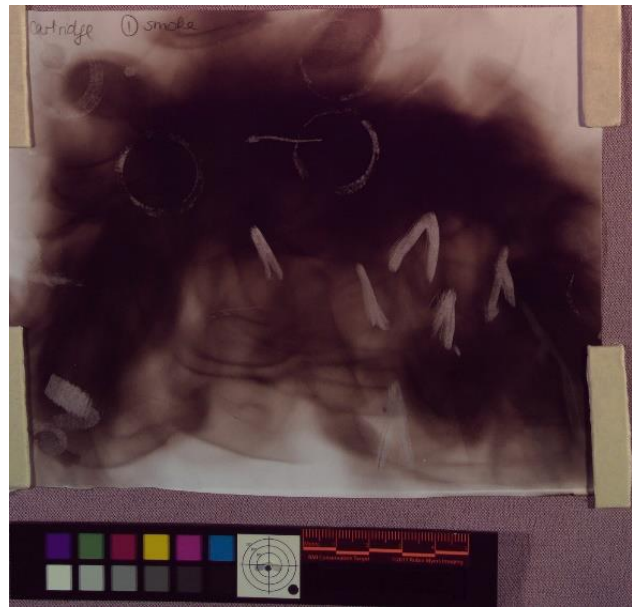


Image 4: Cartridge Paper Sample, no fixative applied

been left behind in the abraded area. Under magnification, it became visible that when removing the soot with a brush from the papers with more tooth, including the watercolour paper, blotting paper and brown craft paper, the soot particles accumulated in the ridges of the paper's fibres. The accumulated soot appeared to be much darker than when it was first applied; it now had a dark black colour, while after application, it had various brown tones (see Table 2, p.48). Some papers, including the cartridge paper, cockled slightly after the soot application, which is perhaps linked with the heat from the candle flame, and evaporating water in the cellulose fibres.



Image 3: Triplex board sample, no fixative applied

With all of these papers, white spots could be seen in the areas where smoke was applied under the USB microscope. With the USB microscope only having a 300X magnification, SEM analysis was considered to possibly identify the white spots.

5.3.2 Sample set 2: Fixatives applied over the soot drawing

Irrespective of the paper used in this experiment, all three fixatives added extra texture to the drawing, which Diane Victor considers undesirable.

The fixatives were applied differently, from approximately 30cm away as well as from close up (10cm), but there was little difference. When the spray was applied from only 10cms away, the dots appeared thicker in some areas. There



Image 5: Cartridge paper sample, fixative applied on top

were no visible differences in appearance between the three fixative sprays used.

The fixatives seemed to sit on top of the paper on samples 1 to 6 (see Appendix 3). Under the microscope, it almost looked like crystals, and one could see how unevenly the fixative spray was applied with areas exhibiting no coverage. In contrast, others had different sized droplets visible (see Table 2).

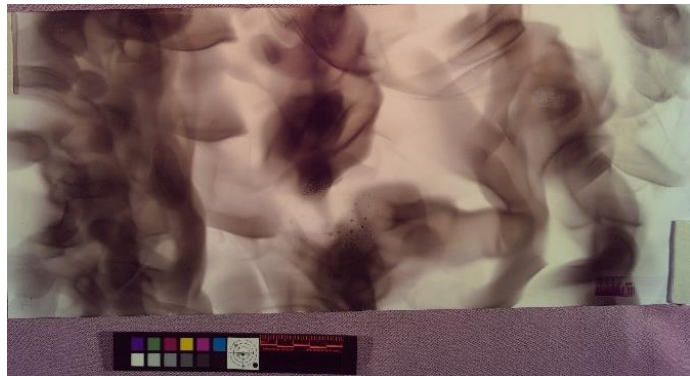


Image 6: Triplex board sample, fixative applied on top

On samples 7 to 11 (see Table 2:

USB Digital Microscope Images), the

fixative dots visible under the USB microscope looked like they had been absorbed by the paper rather than sitting on top of it. The soot under the fixative drops had a grey colour in all samples, while the parts not affected by fixative remained brown. However, looking at the drawings with the naked eye, in addition to the texture that the fixative spray made, the fixative made the drawing look flatter, and the full colour changed from a general brown to a grey tone. This change in appearance and texture is exactly what Diane Victor experienced and why she is opposed to fixatives, as she explained in the interview in chapter four. When the samples were examined under the USB microscope, most of the drawings still look brown, with the fixative drops covering less than half of the sample areas.

5.3.3 Sample set 3: Fixatives applied to the paper

When applying the fixative directly to the paper before adding the soot, initially, the results looked similar to the samples that had no soot applied to them. It has to be noted that the fixative sprays have to dry before applying the soot; otherwise, they might catch fire, which indeed happened with some of the samples.

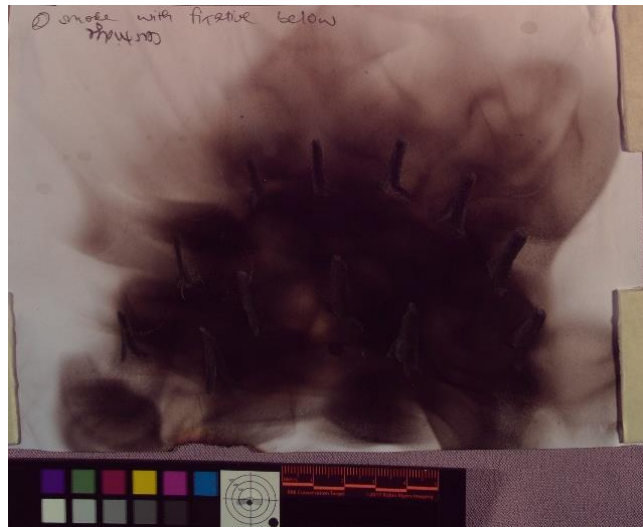


Image 7: Cartridge paper sample, fixative applied to the paper

Each paper sample had an area where the fixative was applied lightly, either by spraying further away or spraying upwards and away from the surface and letting the fine mist fall over the surface; and an area where the fixative was applied thickly either by applying it closer to the surface so it would pool or having several applications.



Image 8: Triplex board sample, fixative applied to the board

In general, there was no discernible difference between the two areas by looking at it with the naked eye, and neither was any difference visible when examined with the USB microscope (300X magnification). Using paintbrushes to lift some of the soot and insert details the way Diane would prove difficult, and some of the soot appeared to stick better to the paper samples. However, fingerprints still damaged the sample by touching the surface with bare hands. Even though this method seemed promising, it is still problematic as mishandling can still alter the surface. Most importantly, it does not allow Diane Victor to rework the initial soot images by removing some of the soot, which is how she accentuates features and creates fine details in her works, which is what makes them unique.

5.4. Visual Documentation

Visual documentation and examination serve as the first approach when studying an object or artwork. The visual examination involves different techniques and light sources that reveal information about the artwork's media, support, surface topography, condition, and damages. It is also a non-destructive method of documenting and usually includes technical photography to document the findings. Initially, a direct observation with your eyes is conducted to get a good general idea of the object and identify possible areas that should be looked at closer. Then, handheld magnifiers and small torches are often used. Besides using visible light, ultraviolet (UV) and infrared (IR)¹⁴ light are often used. Further, aside from shining the light source directly at the object, transmitted, specular and raking light are also used.

Ultraviolet radiation is used to identify certain damages and substances, including paper sizing and certain pigments. To document this, a UV light source is shone onto the artwork, and a camera lens with barrier filters to filter out visible light is used to capture what can be seen. This photographic documentation has to take place in a dark room to omit any visible light. It is important to note that it can only identify things that sit on the artwork's surface, unlike infrared radiation, which can detect elements underneath the top layer of an artwork. Carbon-based pigments, which includes soot, does not fluoresce under UV radiation. The purpose of using a UV light for Diane Victor's soot drawings is to see whether any organic particles in the soot fluoresce (Golob & Tomazic, 2019: 220f.).

Direct light gives a good general idea about the object's condition and can identify dirt and discolouration. By examining the samples with visible light, I can see any particles that have become attached to the soot, and I can get a good idea about what the thicker layers of soot look like versus the thinner layers of soot. Specular light¹⁵ is used to observe dust and other particles on the surface of the paper, as well as any surface sheen. Raking light¹⁶ is used to assess the surface topography, as the light casts shadows, which show planar distortions, unevenness, irregularities and lifting or flaking of the medium of an object. A light source is placed behind the object to create transmitted light, allowing the light to shine through in areas of damage such as cracks and tears and areas where the medium was applied thinly (Wasiutynski, 1986; Canadian Conservation Institute, 2020). This method is used particularly

¹⁴ Infrared (IR) radiation falls under non-visible light spectrum. It ranges between 0.78 and 1000micrometers. IR also emits heat (The Editors of Encyclopaedia Britannica, 2020).

¹⁵ To create specular light, the light source is usually placed at a 90-degree angle towards the artwork.

¹⁶ To create raking light, the light source is usually placed at a 45-degree or lower angle towards the artwork.

for artworks on paper, where it reveals how evenly the paper fibres are distributed within the sheet.

For the visual documentation, I decided only to include the cartridge paper sample, as well as the Triplex board samples I created for this experimentation, as they are the only ones that can be compared to Diane Victor's original artworks. The artist interview clearly states that Diane Victor has used cartridge paper in the past. I decided to include the Triplex board because it had the smoothest surface out of all the papers I could find, which is a characteristic Victor prefers.

In addition to my own samples, Victor created two A3 sized portraits using the method she usually uses to create soot artworks, as well as her preferred paper. This is important to ensure that the samples used in the present research can be compared across her body of work.

5.4.1. Technical Photography

The photography for the visual documentation of Diane Victor's samples and my own soot samples on cartridge paper and the Triplex paper board were done with a Canon EOS 6D Mark II camera and a Canon EF 24-70mm f/2.8L II USM lens.

For the visible light photography, two light sources were placed approximately 1.5 meters away, at a 30-degree angle towards the sample to illuminate any shadows. The two samples were attached to a grey background fabric using magnets in the conservation laboratory, one sample at a time. Unfortunately, placing the samples onto an easel was impossible, seeing that they had to be photographed at a 90-degree angle. The light weight of the paper did not allow it to stand up at this angle, and it would have fallen over. The shiny, silver magnets were covered with tape to prevent the shiny surface from being too prominent in the photographs. A white balance and colour corrector was attached right below the artwork. Colour correctors help to adjust the white balance, colour accuracy in photography and have a reference point one can later refer to when editing the photographs (Kingsley [sa]).

The photos were taken with a 1/60 shutter speed, the aperture setting F8, and the ISO speed at 200. These settings provided the best conditions for taking a photograph with the lighting available to us in the conservation laboratory. In the editing software RawTherapee, the image was colour matched according to the colour corrector card in the photograph and cropped accordingly.



Figure 1: Diane Victor, hot press paper, sample 1



Figure 2: Diane Victor, hot press paper, sample 2

Handling the samples during photography had to be careful, seeing that handling is most likely to cause damage to the fragile sample. During transport from campus to the conservation laboratory, dust had already accumulated onto the samples. There was also slight damage on sample 1 (the darker image) when it was picked up from the artist, and more damage occurred during transport and handling (see figure 3 and 4). Attaching the magnets to hold the artwork for photography proved to be a difficult task, seeing that the first magnets used were too weak, and sliding off the sample. The magnets that were used were strong and could not easily be removed. Another problem was the placement of magnets on the samples. On sample 2, on which Diane Victor applied the soot more heavily and closer to the edges of the paper, it was challenging to find an area without soot to place the magnets. Fortunately, the paper did not create shadows when only two magnets were used.

5.5. Looking closer

5.5.1 Microscopy

Before analysing the samples with the scanning electron microscope, it was decided that the samples should be looked at under a digital microscope to complete the photographic documentation. For this purpose, a digital USB microscope with a 1000X magnification ratio was used. It was calibrated by using a calibration ruler.

When comparing the hot press paper that Diane Victor used to create the samples to the cartridge paper used in my samples, the fibres on the hot press fibres seem to be protruding much more from the paper's surface than on the cartridge paper. The fibres are clearly visible on the hot press paper. The cartridge and the hot press paper appear to be of an off-white, slightly yellow colour. The cartridge paper looks flatter than the hot press paper. The fibres are still visible, but they do not seem to be protruding from the surface as much as on the hot press paper. The cartridge paper has several dark spots randomly located throughout the sample paper. They are possibly part of any sizing that the paper fibres were mixed with. They are also visible on the hot press paper but much less frequent. The Triplex board's fibres are only slightly visible. There is a lot more space between the visible fibres where the surface appears to be smooth and fibre-less. Overall, the topography of the Triplex board seems to be smoother than the other two samples. There are no dark spots visible either. This might be the case because the Triplex board has a coating that could not identify specifically (Primeart, 2021).


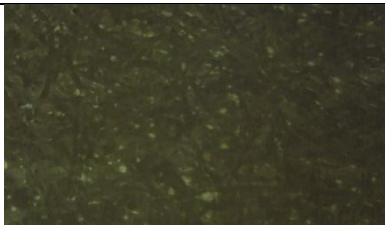


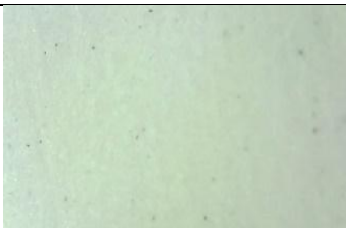

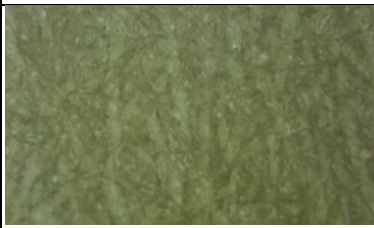
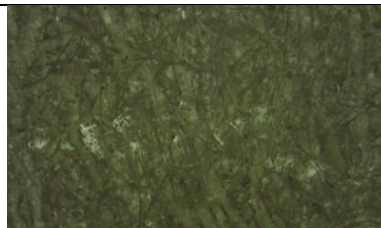


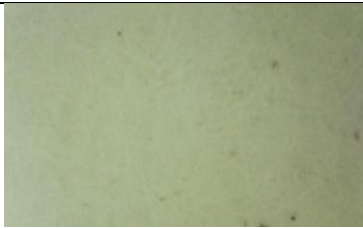

The samples with a thick layer of soot applied still show the paper fibres, but now in a dark brown colour. From this magnification, it does not appear as if a thick layer of soot is sitting on top of the paper fibres, but rather that they coated the fibres in the soot. There are white spots that are 'peeking through' underneath the paper fibres. They appear frequently and are visible both in the hot press paper and in the cartridge paper. In the Triplex board, they only appear occasionally. The soot applied to the Triplex board seems slightly lighter than the soot on the cartridge and hot press paper. The fibres are still visible, and the soot appears to have accumulated in-between the paper fibres, as the fibres themselves are lighter than their surroundings. On the other hand, in the cartridge and hot press paper, the top fibres are of a darker colour than the spaces in-between them.

The samples with the thick soot layer applied have more visible paper fibres under the microscope. It also appears that the fibres of the hot press paper used in this mini-dissertation are slightly thinner than the cartridge paper fibres. The paper fibres of the Triplex board appear to be thinner than the cartridge fibres and perhaps even thinner than the fibres of the hot press paper. The structure of the hot press fibres is a lot more entangled than the cartridge paper fibres, of which most of the top paper fibres seem to follow the same general direction. The Triplex board shows a similar structure to the cartridge paper, even though fewer paper fibres are visible.

The paper samples on which a thin layer of soot was applied have a more comprehensive colour range than the samples on which the soot was applied thickly. The hot press paper sample has a beige colour. The surface topography becomes visible on the edges of the top fibres, as this is where either shadows were created from the microscope's light or extra soot accumulated, making them darker than the rest. The cartridge paper is much darker than the hot press paper. It also has pronounced darker and lighter fibres. However, it is difficult to tell which fibres are at the top. The fibres that seem to be protruding are lighter than the other fibres, even though one would think they would be the darker ones because being protruded, they would be more exposed to the soot and the flame. The Triplex board has a similar colour to the hot press paper. The only fibres that are visible are lighter than the rest of the board. One can also see a few darker spots. It is unclear whether the flame made them or not.

For this experiment, the samples with brushed or scratched away soot were taken from areas with thickly applied soot to improve visibility of the brushed away areas and have a better contrast. The hot press paper shows that the soot was almost completely removed where the soot was scratched out. The soot only remained in some crevices, where it appears to have accumulated in a dark, almost black colour instead of a brown colour. The same can be examined on the cartridge paper sample. On the Triplex board, there appears to be no accumulation of soot around any fibres; the scratch seems to have left an almost clean area.

Table 2 - USB Digital Microscope Images

	Pure paper	Thick soot application	Light soot application	Scratched soot
Diane Victor's samples (hot press paper)				
Cartridge paper				
Triplex 1mm				

5.5.2 Scanning Electron Microscope

For this part of the visual documentation, a closer look is taken at the samples under a scanning electron microscope. This analysis aims to get a closer look at the relationship between the soot and the paper and find out if the structure of the paper fibres changes where the soot is applied. For this dissertation, the Field Emission Gun SEM: Zeiss 540 Ultra at the University of Pretoria's Faculty of Natural and Agricultural Sciences' Laboratory for Microscopy and Microanalysis is used. It has a secondary electron detector but no backscatter detector. A secondary electron detector helps to visualise the surface texture of the paper fibres and the soot sitting on top of it (Singh, 2016:127).

Electron microscopy achieves high-resolution images by using electrons with short wavelengths and illuminating radiation. This is carried out by inserting small samples to be analysed into the SEM sample chamber. Because of this size limitation, it is a destructive analytical technique for which samples have to be cut out of the paper to be placed into the SEM. For this reason, Diane Victor was asked to create mock-ups for this experiment. SEM is one of the two types of electron microscopy techniques, the other one being TEM (transmission electron microscopy). Electron microscopy was developed to give insight into surface topography and structures of small and often thin samples. (University of Massachusetts Media School [sa]). The SEM instrument consists of an electron source, lenses, a scanning coil, a sample chamber and detectors. The instrument used for this analysis has a Field emission gun (FEG) as an electron source. A tungsten wire, which is less than 100nm in size, produces the electron beam in this source. The electron beam then goes through several lenses, condensing and focusing the electron beam as it approaches the sample. Then, scanning coils avert the beam. This happens along the X and Y-axes, which allows the sample surface to be scanned in a raster. The samples are placed onto a holder in the sample chamber. The sample chamber contains the sample holder, tilt and rotation devices, cameras, and temperature stages. Most SEM instruments contain multiple detectors. They are needed to receive the signal of different types of electrons. The most common detectors used are secondary electrons detector, backscattered electrons detector or characteristic x-rays detector (NanoScience, 2021b; Connors & Banerjee, 1995:41). The SEM used in this dissertation only has a secondary electron detector.

An image is created by the electron beam scanning the sample's surface. The electrons interact with the atoms of the sample and emit particles, which are then caught by the detectors. These signals are transformed into an image by converting the number of particles emitted from a

particular area into a specific brightness on a greyscale, forming the image. Therefore, the image is always produced in black and white. The final image is always a magnified version of the sample (University of Massachusetts Media School [sa]). Several signals can be detected, depending on the type of instrument. The secondary electron detector helps to produce images of the topography of a sample. Unfortunately, it does not reveal any information about the elemental makeup of the sample, which a backscattered electron detector could do (NanoScience, 2021a).

The samples are coated with carbon to make them conductive, which is necessary for the SEM instrument. There are several metals that samples can be coated with, but for these samples, carbon coating suffices. Samples have to have a conductive surface to make the imaging possible because it improves the signal of the electron beams and prevents the sample from becoming conductive. To coat the sample, a carbon thread or rod is heated until it evaporates. The evaporated carbon is then spread over the sample (Höflinger, 2013).

It was decided that to get the most benefit from scanning electron microscopy, Diane Victor's samples should be examined, but also compared to my own samples, to see if Diane Victor's style can be replicated. For this, I decided to use my samples on cartridge paper, which the artist had used in the past, as well as on Triplex 1mm paper, which was the paper that worked best soot application-wise and had the smoothest surface. Some of the samples were coated in fixative so that the surface topography with fixative on it could be examined and compared to the samples' surfaces without fixative. To apply the fixative only to a small area of Diane Victor's samples, a hole was cut out of a cardboard sheet. The fixative was then sprayed through the hole onto the sample. The fixative used in this part of the experiment is the *Fixatif* for Pastel, Pencil and Charcoal by the brand Pebeo.

At first, the cuttings were planned out to fit the maximum number of samples onto the sample plate. Six samples were placed onto a single plate in total, one sample being between 5mm and 10mm wide and long.

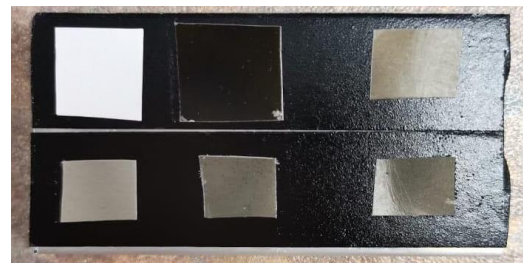


Image 9: SEM sample plate

The metal plate was covered in double-sided carbon tape, onto which the samples were then placed.

The samples were arranged in two rows in the following order: first sample one, plain paper without any soot; sample two is covered in thickly applied soot; and sample three is lightly

coated, with some of the soot brushed away. This combination of light soot coating and soot removal were included in a single sample so that all necessary samples would fit neatly on one plate. They are marked as samples three and four (written 3, 4).

The lower row left to right includes sample five, a lightly coated soot area with fixative on top; sample six is covered with a thick layer of soot, and the seventh sample has a layer of soot, and some of the soot brushed away.

The cross-sections were created using an L-shaped metal plate, and the carbon-coated double-sided tape is applied to the vertical part, with the paper samples attached. It is important that the sample is slightly higher than the vertical part of the L-shaped plate so that it is visible under the SEM. If it were shorter, only the cross-section of the plate would be in focus. The first cross-section was made of Diane Victor's samples, without any fixative. The rectangle sample consisted of an area with thinly applied soot to an area where it was applied thinly and then to no soot at all. Then, another cross-section was created using a paper sample, where a fixative was applied. This cross-section went from thickly applied soot to an area where the soot was brushed away and then to an area with thinly applied soot. The same cross-sections were taken from the cartridge paper of my own samples. It was decided against taking a cross-section of the Triplex 1mm paper, seeing that it is much thicker, and it was not possible to cut a clean edge of the sample.

After completing the sample preparation, there was an opening in the SEM roster to examine one of the samples under the microscope. It is important to mention that the appointment for the SEM analysis was a few days later. A dark spot was noted after zooming back out, which could possibly have developed because the sample burned. Other problems discovered were that the microscope beam struggled to focus on the sample and that areas with little soot charged up, and an image could not be created either. For this reason, the laboratory manager, Erna van Wilpe decided it would be best to re-create all samples and then carbon coat these samples. The samples were carbon-coated using a Quorum Q150T ES machine.

For the matter of uniformity and being able to compare the images to each other, it was decided to scan images at a magnification of 1000X, 2000X and 5000X. If something interesting was discovered, the magnifications of 12000X and 25000X were chosen to investigate the area closer. Any closer magnifications than 12000X were decided to not be necessary for the sake of this dissertation, as the focus is on the paper fibres and the soot and how they change, and

not on the nanostructures of the paper fibres, soot or fixative. This, however, would be interesting to examine in a future research project.

The carbon-coated samples were tried out first, seeing that problems were encountered previously when the uncoated samples were put into the microscope. These samples worked much better and created a clearer image. Therefore, it was decided to go ahead with the carbon-coated samples and disregard the uncoated samples. All samples for Diane Victor's paper, the cartridge paper and the Triplex board were arranged in the same order to facilitate comparison. The samples were then numbered according to this order, noted below:

1. Paper without soot
2. Paper with thick soot application
3. Paper with light soot application
4. Paper where soot was removed with a brush
5. Paper with light soot application *and fixative*
6. Paper with thick soot application *and fixative*
7. Paper where soot was removed with a brush *and fixative*

Number 3 and 4 were represented on the same sample on the disk so that all could fit into the microscope simultaneously. This was possible because sample 4 only represented an area that was either scratched or brushed away, which could easily be incorporated with another type of sample.

Diane Victor's samples were examined first, followed by the cartridge paper and lastly, the Triplex board. Lastly, the cross-sections of Diane Victor's samples and the cartridge paper were examined. No cross-sections were taken from the Triplex board. Due to its thickness, it was not possible to cut a sample with a clean edge.

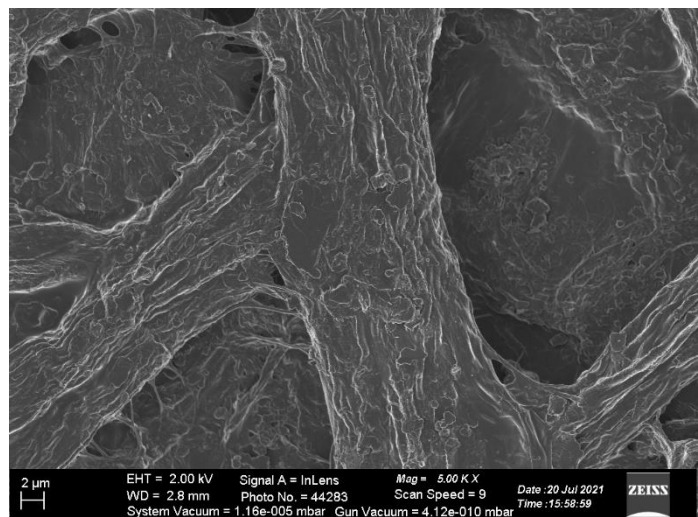


Figure 3: Diane Victor sample type 1 (5000X)

To compare the different papers to each other, they are discussed within each section, numbered from 1 to 7.

Sample type 1: Plain paper without soot

Diane Victor's plain paper sample looks just like it looked under the digital microscope, with the difference that on the SEM sample, the fibres are more visible. One can see that they are strong and very interweaved, without any particular pattern. The cartridge paper's sample type 1 shows a set of differently sized fibres. The fibres do not appear to be straight or smooth but angular. One can also observe minute fibres that appear to lay on top of the paper fibres. This phenomenon is not visible in any of the other paper types. It is unclear whether these particles are dust, the size of the paper or an unknown factor.

The Triplex board was completely different from the previous samples. At a magnification of 1000X, no fibres were visible on sample 1, which is the paper without soot applied. Not much change could be observed when zoomed in to 2000X. The surface appears flat, with some white spots, which may be dust particles.

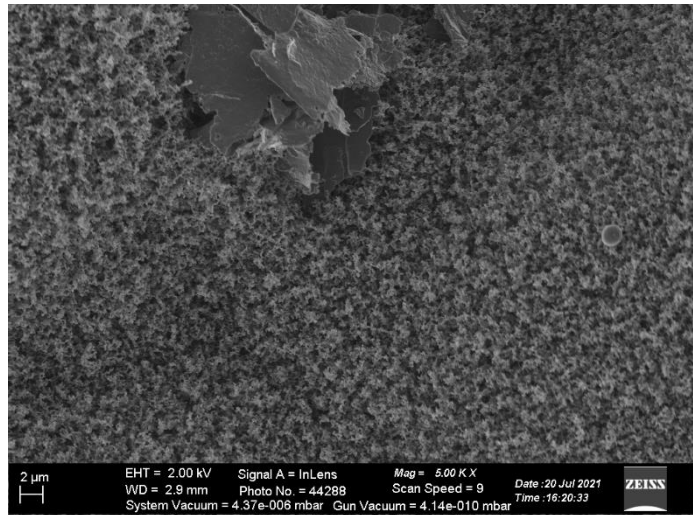


Figure 4: Triplex board sample paper 1 (5000X)

Sample type 2: Thick layer of soot

At a magnification of 1000X, Diane Victor's samples appear to be 'fuzzy' looking. The fibres are still visible, but the thick layer of soot has coated each individual fibre, blurring the edges. This becomes even more visible at a 5000X magnitude. The structure of the soot looks like a coral reef. They appear to

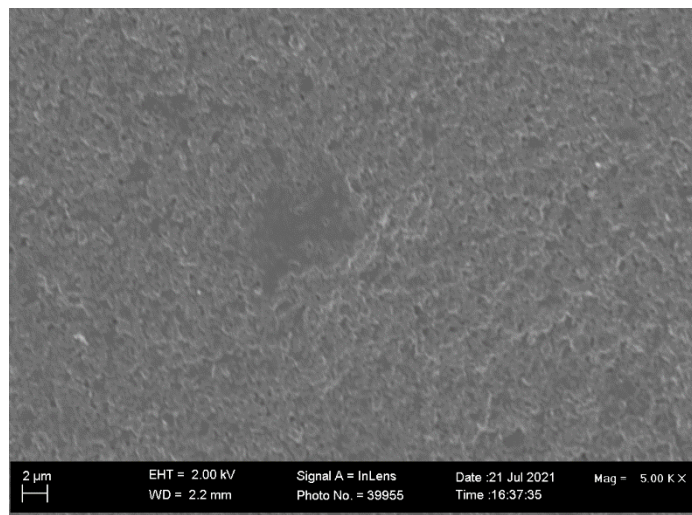


Figure 5: Diane Victor sample type 2 (5000x)

be individual, three-dimensional structures. They do not cover the surface completely. Other structures that seem to be sitting on top of the soot layer can also be observed at a magnitude

of 5000X. These are most likely to be dust particles, which accumulated on the sample after the sample preparation session, as soot attracts dust easily (figure 7). The cartridge paper with a thick layer of soot on it has the same look to it as Diane Victor's hot press paper.

The second sample for the Triplex board looked similar to the cartridge paper and Diane Victor's paper, seeing that a thick layer of soot covers the entire surface of the sample. There were a few lighter areas, which again appear to be dust particles that had accumulated on the sample between the time of sample preparation and the actual analysis. At 1000X and 2000X, the surface seems to be uniformly covered in soot. There are no areas besides the dust particles that particularly stand out. At a magnification of 5000X, one can observe that the layer of soot has some depth and that it consists of small individual structures that are closely situated next to each other. This was confirmed with a close up at 25.000X. The soot almost has a crystalline shape but also reminds of the structure of many snowflakes close together.

Sample type 3: Thin layer of soot

Diane Victor's sample 3 looks similar to sample 2, with the difference that the soot appears to be spread out thinner. The individual paper fibres are still clearly visible. The same can be said for the cartridge sample type.

Here, the individual fibres can be identified too, but the soot sitting on

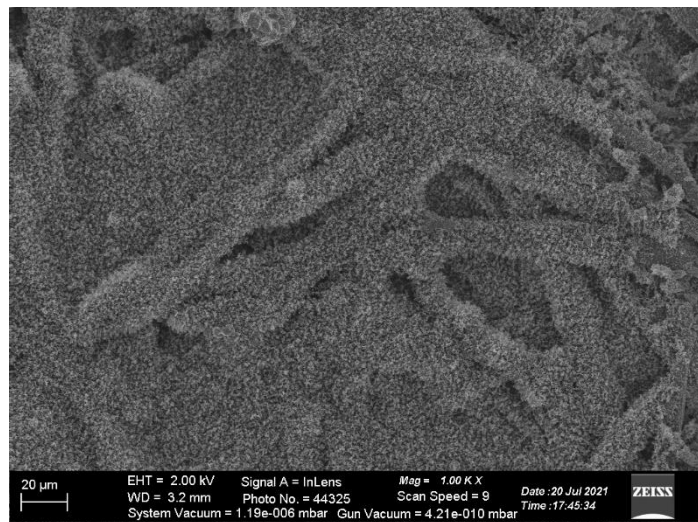


Figure 6: Cartridge paper sample type 3 (1000X)

top is also visible. At a 2000X, one can see that the soot structures are sitting on top of the fibres but that some areas of fibres are not covered in any soot. One can also see that some of the soot structures look similar to those visible in sample type 2, but one can also see thinner soot structures between the bigger ones.

The Triplex board sample 3 looks fairly similar to sample 2 on a magnification of 1000X and 2000X, with the difference that the soot structures appear to be further apart from each other. However, they appear to be different from the soot structures in the Diane Victor and the cartridge sample. Here, the soot structure seems to be flatter or shorter.

Sample type 4: Soot that was scratched or brushed away

In sample 4, only the area that had a scratch was examined. This was not always easy, as the scratch was located in a particular area in the samples. On Diane Victor's sample, the scratch could be found. In figure 9, one can see the right side of the sample is still covered in a thin layer of soot, while the left side looks slightly lighter and does not show any of the 'fuzzy' soot layer. Unfortunately, the area slightly charged up on the left side, therefore not being completely focused. The area in the immediate proximity of the soot layer shows round dots with a light edge around them. Under a 5000X magnification (figure 10), it appears that these circles are the remains of the soot, as their shape and distribution across the sample appear to be similar to the area that has the soot still applied.

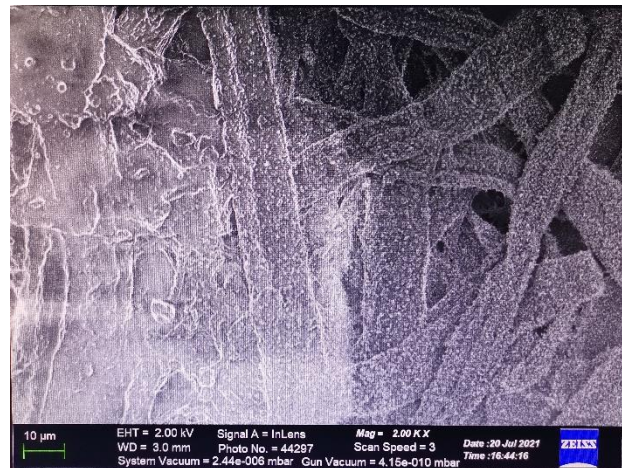


Figure 7: Diane Victor's paper sample type 4 (2000X)

The scratch on the cartridge paper appears similar to the one on Diane Victor's hot press paper.

At a 5000X magnification, one can see that there still appears to be some soot left on the paper fibres but that most of it has been removed. One can also see that the soot sitting in the crevices in between the top fibres has not been removed (figure 10). This might explain why one still sees some soot particles with the plain eye in the areas where the soot has been removed, but it does not explain why the soot in these areas appears to be of a different colour; black instead of brown.

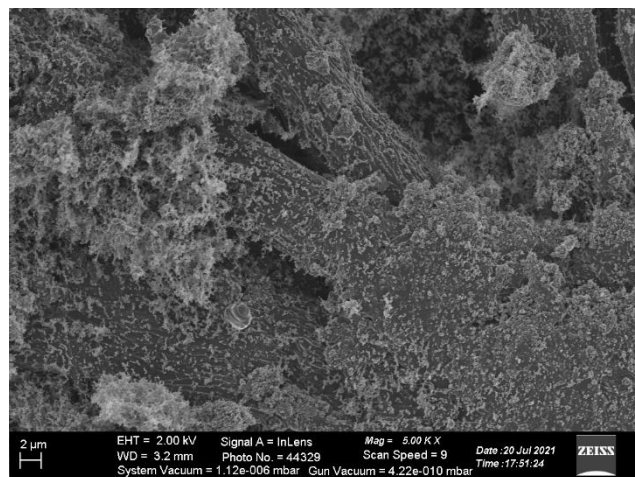


Figure 8: Cartridge paper sample type 4 (5000x)

The soot appeared to be almost completely removed from the scratched part on the Triplex board. The edges of the scratch were not sharp but of a zigzag shape. At a magnification of

5000X, the surface of the Triplex board can be observed along the scratched area. At 25.000X, some soot particles can be observed in the scratched area as well.

Sample type 5: thin layer of soot with fixative applied on top

Sample 5 to 7 replicates the previous samples, with the difference that they have the Pebeo ‘Fixatif’ applied on top. Sample 5 has a light layer of soot with fixative on top. On Diane Victor’s sample, there is no immediate soot deposit visible on a 1000X magnification. On a 5000X magnification, one can see that whatever is left of the soot now appears to

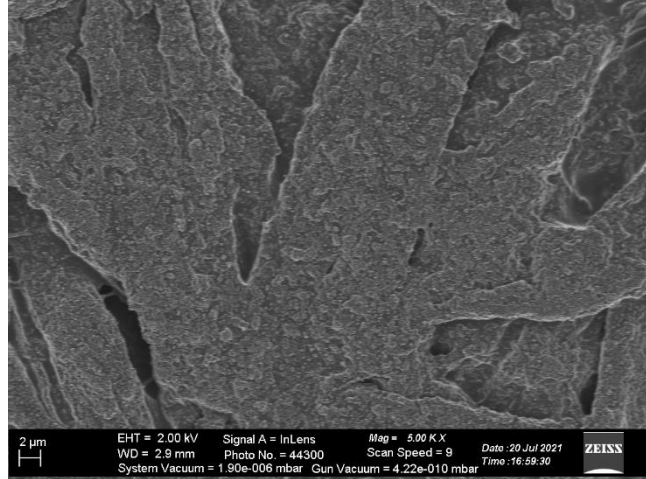


Figure 9: Diane Victor paper sample type 5 (5000X)

be flat and blurred out (see figure 11). In certain areas, one can observe fixative spots and how they cover the paper fibres and the soot.

On the cartridge paper sample, the soot is still clearly visible at a magnification of 1000X. One can also spot the ‘blobs’ left by the fixative, which differ in size, ranging between approximately 15 and 60μm. These ‘blobs’ appear to be sitting on top of the fibres. It is impossible to see what lies underneath them; they cover the paper fibres completely. At a 2000X magnification, one can observe that there is no fringe area between the fixative and the soot, but rather a clean edge where the soot stops and the fixative starts. The soot structures adjacent to the fixative do not appear to be of a different shape. At this magnification, one can also see that the fixative ‘blobs’ seem to have bubbles in them and do not have a smooth surface, but rather have some of these bubbles towering together over the smoother areas.

Triplex sample 5 appears to be extremely flat without any texture. There seems to be no difference between the surfaces, even though sample 5 only has a light layer of soot, and sample 6 has a thicker layer of soot applied. There are some white spots on top of the flat area, but again, it is very likely that these are either dust particles or parts of fixative build up. Under 5000X magnification, one could see that these areas differ. Some are round and have a white edge but appear to have the same colour in the middle as the surface. Others are smaller spots that are white. Some of those spots could be from the fixative, but this does not explain why the entire surface went flat, and no soot structures are visible anymore. One of these spots was investigated under 25.000X magnification. It appears to be sitting on top of the surface, but no change to the surface where the spot lies can be examined. Even at this magnification, the surface looks completely flat without any underlying structures.

Sample type 6: thick layer of soot with fixative applied on top

Diane Victor's sample 6 looks similar to sample 5, seeing that it has the same fixative applied, and the only difference is that this sample has a thick layer of soot on top of the paper. In this sample, areas of the thick soot are still visible in some parts (figure 13). This shows that the fixative is not evenly spread throughout the sample, even though most areas appear to be covered.

The cartridge sample 6 appears to be similar to sample type 5.

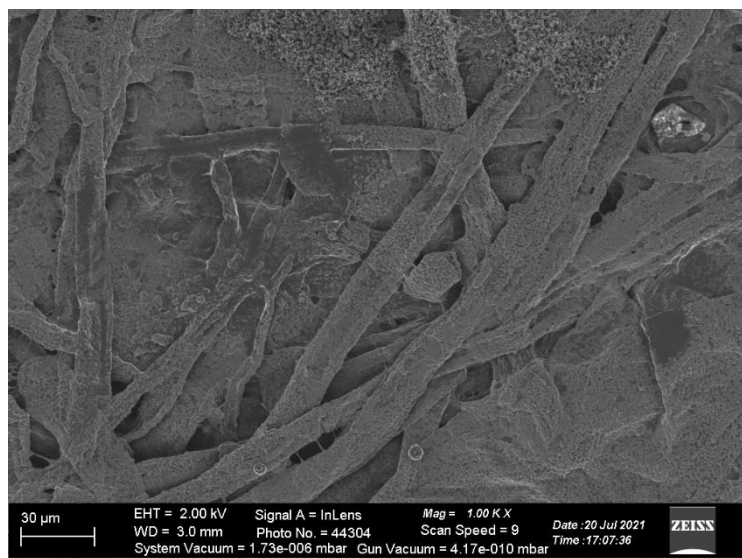


Figure 11: Diane Victor paper sample type 3 (1000X)

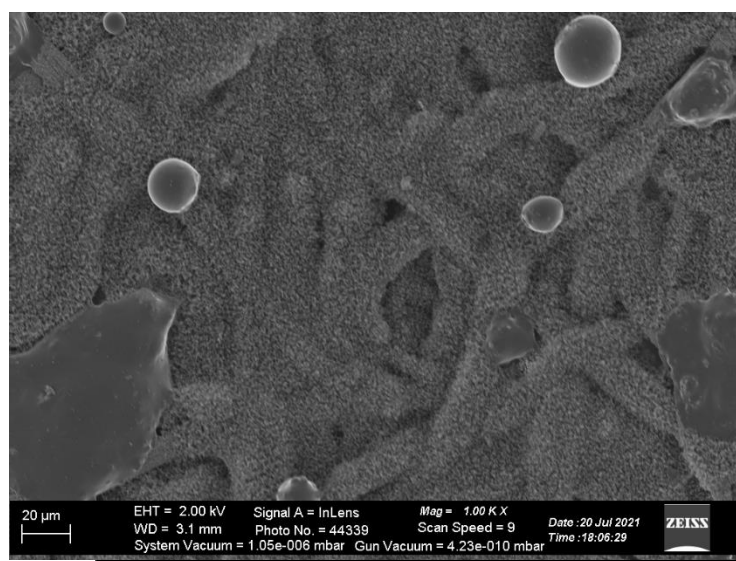


Figure 12: Cartridge paper sample type 6 (1000X)

However, in this sample, one can observe even bigger ‘blobs’ of fixative. In figure 14, the ‘blob’ in the bottom left-hand corner appears to be at least 100µm (0.1mm) in diameter. Fixative droplets in their immediate surroundings are much smaller, measuring approximately 15µm in diameter. Similar to what can be observed in Diane Victor’s samples, one can also see that some of the ‘blobs’ appear to be almost perfectly round and have a lighter edge around them, while others do not have a particular shape nor a lighter, well-defined edge to them.



Figure 13: Triplex board sample type 6 (5000X)

Figure 15 shows the three different spots that can be observed on the surfaces in the Triplex board samples 5 to 7. At 5000X magnification, it is unclear whether the dark area is actually something lying on top of the sample’s surface or a hole in the surface. Even at a nano-level of 25 000X, this question remains open. However, at this magnification, one can see that what appears to be a drop of fixative sits on top of the surface but appears to be blending in with it at its edges.

Sample type 7: soot that was scratched or brushed away with fixative on top

Sample type 7 represents a scratched or brushed off area on the soot, with fixative applied on top. It is important to mention that for the Triplex board and the cartridge paper sample, the soot was brushed away from this area after the fixative was applied. Unfortunately, this was not possible with Diane Victor’s sample, as she brushes away areas to create details but does not use a fixative. I decided not to apply fixative to an area of her sample and then brush away the soot because this would not have been a good comparison to the other samples, seeing that the soot of Diane Victor’s sample was sitting on the paper for a much longer period than for the other samples.

As with sample type 4, locating the scratch on the sample was not always possible. This was the case with Diane Victor’s sample type 7. The cartridge sample type 7 looks similar to sample

type 4. In the areas where the soot has been brushed away, remains can still be seen. The fixative appears not to have been disturbed or changed in shape in any way by the brushing away of the soot. One might suspect that some soot would now be found on top of the fixative, seeing that the brush must have gone right over it, but this is also not the case.

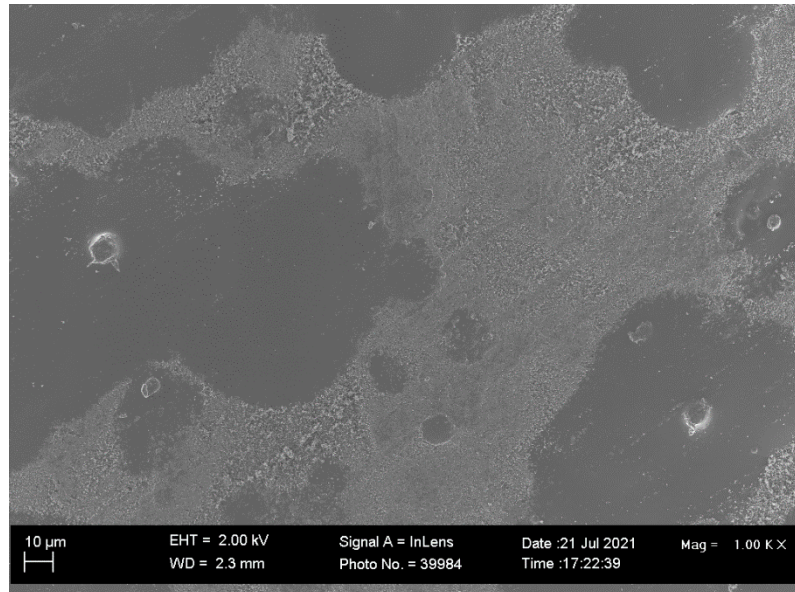


Figure 14: Triplex board sample type 7 (1000X)

Triplex sample number 7 was the only one where a distinction can be made between areas of fixative and areas without fixative. This was first observed at a 300X magnification but is still clearly visible at 1000X. On the edges of the fixative ‘blobs’, one can see the soot structures which were visible in samples 1 to 4. At a 5000X magnification, one can see the fixative areas flatten the surface topography and ‘melt’ the soot structures even though the differentiation between the different areas could be observed on this sample, the scratch that was there before the carbon coating could not be found on the sample.

Cross-Section 1: No Fixative applied, Left side thick application of soot, right side light application of soot

Cross-section images were taken for Diane Victor’s hot press paper, as well as the cartridge paper. It was unfortunately not possible to take cross-sections of the Triplex board. Seeing that the board is so thick, I could not successfully cut a sample with a clean edge, which is needed to compare the paper cross-section. I

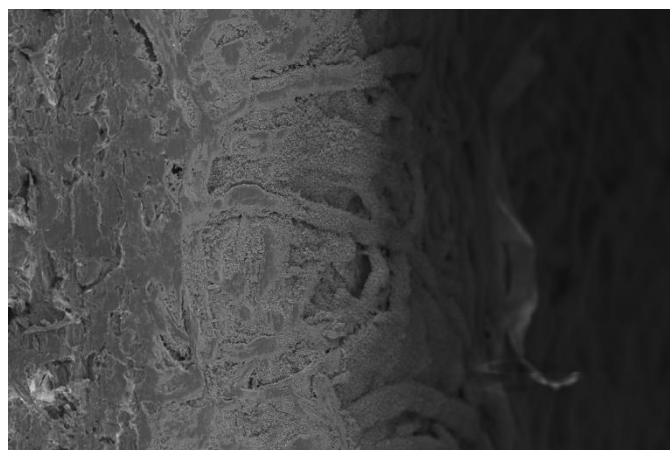


Figure 15: Diane Victor paper cross section, light soot application (700X)

had to use force to cut through the Triplex board, which led to the edge of the paper and its fibres being compressed together, therefore not being an accurate representation of what the cross-section of the Triplex board would look like.

For the cross-sections, it was decided to use 700X as a starting magnification, which made it possible to fit the whole cross-section into the image. 2000X and 50000X magnifications were used for close-up images.

In the cross-section of Diane Victor's hot press paper sample at a magnification of 700X, it became obvious that the soot indeed embedded itself into the top approximately 0.1mm of the paper, as one can see soot until about this depth. Beyond that, the paper fibres appear to be compressed together, and it is more difficult to make out singular fibres. One must consider that this could always have been caused by the cutting of the paper sample, even though a sharp scalpel was used to do so. One could also see what appears to be holes in the paper with fibres in the middle. This phenomenon will have to be researched further (see Appendix 3). At a magnification of 2000 X, one can see how the soot has penetrated deeper into the paper fibres. There appears to be no visible difference between the areas on the sample where the soot has been applied in a thin layer versus where it has been applied in a thick layer; besides that, the soot on the surface appears to be denser in the thick layer. At a 2000X magnification, one would also see deposits sitting on the soot surface. Some appear to be almost perfectly round (see figure 18). These may be stray fixative particles that landed on the surface. Even though the fixative was sprayed onto a specific area only, due to the air moving, it is possible that some particles had strayed. If these particles are fixatives indeed, they prove that the fixative does not penetrate the paper's surface but only lays on top of the paper fibres (see figure 18).



Figure 16: Diane Victor sample, cross section

The cartridge paper cross-section has a rougher surface texture than the hot press paper. The fibres are not as compressed as in the hot press paper, especially close to the front of the paper. However, the other side of the paper looks much smoother and just below the surface; the paper

fibres appear to be compressed together as well. It is entirely possible that I accidentally used the wrong side of the cartridge paper to apply the soot. On the side where the soot was applied, there appears to be a lot of space in between the paper fibres. The soot penetrated through the surface of the top paper fibres (see figure 19).

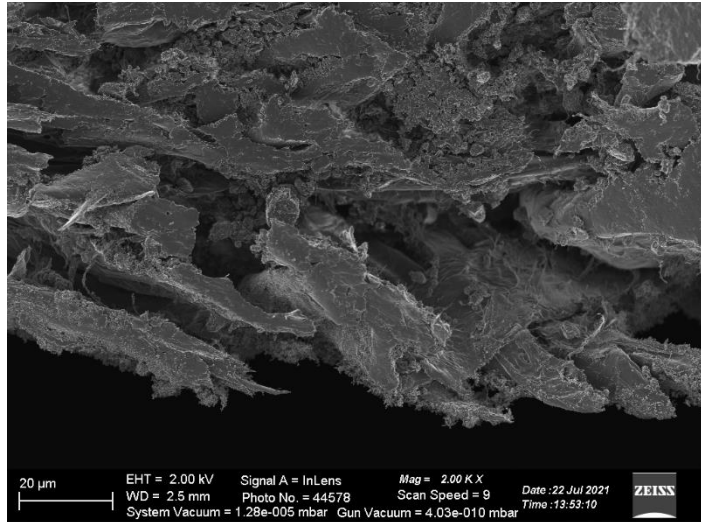


Figure 17: Diane Victor cross section, no fixative applied

However, it appears that the soot

did not penetrate as deeply as on Diane Victor’s hot press paper. At a 5000X, the soot seems to have penetrated approximately 50µm into the paper. After that, one can see something sitting between the paper fibres, but it does not look like the soot deposits at all. This likely represents size applied to the paper during the papermaking process (see figure 19).

Cross-Section 2: Fixative Applied

The sample with fixative applied to it only shows remnants of fixative, almost similar to the areas where the soot was brushed away (see figure 20). However, very few fixative spots seem to be visible on the cross-section, which might mean that the fixative spray did not penetrate deeply between the fibres.

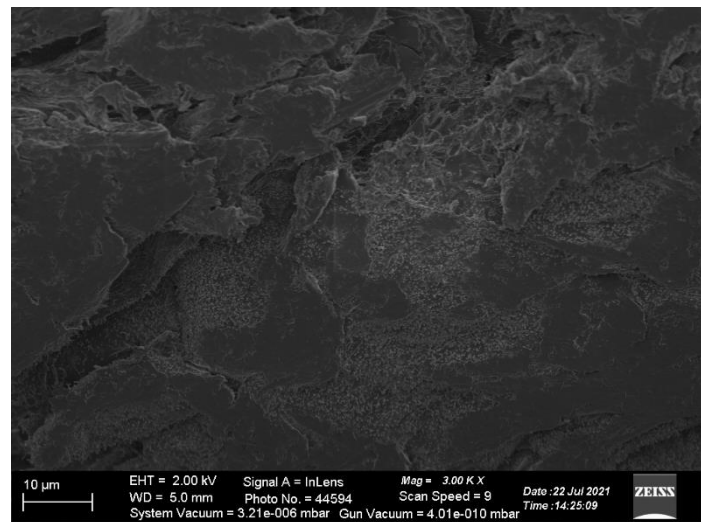


Figure 18: Diane Victor sample, cross section, fixative applied

The cartridge paper cross-section does not appear to show the same soot structures that were visible in the previous cross-section but rather a compacted or compressed version of it (see figure 21). The soot is still intact in other areas of the sample, proving that the fixative does not cover the entire area evenly. The areas where the fixative was deposited are slightly charged up in the SEM, and therefore show up lighter in the images. Figure 20 shows that the fixative

did not penetrate the paper fibres as deeply as the soot penetrated it; therefore, some soot is still visible. At a 5000X magnification, the fixative appears to be sitting on top of the paper fibres like a crust (see figure 21). There is no soot visible in the fixative spots of the cross-section; the soot seems to have been either absorbed or flattened underneath the fixative.

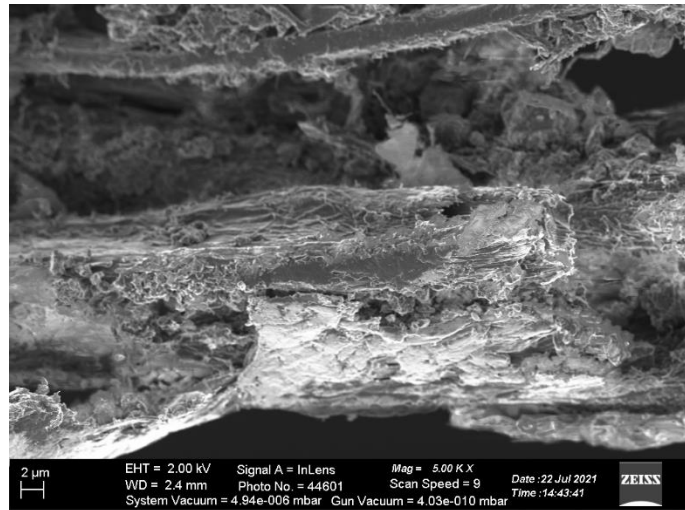


Figure 19: cartridge Cross fix_03

Cross-Section 3: Plain Paper

The fibres on the front side of Diane Victor's hot press paper appear to be much more compressed than the fibres on the bottom side of the paper. The surface appears to be much smoother, too, even though some fibres seem to be sticking out, creating slight unevenness. The texture of the paper makes sense, seeing that it is hot press paper, one would think that the top side was compressed by the process of hot pressing the paper. Even though there was no soot applied to the plain paper cross-section of Diane Victor's hot press paper, it shows some soot deposits. Seeing that the sample was taken from the same paper that the artwork was done on, it is possible that soot particles were deposited all over the paper, even where one cannot see them with the bare eye. This poses the question of whether the carbon coating that was done to prepare the samples for the SEM did interfere with the soot, which is essentially carbon.

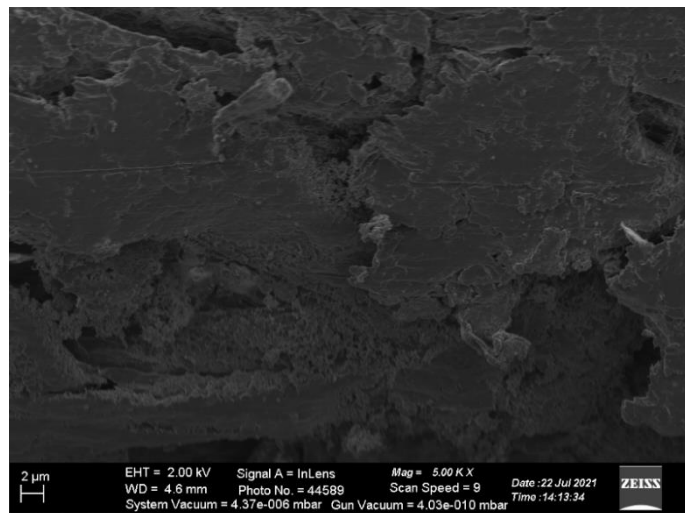


Figure 20: Diane Victor sample, cross section of plain paper (5000X)

5.6. Discussion of Results

Making my own samples was a key factor of this part of the dissertation as it allowed me to understand Diane Victor's technique. This way, I could establish whether a conservator would be able to replicate Diane Victor's technique for possible treatment or restorations. Seeing that applying soot onto paper in the way the artist does requires fine motor skills, which requires training, any restoration should be done by the artist herself if possible. However, a trained conservator should conduct any treatment of the actual paper.

The images taken with the digital microscope, as well as the scanning electron microscope, show that the fixative droplets cause the soot, which is deposited onto the paper in fine, crystal-like structures, to collapse, possibly because of the weight of the droplets. Further, the SEM images of the hot press paper and the cartridge paper show that the soot managed to slightly penetrate through the top paper fibres.

The cartridge paper samples, as well as the samples of Diane Victor's hot press paper, look similar, and the soot deposits on the papers look similar too. The Triplex board samples stood out because the fibres were not as visible as with the other two papers. The reason for this is a coating of the board (PrimeArt, 2021). Unfortunately, it could not be found out what this coating consists of. Diane Victor mentions in the artist interview that the smoother the paper is, the better the soot sticks to it. It can be argued that the experiments of applying the soot onto the paper was most successful on the Triplex board and looked most like Diane Victor's samples. However, a board like the Triplex board with a coating might not be the best when looking at possible methods of stabilising the soot drawings. The soot does not at all penetrate the surface, and the spray fixative that was used in this experiment appears to have been soaked up by the board. The hot press paper that Diane Victor herself used is so far the best-suited paper for soot drawings. Future research should look into different kinds of hot press papers and focus on possible differences in the soot deposits on the different hot press papers.

Chapter 6

Conclusion

The aim of this mini-dissertation was to establish a detailed record of Diane Victor's technique and methods for the creation of her soot drawings. This way, this document can be used in the future by anyone who either has to treat one of Diane Victor's soot drawings, or exhibit it, as all of her thoughts and preferences are listed in this research. Seeing that little research has been done in the past about soot drawings, this dissertation is an important contribution to this field of study.

The introduction outlines how unusual the use of soot as a drawing medium is despite its availability and use since prehistory. The challenge being the fragile nature of the medium, a fragility that South African artist Diane Victor uses to comment on the fragility of life. Overall, most artists and conservators that have worked with soot as a medium would use a commercially available spray fixative. However, Diane Victor chooses not to, making her artworks slightly different and more fragile.

Through a qualitative research design based on an artist interview, the research aimed to identify and record Diane Victor's techniques and her material use and choice for the creation of her soot on paper artworks. As the research highlights, Diane Victor prefers to use candles with a high paraffin content as they create the best smoke. Victor applies this smoke on a paper with a smooth surface so that the smoke gently rolls over its surface, allowing for highly nuanced tonalities in her delicate portraits.

Although past interviews have to some extent, covered her processes, they have not unpacked her choice of material, and this dissertation thus adds valuable information on Diane Victor's artistic process. In addition, understanding the nature of the materials allows conservators working with Diane Victor's soot drawings to better understand the potential inherent weaknesses of the artworks.

Another aspect revealed through the interview process centres on how the artist views the impermanence of her artworks and their potential damage; here, too, this information is invaluable in deciding whether or not to treat an artwork or allow it to have a certain finality to its life. The fragility and impermanence of the soot play an important part in the meaning of

the overall artwork. However, as many of these soot drawings have been purchased, Victor feels that she has lost some control over the artwork's life. Although she views minor changes such as fingerprints or insect tracks as part of the soot drawings' life cycle, she feels that drawings with visible and visually distracting damage such as tears or large smudges should not be exhibited without an explanation as to why there is damage, and how it occurred. She also clearly states that in the case of artworks which will continue to be exhibited, she feels obligated to restore the image with soot even though this may alter the original image. However, she would never attempt to treat the paper substrate. This, too, has a bearing on conservation decision-making, as it would require a collaborative effort between the artist and conservator, leaving the conservator with a certain dilemma of how to restore the image once the artist can no longer fulfil that role. Regarding the life cycle of her soot drawings, during the artist interview, Diane Victor expressed the wish to put an expiration date on these artworks but also stated that it was difficult to enforce these wishes once a client purchased an artwork. This brought up further questions of artist intent and how the South African legislation does not protect it. It would be interesting to establish how Diane Victor feels about the visual alteration that her redrawing creates, seeing that she cannot control the smoke, and would she want to then include a creation date change to the original date of her artwork, or if she just makes a personal note. This, too, would have curatorial and conservation implications in terms of labelling her works. Finally, the artist stated quite adamantly that she does not repair works of a performative nature; rather, these are completely destroyed by herself. As all of these have a bearing on curatorial and conservation decision-making, the artist interview creates a record of Diane Victor's wishes and desires concerning the life cycle of her soot drawings and offers guidelines for their care and maintenance.

Interestingly Diane Victor also states that if the stability of the soot drawings could be improved without changing their visual appearance in terms of tonality and texture, she would likewise change her approach to the medium entirely and not incorporate themes of fragility, as she has done in the past.

6.1. Limitations

As a mini-dissertation, this research is limited in scope to focus on a single artist and type of object as a case study. Seeing that little research has been done on soot drawings in general, finding information about artists was not always possible.

Additionally, the scope of this mini-dissertation did not allow for an investigation into what methods can be used to stabilise the soot drawings, and this could be an avenue for further research. However, this dissertation established that the soot is mainly deposited on top of the paper fibres, with some of it penetrating slightly into the paper. The Pebeo spray fixative used during the experiment flattened these soot structures, and it was impossible to see them in or under the fixative droplets. This paper then rather focused on is an in-depth visual documentation of Diane Victor's samples and my own samples on cartridge paper and Triplex board. The results showed that even though the Triplex board had the smoothest surface of all the samples, it would be difficult to stabilise the soot on this type of paper, seeing that it had the least 'grip' and did not seem to penetrate the deeper layer of the paper.

Likewise, no definite answer was found as to why the soot changes its appearance from a wide tonality of brown hues into a grey tone when a spray fixative is applied. It is possible that an ingredient in the spray fixative causes this colour change; however, seeing that the SEM is a black and white instrument, I, therefore, could not detect any colour changes. The SEM showed that the fixative droplets were unevenly spread and did not cover the majority of the soot drawing. A different method of applying the fixative will need to be investigated further in the future.

The unavailability of materials in South Africa proved another limitation to this study. JunFunori has been used as a consolidant for fragile materials in past treatments, and therefore would have made a great candidate for experimentation as consolidation for the soot drawings. However, isinglass¹⁷ could not be imported due to CITES¹⁸ international regulations.

As part of the research component of this mini-dissertation, I planned to include FTIR spectroscopy to identify any organic compounds on the soot drawings. Even though I had access to an FTIR spectrometer, the University of Pretoria does not have access to any of the relevant databases needed to compare the graphs resulting from FTIR analysis. These could not be retrieved by the operator (Mathias, 2018).

¹⁷ Isinglass is a gelatine that is retrieved from the bladder of the sturgeon fish. It appears to be to have a better adhesion rate and lower viscosity than other animal glues, and it therefore often preferred for treatments of flaking materials (Schellmann, 2007; Talas Online, 2021b).

¹⁸ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a trade agreement between members of the International World Conservation Union (CITES [sa]).

6.2. Further Research

This study has opened up further avenues for in depth material science research into the type of Fabriano paper Diane Victor uses for her large-scale soot drawings, the type of hot press paper she used for her smaller size soot drawings, as well as information on the kind of coating on the Triplex board. This information could help to further establish the relationship between the paper and soot and give information applicable to a broader range of Diane Victor's soot on paper drawings.

As it was impossible to find out more information about the ingredients of Lighthouse candles that Diane Victor uses, this could also be the subject of further investigation.

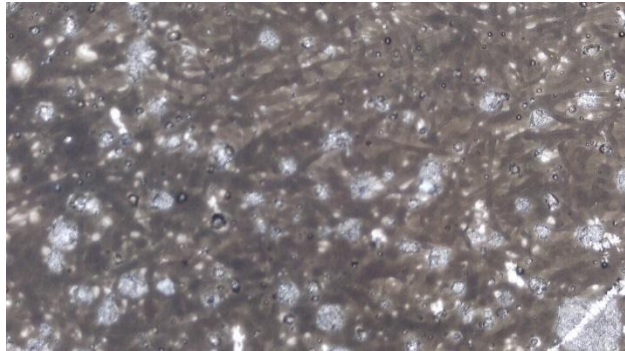
Another avenue for further research could also be to investigate the use of fixatives as possible means to safeguard the soot drawings from abrasion, lifting and smudging. A variety of commercially available fixatives could be researched to determine what causes the soot to turn grey. Research could focus on whether this colour shift occurs consistently, irrespective of the fixative used, and whether it has something to do with the spray fixative itself or a particular ingredient in the fixative, or if it is linked to the uneven distribution of the fixative droplets which vary in size and weight and hypothetically collapse the soot structures.

Additionally, other methods of stabilising soot drawings should be looked at using different conservation materials applied in aerosol formats, such as ultrasonic mist, hoping that the finer droplets will not cause the soot structures to collapse and spread the fixative more evenly. Hypothetically, a powdery material with a lower density than the soot should not collapse the soot structures, like the weight of the commercial fixative spray droplets.

Research into other papers could also be conducted. The experimental part of this dissertation found the hot press paper of Diane Victor's own samples to be most suitable for the soot drawings. They provide a surface that is smooth enough not to create texture, which is what the artist prefers, but also rough enough for the soot to slightly penetrate the paper's surface, making it more stable than the Triplex board. As the Triplex board is coated, it does not allow the soot to sit on and in between the paper fibres but rather on top of the coating. Future research should look into different kinds of hot press paper from other manufacturers as well as different weights of paper and see if there is a noticeable difference. This research should be conducted together with Diane Victor, who can give valuable feedback on the chosen samples of hot press paper.

6.2.1. Do the issues of texture and colour change lay with the fixative's content or the fixative's particle size?

In the artist interview, Diane Victor mentions having tried all kinds of fixatives to make her soot drawings less fragile. However, the result was always the same: the colour of the soot changes from brown tones to grey tones, and texture was added.



The artist does not desire both these *Figure 21: Fixative droplets on cartridge paper with soot* features. The reason for the texture is the particle size of the fixatives, which can be examined under the digital microscope. What remains unknown is whether the ingredients of the fixatives influence the texture and colour change or not.

It, unfortunately, goes beyond the scope of this dissertation to investigate this issue thoroughly and will therefore have to be looked at in future research projects. This section only includes a thought experiment of what may be worth looking at in future research. The first important step would be to determine the average particle size of the fixative ‘dots’ distributed onto the paper by the regular spray cans they come in. It will also have to be determined what other spray applicators can be used to create smaller particle sizes and again look at the outcome and possible colour change. Suppose it can be determined that the particle size of the fixative does not improve or lessen the colour change of the soot drawing. In that case, a closer look will have to be taken at the ingredients of commonly available fixatives.

Even though the manufacturers of most fixatives do not give a complete summary of their ingredients on the back of the product or on their website, due to being a trade secret, a vague idea of what is contained in them can be obtained from their safety data sheets. Below are the ingredients as they are listed on the data safety sheet for the Pebeo *Fixatif*.

Table 3 - Ingredients listed in Pebeo “pastel fixative spray”

Pebeo “pastel fixative spray”	
<i>Ingredient</i>	<i>Percentage (&)</i>
Propan-2-ol	$0 \leq x \% < 25$
acetic acid ethenyl ester,1-ethenyl-2-pyrrolidinone	$2.5 \leq x \% < 10$

As one can see in table 3, these ingredients appear to be extremely vague, and the percentage indication is difficult to read. The Spraymate Artist Fixative matt has a general technical data sheet for all its ‘Spraymate Special Finish’ product line available and no specific data safety sheet for their artist fixative. There appears to be no data safety sheet available for the Ashrad Fixative, which was also used in my own experiments. Other products for which data safety sheets were found include Grumbacher Matte Final Fixative, Krylon Workable Fixatif Spray Coating, as well as Winsor & Newton Professional (Artists’) Fixative (Aerosol). Below are the ingredients for each of the fixatives:

Table 4 - Ingredients listed in Grumbacher Matte Final Fixative

Grumbacher Matte Final Fixative	
<i>Ingredient</i>	<i>Percentage (% wt.)</i>
Acetone	30-40
Xylene (Contains: Ethylbenzene <10%; Benzene <0.1%; and Toluene <0.5%)	30-40
Propane	10-15
Butane	10-15

Table 5 - Krylon Workable Fixatif Spray Coating

Krylon Workable Fixatif Spray Coating	
<i>Ingredient</i>	<i>Percentage (% wt.)</i>
Acetone	≥25 – ≤50
Toluene	≥10 – ≤25
Propane	≥10 – ≤25 74–98–6
Butane	≥10 – ≤25
Ethyl 3-Ethoxypropionate	≤4.3

Table 6 - Ingredients listed in Winsor & Newton Professional (Artists') Fixative

Winsor & Newton Professional (Artists') Fixative	
<i>Ingredient</i>	<i>Percentage (%)</i>
Dimethyl Ether	30-60
Denatured Ethanol	30-60
Acetone	5-10
2-Methylpentane	<2.5
Butanone	<1
Methanol	<1
Propan-2-ol	<1
Methyl Acetate	<1
Acetic Acid	<1

Even though these fixatives vary in ingredients and percentage of those ingredients, one can get a general idea of the main ingredients present in most fixative sprays commonly available on the market. The main ingredients appear to be Acetone, Toluene, Propane and Butane. At least one of these ingredients is present in all of the above fixatives. The next step would be to find out which active ingredients 'fix' the soot artwork. The best approach would be to create samples and apply a thin layer of each component to the sample in a spray bottle. The outcomes should then be photographically documented. This way, one could perhaps single out ingredients that change the soot drawings' colour and the ones that do not, and then take experimentation further with those that do not cause a colour change.

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Appendix 1 Letter of informed consent



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

School of the Arts
Tangible Heritage Conservation

29 March 2021

Re: Letter of informed Consent

Dear Diane Victor

My name is Laura Esser (student number 19058765), I am currently enrolled for an MSoc Sci Tangible Heritage Conservation and have elected to carry out research on the conservation of your soot drawings. Soot as a medium for artworks is fragile and sensitive to lifting through mishandling, or small particles falling off from vibrations in transport, handling or poor storage conditions. These actions may lead to smudging or removal of pigment thereby altering the legibility as well as aesthetic characteristics of your artworks.

My research focus is two-fold, firstly to gain a better understanding of your feelings with regards to the (im)permanence of your soot drawings; and secondly investigating whether there are alternatives in the artistic technique employed that can lead to increased permanence and longevity of the artworks. For this I would like to interview you regarding the former and I attach some sample questions. With regards to the latter, I would ideally like to collaborate with you in the creation of simulacra or sample soot drawings for the latter. With regards to the samples I would like to experiment with for alternatives for substrate choice, i.e.: different types of paper and pre-coatings; as well as potential media for fixing the carbon image in a more permanent manner to minimize the fragility of the artworks from handling or vibrations.

If you agree, I would appreciate if you could counter sign this letter and date it in the space provided.

Kind regards,

Laura Esser

Student MSoc Sci Tangible Heritage Conservation

Contact details: lauraesser06@gmail.com

Name: Laura Esser

Signature:

Date:

29/03/2021

Name: Diane Victor

Signature:

Date:

Appendix 2 Full interview transcript

1. Introduction

This appendix presents a detailed interview with the artist Diane Victor. Over two interview sessions, Diane Victor's processes are discussed. These sessions took place in the Visual Arts Department at the University of Pretoria Main Campus. This includes the making of soot drawings and her material use, from candles to the paper she uses. She then discusses various experiments she has tried in the past to fixate her drawings. This is important for this dissertation, seeing that the next chapter discusses various experiments and techniques that might lead to a solution on how to prolong the longevity of the soot drawings. The interview then follows her processes from production to transport, packaging techniques and installation of the soot drawings. Here, Diane Victor talks about her preferred techniques, as well as methods she has tried in the past and problems she has encountered.

Diane Victor's methods of documenting damage and her views of different kinds of damages of the soot drawings are discussed next. This section highlights what she sees as damage and what she thinks should be repaired before being exhibited. In the following section, she talks about the research she has done on the technique itself but also on other artists using smoke as a medium and then she touches on her use of smoke in combination with different mediums. Diane Victor then discusses the meaning of fragility and its close link to the medium's fragility, and what if the meaning of future artworks would change if a solution was found to increase the longevity of her soot drawings. Together with this, she also talks about her views on the deterioration of the paper and soot of her artworks.

Lastly, Diane Victor gives her opinion on the conservation of her drawings and conservators working on them. In this section, she also shares her thoughts on the rights people have that buy her artworks, as well as them changing her artworks, seeing that they have her signature on them. Her end remarks in the interview point the author in the direction of galleries that have worked with her soot drawings in the past, as well as her sharing her expectations of this dissertation with the author.

2. Process and technique and material use

Session 1: 26 April 2021

Laura: What Isabelle and I thought it would be great to first establish with this interview is your whole process of how you start, your technique, and what comes afterwards: transport, exhibitions, ...

Diane: and the longevity: how one attempts to make them last slightly longer. Because when they do go into the market, where people are prepared to invest money, you have to guarantee some kind of stability, otherwise you have a lot of repairs.

Laura: We thought it would be great to have this interview as a baseline for going forward and for looking into increasing the longevity of your artworks. The first question is about the paper that you use. In interviews, I've read that you use the brand Fabriano, is that right?

Diane: I use Fabriano for my general drawing paper, for the very large ones. For the smaller ones, smooth hot-pressed paper is the best because the smoke rolls over it. Paper with a tooth holds the smoke. So when you actually do smoke drawing, and I suggest you try one at some point!

Laura: Yes, I really do want to try it out.

Diane: You do need to, just tie your hair up! It's a realistic issue that you ignite yourself. So when you work with the candle, the smoke rolls across that surface. And the smooth, hot press paper, it just sort of touches and moves far more effectively than even the heavier Fabrianos, which kind of slows it [the smoke] down, and it gets caught in the fibres, and it gives a very different effect. So for the larger drawings, I use Fabriano, but for the smaller ones, I use any of the hot-pressed papers. They are almost cartridge paper quality. In the United States, there is a broader range of papers. There were quite affordable, hot-pressed shiny papers, and they were amazing! Smoke drawings, for me, works most affectively on a surface that allows it to roll.

Laura: Yes, because if I can recall correctly, you did say that the smoother the paper, the easier. And that coarser paper gives a texture.

Diane: Remember, I also go back with a brush or the tip of my fingers and dust the smoke off. And the heavier paper that is designed to hold holds. And I do not want the texture of the paper

to come through, it is a distraction. My aim generally was to see the smoke, to not make it look too laboured. The heavier paper tended to look too obvious.

Laura: And how was your process of finding out what paper works for you? Have you tried out different papers in the past?

Diane: It's a strange process in that I would never have done smoke drawings unless I committed to an exhibition, teaching down at Rhodes [University]. And Rhodes doesn't have a large amount of material available. And agreeing to do this, I believe it was an exchange show with artists from Germany, it was about HIV and Elfriede Dreyer was curating it from the Museum of Africa. When the Museum of Africa still sort of functioned. And I'd been teaching at Rhodes, and you know this, I'd been doing this with the students, and I thought: I can do this. So then I wrote the proposal to say I'll do these portraits, and I interviewed people that were HIV positive and then, if they agreed, make the smoke drawings. And I had to make them work, and the only paper that I could get down at Rhodes, it wasn't a matter of trying out different papers, was the cartridge paper down at the stockroom for the students to do life drawings on. I think it's 200 grams, there is a company in South Africa that brings the paper in; I think it's called Ashrad. It's not a great paper, and that's what I used, that was the best. Simply because it was fairly small, it came in drawing pads. And they had to be small because I had to drive them up from Rhodes, in my Fox. Which means they had to fit in my car, and I had to make a cardboard box for each of them. Because I can't stabilise it, so many smoke drawings are directed by the size of the vehicle you drive. The biggest smoke drawings are as big as a Fiat Palio station wagon boot. And if I drove something else, they would be bigger or smaller because you cannot roll them. And you can weigh them down with clips, and they can lie there. At one time, I had boxes built because I had a big showdown at Rhodes, and I moved them up. It was almost like a beehive with different shelves and a drawing taped on everyone. It was a huge job, I still got the box. So, I didn't experiment with different papers; I worked with the papers I had and made it work. I adapted around what I had.

Laura: That is really interesting. And you say that in America, you had a different paper to use. Have you thought about using different paper or maybe about a quality that you wish you could add to the Fabriano or the hot-pressed paper?

Diane: Certainly, I wish I could access that paper here. But it was sold in sheets, and it is so difficult to get sheet paper here, so I've just learned to adapt. Surprisingly, foam core takes smoke drawings incredibly well, but it's just so nasty as a medium. Because it has the same

smoothness [as paper], it holds smoke drawings incredibly well. But I couldn't work on it simply because from an archival point of view, trying to sell foam core to someone as a finished object, I had the feeling that people were not prepared or willing to pay for a piece done on foam core. Because of its potential archival instability. So, if I could access the paper in the States I would. The other thing I'm sure you're aware of is that so many of the paper stores are closing down. All the places I used to buy paper from aren't there anymore. So I used to go in and sort of feeling the surfaces [of the paper] and knowing what you could get from that. If you've got to ship and import it by name, and you can't test on it, that's more difficult. Rather than finding different papers, I've adapted to what I have and then also used other surfaces: be it glass or stone, it holds beautifully on stone.

Isabelle: That is interesting because the stone is much grittier.

Diane: And it's porous, it absorbs. It really does. I have found is that when it comes to rinse it [the soot] off again, it holds much better than glass or paper.

Laura: That is really interesting.

Diane: Much of it is driven by availability and where we are. And as South Africans, we are so used to adapting to what we have.

Laura: Most definitely. About the soot that you use. I have read that you use cheap candles that have the most paraffin in them.

Diane: That is correct. It gives you a better drawing medium. And you would have heard me say as well when I worked in the US where they've got smoke free candles, that's really a bad idea. So really cheap and nasty. The kind of candles that everyone's using when Eskom goes out. Kind of, in retrospect, it ties in with this retrograde of going back to candles. And then, if I was doing different drawings, I'd start binding the candles together, and I got different wicks. So if I'm doing a bigger drawing, the larger the flame- and you can control flame size a little bit, not much- I'd combine wicks together and work with that. I've tried experimenting and working with animal fat. I did works for a rhino project, where they had a rhino poached on their farm, and they saved me some fat from the animal. And you know candles used to be made of sheep fat, and I worked out how you make them, and I made rhino fat candles and was drawing the rhino in rhino fat. Which is a little bit not cheesy, but it has its problems, but I was interested in using the medium to make the ghost of the animal. So I've worked with animal fat- which is really difficult because it tends to melt, and it stinks. It really smells like the

animal, but it burns beautifully and draws beautifully as well. And then for the smaller drawings, you know the birthday candles that you used to get to put on cakes – it does give you a smaller mark.

Isabelle: Have you tried paraffin lamps?

Diane: It is difficult to control. Their smoke is very slow. A lamp is also quite awkward to draw with. I certainly tried, I've tried a lot of things, I've tried making my own lamps. I tried burning everything. But the lump from the paraffin, it does a little dance, it goes up, and then it just sits, as opposed to candle smoke, which is driven by the flame, and it's hot, and it's always moving, and it allows me to work almost like with a blowtorch. So, from experience, I know what I can get. So when I am drawing, I have two or three different candles, and the length of the wick makes a difference as well. The shorter the wick, the smaller the flame-the more detail. And a long wick gives you a really excitable flame and a far more expressive mark. So I have two or three candles, and I work this way. It's inventing as you go.

Laura: That's really interesting.

Diane: Yes, it really is. And it's just wanting to control the drawings more than I should, but I guess that's just the nature of what one does. And if you're travelling overseas, I've found in retrospect that the majority of countries have less paraffin-based and probably more environmentally-friendly candles, so I take my own candles. These candles are horrible to work with, they give really bad smoke. You end up doing heat searing on the paper because there is not enough soot deposit from the flame. So I travel with lighthouse or buffalo or whatever candles.

Laura: And then, regarding your technique, would you first kind of draw an outline, and then how do you go back in and make certain areas darker?

Diane: So what you would do, because you work upside down, through the flame, and you're working quite fast, you cannot make a judgement of proportions. So what I do, I work with really light pencil drawings, just roughing out proportions of what I want, and then take a board or hang from the ceiling above my head, and then just work with the candle, and after every 4-5 minutes you take it back down to vertical so that I can see- you can work upside down, with the big ones I do, but after a few hours, you get a very stiff neck. On the really big figures, they are down at the Goodmann [Gallery], there were these two-and-a-half-meter male figures that I was doing, they were permanently hung from the roof. And then I would take them down and

work with very soft brushes. And those really cheap makeup brushes, you know, those you cannot paint with, they do a small lodge. And that is all I want- the slightest dislodgement of pigment, not a harsh line. So it's dusting and adding and adding and subtracting.

Laura: And speaking of, how long does it take you to do these drawings? For example, the portraits that you did for the HIV project?

Diane: Well, they are fairly quick; you can't labour them. They'd become too saturated. Because every time you add more soot, they become very dark very fast. It's 20 to 30 minutes. But you often have to start again. If it doesn't work, I burn them. You can't store them, keep them or save them. And this way I, by burning them, I started doing the ash drawings. The ash drawings were from me going outside and burning the soot drawings and looking at the beautiful ash. The ash you get from good quality paper, it's beautiful!

The length of time is not long, what extends the timeline is I'm not happy, and when I go have coffee, or I have to teach, I might come back in a few hours and work on it again. But the actual time spent with your hand in the candle is actually limited by the fact that it is a very fast process. And it's all muscle memory; you can't slow down when you're drawing because it catches fire.

Laura: That brings me to my next question; you said you can leave to have coffee. Would that not affect the stickiness of the soot that you have already applied?

Diane: It remains sticky forever; it has no effect. And if it's suspended upside down, particles simply might fall off. But I've never found any alteration. If I'm away for a number of days, I'd try and cover them. I've got drying racks with a plastic cover, so I try and keep the dust off them. But the biggest problem I found that in the Eastern Cape is insects. A moth walking up leaves the perfect tracks! You are able to identify the different insects. A Christmas beetle would fly straight into them. They leave a trace. When I did initial research about smoke drawing, I found that soot is so sensitive, it is a way of literally recording seismic earth movements with a needle. It's super sensitive, it picks up everything.

Laura: And when you are talking about the brushes and adding details, do you find that the brush picks the soot up, or does it move it around?

Diane: It picks it up, because it [the soot] is so sticky. In fact, you will find that after a while, the brush becomes useless, you'll have to wash it, and I dry them out. It clots them. For me,

it's not the best fine arts brushes, but really those cheap makeup brushes, because they just dust, that's all they do. And it's not any specific brushes I use, they just have to be as soft as possible. And definitely, in many of the drawings, you can see the brush strokes. I try to do as little intervention as possible, but there is only so much you can do. But you need to bring in some definition.

Laura: Is there a difference between the thicker and thinner areas of the soot when you try and pick it up?

Diane: It picks up differently. And for this, time matters. So when you put on a lot of layers, they will come off quite sensitively within the first hour, but within a day's time, they come off very crudely. You'll find that you try and lift something off, and the whole thing will come off, and it will leave a mark, and it looks very awkward. This happens specifically when working with soot on glass. Glass, if you're working while the glass is almost still warm, allows a mid-tone. So when going in with the brush, it sort of keeps a ghost on the glass, and once it's cold, it releases everything, and you get an incredibly harsh line. You can almost not work back in a smoke drawing on glass because you can't come back to it because the marks are too harsh. With the glass, I've been experimenting with a lot of solvents on the glass. Because you can obviously work on wet glass, and what the soot does to that and how it reacts, because it runs and catches fire and it runs along.

Because again, it's like printmaking, you are playing around. And you clean with a window cleaner, and then you work too quickly, and it reacts to that alcoholic component, and that's what the flame picks up. It is always following and chasing things and not getting bored.

3. Experiments Diane Victor has tried in the past regarding fixating the soot

Laura: And when you are speaking about experiments, have you tried any methods of preparing the paper beforehand?

Diane: We've tried with sizing, we've tried a lot. At various points, I've worked with a number of printmaking shops, and they wanted to try and stabilise it [the smoke drawings]. And we worked with gum Arabic because, you know, the gum is absorbent. But it doesn't work, it also doesn't allow the smoke to be moved around afterwards. It tends to hold it. We've tried to do print transfers as well, where they've pre-gummed this paper, and then we put the glass, I worked on Plexiglas, and then we ran it through the press and hoped to transfer the smoke

drawing into the gum. But so much of the depth that the smoke offers gets lost in the transfer. It flattens it.

Laura: And when looking at fixatives, have you tried any of those?

Diane: I've tried everything. I've tried every fixative, but it just destroys them. It doesn't blow them off the drawing, but it makes it [the drawing] lose its depth. It looks like a photocopy of a machine where the toner is running low. It loses all the tonal shifts between the richness of the dark browns, and it makes them grey. So the colour changes, and it flattens it. But you can get a totally stabilised smoke drawing, but it's almost like when a fish dies, and it loses its life, and it loses that depth of field. So I've just tried to adapt my way of working, in a way that they stay unstable. And the instability for me is an important part of that process. Well, I've adapted to that. With the initial body of work with the HIV positive patients in that community, it was about the fact that lives are so easily damaged through contact with things, and it was an integral part of the process. But I wanted to go on with the smoke drawings beyond that.

Laura: And coming back to the fixatives, have you just used spray fixatives?

Diane: We have tried atomisers, we've tried the fixatives that you put on photographs, I really have done this for ten years. People rush and come back with different chemicals, but we have tried a lot. But it dissolves the soot, and it changes its colour. It flattens it. And my suggestion is that you try it. Just take a good old paraffin candle and a piece of smooth paper, and afterwards, try spraying it. I've allowed it to rain down and embed itself onto the paper, and it changes the drawing totally. This might mean that I didn't have access to the right fixatives. And I've tried the expensive Talens, and Gumbacher and also the cheaper nasty ones, and hairspray, and atomisers.

Laura: Yes, that was something that we talked about in the meeting with the panel of advisors from Yale [University]. They want to find out what you've used so that we can take it from there. Because they obviously have access to so much more equipment.

Diane: I am very excited about this because it maybe offers something that can stabilise it. I am really keen on what they come up with. Because artists have worked with soot before, this is nothing new. Like the technique fumage, what did they do to stabilise it?

Laura: I've been trying to get in touch with conservators that have treated smoke paintings before, but it is definitely not easy to get hold of them.

Diane: But you're coming from a position of being enrolled at a university, while as an artist saying, 'I want to fix smoke' and they will just respond with 'Yeah whatever'...

Laura: Actually, I have got the contact from someone from the Getty Institute. Because they have dealt with Guy Qiang's explosive artworks before, and apparently, they have come up with a fixative. It was in a podcast. They said they would publish the results of their research, but I cannot seem to find it.

Diane: Oh yes. His is burnt marks, but there would be some soot deposits. Heat impregnates itself into the paper as opposed to this rolling smoke. But I am very keen to hear.

4. Packaging and transporting soot drawings

Laura: Yes, but I thought it can guide us into the right direction and give us some ideas. But getting back to the question. The next step after finishing your artwork. Regarding transport, you already said that you would stack them in cardboard boxes. I've read in an interview that you used pizza boxes in the beginning.

Diane: Yes, when I worked at Rhodes, I used to drive around looking for pizza boxes that are the right size. I thought I'd have to bribe students! There were 40 portraits in that first series. Pizza boxes were the right strength, and I tried finding companies that would make them for me. In the end, I bought cardboard in Port Elizabeth and made them myself because I just couldn't get that many clean pizza boxes. And they tended to be square, but I wanted to go with a portrait format. So the ones I still have that are not sold, I store in cardboard boxes, that are little archival boxes, I suppose, and I just tape them down. If they are not taped, insects manage to get into anything. It's amazing! Entire generations of families! You open a smoke drawing, and it's beautiful, but it's certainly not what it was when you packed it away. Because they leave tracks and traces.

Laura: I would have never thought about the insects, but it makes so much sense!

Diane: Yes, not to forget small animals like geckos. Because normally, when I work on them, I pin them on a wall. But you do want to put them down because they are less vulnerable that way. Now I have a stack rack build and a plastic skin, almost like the ones you put over a wardrobe to keep the dust out, and I store them that way. You can't fill up every mapping

drawer you've got with smoke drawings when you're doing a show. And I'm not going to get them all framed until I've got them ready. So it's also about inventing and looking at things that are out there in this world. Having this huge box- and they were 1.5m by 1m in size smoke drawings that I did in Rhodes for another show. I had 10 of them, and I had to drive them up. So I had this huge wooden case made with all these shelves, so you just taped them into the shelf, and we drove up. It worked, but you do adapt.

Isabelle: And then you'd have to remove the tape as well.

Diane: Yes, but what I do is I leave space if I need to trim the edges. The other thing that I noticed, because I get the drawings box framed, is that you cannot take the smoke to the edge of the paper because the framers will inevitably phone you saying, 'My fingerprint is on your drawing'. So it allows room to put the pressure [on the artwork]. You obviously cannot turn them over, but it has been done. That drawing was then written off.

Isabelle: Have you ever tried magnets to keep the drawings in place?

Diane: That's a really nice idea. That would have been a perfect idea. But I didn't. I just taped them in and drove really slowly. And again, regarding the size of the drawings, they have to fit in my car, or I have to hire a truck. I had three very large smoke drawings at the last Goodmann show in Cape Town. It was these three naked men falling. They were 2.5 metres long, and they were framed here by Steward Trent. But to move them, I needed to borrow a truck. A hearse would have been ideal because they were life sized. So I needed a hearse-sized vehicle to ship the drawings.

Isabelle: I've been thinking because we use magnetic paint on our Easel in our department. You can get it in craft shops, it's readily available here in South Africa.

Diane: That is very interesting because, in my studio, I pin them. And the edges just become so eaten, you have to cut those off before anyone buys them. In the show, you would have seen some of them. Because they got exhibited on such short notice, the edges really look like they've been attached by a pack of rats. That does get trimmed off. But magnets are brilliant!

Isabelle: You could even use them in the studio when you paint the magnetic paint on the wall, you could use magnets!

Diane: Yes, that's what I can do, and then there'd be no holes, and the wind wouldn't rip them off. Because that does happen!

Laura: The boxes that you store your soot drawings in, are they made of usual cardboard or acid-free?

Diane: Just usual cardboard. The intention is not to store them forever and ever. It is that heavy-duty, three-ply cardboard because I don't want it to conk in. I also found after a while that even though I tape and staple them, that the lids sag after a while, and then they touch the middle of the drawing. For the long term, I'd obviously want archival storage boxes to get made. But it's almost easier to get the drawings box framed. And it would roughly cost the same. Because on a small drawing, the box frame isn't particularly expensive. And when I use glass or Plexiglas, Plexiglas has that tendency to be static and to bend, which is far more of a risk for a larger drawing. Earlier this year, I did these big smoke drawings on 1.5 by 2 metres sheets, and the person I was doing it for had bought the glass for me, and they bought 6mm shatterproof glass. And when I bonded them together, so you have your drawing and the UV glue around the edges, and then you put your other sheet on and clamp, the glass was so heavy, it touched the middle. So the actual weight of the glass was heavier than what I'd normally use, so it touched the middle of the drawing, and they wrote it off. So I learned, do it yourself and do it the way you know it works.

Laura: And with transport and installation of your artworks, are you always involved?

Diane: I prefer to be. I did a large number of smoke drawings for a college in Iowa at the Faulkner Gallery, and I donated a series of six big drawings to them, I have no idea what happened to them afterwards. And I don't ask. Because unless you have them framed- and it's expensive to frame big drawings- and even a framer who is careful, and they don't always believe that you can't touch it. Also, a framer at Foundation Blachère in France two years ago, there was a show called 'Fuir', to escape, I did a series of big smoke drawings and donated that to them in exchange for the residency I got. They said they were going to get them framed, but you can't take them off the wall and either pin them up somewhere or get them framed, or they don't exist anymore. For me, the horror is badly damaged smoke drawings somewhere in a frame. And I've seen that. You go to a museum in Bloemfontein. And I walked in there and there was a smoke drawing with a finger mark right through it. That horror of contacting them and saying, 'What happened, I'll repair it for you. I'm not angry. Just fly me down or pay my

petrol, I won't charge you to repair it. It's more important to me that it is repaired and it's hanging on the wall, and it has a great line through it! And I don't know how one manages that.

Isabelle: Well, this project is part of it. All that information is being recorded.

Diane: Yes, and almost any good conservator would be able to restore it. Unless it's something like replacing an eye, which would mean you would need to be able to draw with a candle, which is not as easy as it looks. It's about drawing skills, you can't slowly put the mark in, it has to be a speedy action.

5. Installation of soot drawings

Laura: When Isabelle and I visited your latest exhibition at UJ, we saw that for the unframed artworks, you used these white foldback clips to install the works. Is this a technique you usually use?

Diane: No, it's a technique that the gallery suggested. I don't necessarily really like it that much because these clips are quite aggressive, and there is a layer of cardboard in between, but it is not what I would normally use. I normally use the old fashion clips, and I spray them white, but they tend to be a lot more sensitive. I find those silver slips whose head you can take off a little bit heavy. And any suggestions from anyone I would appreciate. But that's what I've been using. I do not get all of my works framed simply because of finances. Then you end up with a lot of frames, and then you are bankrupt, you haven't sold a work. Also, people often want the work framed in a way that suits their collection. Sometimes with the smaller drawings, because there is no need to actually make a hole into the paper, I just hang them with binder clips; they go into the wall and then the plastic half curves and holds the paper in position, and you can just tap it in quite quickly. But I need to go see that show. I think the problem with the show in Covid is that the staff is never there, there is one staff member, but he is not really looking after the show.

Laura: Also, about that exhibition, some of the works were framed and others not. Is there a decision process behind this?

Diane: The smaller ones I framed because it is affordable, and the ink drawings really needed to be framed. The bigger drawings, the ones that were framed, two of them had been pre-sold. Because the show was meant to open on 1 April last year. So I had a lot of the work ready for it. But then the show was postponed. It was a matter of staying alive. You see, it's how I make

a living. Part-time lecturing doesn't necessarily pay that well, as we all know. So people bought works, and I just asked them if I could take them and show them, because they already existed. And then some of the smaller works I had framed, and then a lot of the lithos [lithographs] were framed by the gallery that is selling them, which is another gallery. So they show them as framed, and they look better. But there was no opening, not many people are seeing the show. If it was Goodman, it would have been a different thing. It's either all framed or not framed. This one framed, one not, is a cost thing. If you look at R10 000 a frame for a big frame, you can't just always risk it.

Laura: That makes a lot of sense. We were just wondering about that.

Diane: Yes, the smaller ones, most of them had been made for that show, so I had the frames already pre-booked, I just finished them off during lockdown. And the other drawings were made later. And then the blackboards cannot be framed. And the one on the blackboard, I could actually use fixative, and it holds fairly well. The green one is actually a table tennis desk that I found, and it really is not going to fix! The chalk falls off all the time. But it doesn't have a chance after that, it will get cleaned. But those would also have to get framed. Even transporting them, they looked very different when they arrived.

Isabelle: So you notice a lot of material damage during transport?

Diane: Yes. On those. Not so much on the drawings. The drawings are fixed, and I'm pretty good at fixing them. If they haven't been, it's just because I've been in a rush. You can fix those charcoal and dust drawings properly. I usually lie them onto the floor and let the fixative spray fall on them and then it settles, and I do it a couple of times.

Isabelle: With the smoke drawings, have you noticed damage as well [during transport]?

Diane: Because they've been stored for two years [referring to the glass panels at the UJ show], they were never meant to be shown again. They were shown in Potch¹⁹. And it was only when I was looking at that space, and I really felt they needed some kind of showing. Because they were not in sealed glass boxes. They were an installation for discarding. And then I didn't have the heart to wipe these ladies out. I didn't mind the damage that much, because it is not a work that is on the market. It's an installation, kind of a shadow memorial. The damage became part of it, in a way.

¹⁹ Potchefstroom

Isabelle: It kind of has to live its life and be gone, as a memorial.

Diane: Yes, definitely. And I'd never want to fix them and seal them. It would seem wrong. The intention was the shadows. And they fade and they fade from memory and sometimes you forget and then somebody else gets killed and then there is outrage and then it is forgotten.

Isabelle: But forgetting is also healing.

Diane: Yes. Not so much for the first series of smoke drawings I did. I often think about the people whose portraits I did. And how many of them are alive. That was around 20 years ago. And the ones that hang in Izikio are still sticky and dark. And a lot darker than the drawings I do now! I think it was also because I was still learning. I tended to overdo them.

Laura: With regards to framing the smoke drawings, how would they be mounted in the frame?

Diane: They are float mounted. They work with archival tape. I tend to work with one framer, which is Stuart Trent, who is the first guy who got the frame them and we kind of invented a process. And then he tells me, 'Make sure you don't draw in this corner and that corner' because they do need some points where they can put pressure. And then they obviously float, and then they go into the box. It's T-hinges that they use. When I started working at a studio in France, where I did the lithos, they were very keen on me doing smoke drawings. So Stuart sent me WhatsApp videos on how to do framing, so I did it in France at the local carpenter's studio.

6. Damage documentation

Laura: When the smoke drawings get some damage during transport or while installing an exhibition, do you want to go in and redraw or re-work these?

Diane: I try to. There is a certain amount of damage, which is accidental damage, that is part of the medium. Once they are framed, they really shouldn't get damaged. Where I have a problem with is someone going and doing that [pretending to touch drawing with her finger]. For me that's an active point of damage, and then I'm going to try and take it off the show and repair the damage. But the accidental... it becomes part of the work. It's what you're working with, it's soot; a waste material. It's the most common denominator, its carbon footprint,

actually! So if it's not a major issue, if it's open. But if I go to a museum and I see the damage is rather bad, please contact me, I'd rather repair it.

Laura: And do you have any way of documenting that damage?

Diane: I'll ask them for photographs and when I get them, I'd obviously photograph it. But I also photograph the works before they go out. I keep an archive. And I've always done so. Not always on a high-resolution camera, but certainly on a cell phone. That's my way of recording what's going out into the world. And Stuart Trent, who does the framing, is very good. If anyone has work gotten framed by him, he sends me photographs. And frames get damaged, they fall off the wall. And then he calls me in, and I come to repair [the drawing]. Which is a bit strange, because my life period is X, and at some stage I won't be there anymore to repair them. And then, will they cease to be? I don't know. But in a perfectly healthy frame, there is no reason they should deteriorate.

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7. Restoration of damage

Laura: When you see after an exhibition, that there is a work that has damage, do you ever go back and rework it?

Diane: If it's a work that's going to be shown again, I will. But if it's not, if it was purely performative, I don't. I tend to rather clean them off and just destroy the work totally. Sometimes the actual damage is part of the history and the material and there have been works where I have allowed that deterioration, just speak about the way things fall apart and nothing is perfect. And you can't preserve it. It's this delusion we have to try and fix time.

Laura: And if you do rework, do you re-apply smoke or how do you rework it?

Diane: It really depends on the damage. It's not so much in exhibitions, it's more when people buy works, and there might be damage. For example, the frame might fall off the wall and then there's the glass that might not tear the paper, but it would leave lines on the surface. Or it goes to a framer who fixes it but and then... yes. So what I do with the damage is that either I go in with a brush, because if it is a very distinctive mark, you try and break the edges. Because it's too sharp a line. And then I add more soot to it. Sometimes the images change, and you can't help it, because I don't have the skill to control the smoke. But it's mainly, if it belongs to somebody and they bring it back to me for restoration, I tend to mend it as close to what it is. Bearing in mind that it will change a little bit.

8. Research in technique

Laura: Okay, that makes sense. And for when you do residencies, for example I remember you being in France, in Le Atelier Grand Village, have you ever worked together with artists that have experimented with a similar medium or have you exchanged ideas?

Diane: Yes, we have. We've tried a lot. A lot of the printmaking shops, not only in Grand Village but also David Krut, and in America, there is one in Washington University. Printmakers are always very keen and want me to bring the smoke onto the plate and they want to make some kind of impression or use it as a stop-out on the plate. So we've done a lot of

experiments. In that case, I'm working more with printing shops. Collaboratively with artists, the medium is very frail and doesn't survive well on anything else. It looks quite substantial. But the segment of any other medium is that it looks like what it is; it's a ghost of a soot stain. Which is its strength, but also in collaboration it's also often its weakness. So most collaborations I've done are with different print shops, we've done photogravures, smoke on glass, which is then exposed directly onto the plates, we have tried to print smoke drawings onto a sheet of paper that had been primed with gum arabic. Almost every print shop, their excitement is about how we can take the smoke... Up in White River, and this was a long time ago, they had commercial litho[graph] plates, the aluminium ones that have an emulsion, they tend to transfer the smoke directly onto the emulsion and see if we could stabilise that and print from it. On all of them you get a print of a smoke drawing. And the smoke drawing is what it is. And for me, what is lost, is not really worth... it's great to experiment and I really enjoy that, and I've started using smoke as a process that I can bring into etchings, as I way to bring in a tone, but not as a drawing in its own right. And I leave in the way it is, because that's what it does. Anything more than that, it becomes forced.

Laura: Have you read up on the technique of other artists that draw with smoke?

Diane: Not really. I mean, initially when I started 20 years ago, I was looking at the surrealists and the whole fumage thing. But I was more looking in terms of how they stabilised it and how are these works preserved in museums. In retrospect, I assume they are just under glass cases. Because the soot itself is pretty stable. But my research was just more in 'how can I stabilise this' rather than 'what can I learn from their processes'. It was only after I made that first series of works that I started thinking 'okay, I've done these, maybe I should do some research to see what other people have done'. But I'm also one of these people that sort of just dive straight in, as myself trying to manage a medium that was very uncontrollable. And it wasn't like I could read a book on how to wear the candle. It's also totally every person's solution. Because it's such an uncontrollable medium. I've seen the other artists working with candle soot. It's often quite controlled with stencil and things. I just draw free hand, which I think makes a difference. So I am aware of it, and there are also my students, everyone I know tries smoke at some point. And they all think 'oh it's wonderful' and then they realise they cannot stabilise it. And it's really difficult to do anything with it once you've got it. Very few of them actually ever continue to use it as a medium.

Laura: When I did the smoke experiments, Isabelle and I were also wondering how to store this once it was finished, because it takes up space!

Diane: Yes, it takes up space, and you cannot touch it and you become conscious of it being this awkward elephant in the room. So finding ways... you should just frame them. But for me that's almost the strength of the medium. And it's a difficult thing, catching a ghost in smoke. And maybe you can't hold it forever, but that's okay. They are transient images; they are vulnerable and fragile. My original wanting to work with this medium was about the fragilities of these lives, you touch them, and they are gone.

9. Smoke drawings in different mediums

Laura: Yes, I will get to the meaning behind the drawings in a little while. But coming back to your latest exhibitions at the University of Johannesburg. We've seen your soot works on glass, but then also those on the big fabric sheets. Were those enlarged?

Diane: So, the one was done to scale. If you remember, there was a crocodile, that was actually to scale, and it worked better. That was the size of the original drawing. And I just had a high-resolution photograph of it taken. I think I mentioned this is why smoke drawings are determined by the size of the boot of my car. The large man was a smaller drawing that I thought 'okay, let's experiment and try and work bigger than scale' and for me it was less successful. But I am still very intrigued by the potential of that medium as a printed one. It takes it away from being smoke, but it allows it to travel and to be taken to other places, it has a lot of potential.

Laura: Yes, I specifically loved the man. It looked like it had these tentacles and actually it being on the sheet and moving!

Diane: Yes, with the air conditioning! If I could have, but now during Covid times it isn't always possible, but I would have printed it longer and tied it to the floor and then it would kind of move, the idea of this predatory hunting. The next time, I've got this show coming up, if it happens, in Slovakia. It was meant to be last year and now it is next year, because of Covid. It is in a space where they only want me to work with smoke. And normally what I would do is go and make the smoke drawings there and then they would become a donation to the space, or I would destroy them, because you cannot move them. It's an old church space in a tiny little

town, which I haven't been to. I am now thinking, I could do works printed on cloth, that then can hang! And I'd experiment with different cloths as well. I am going to, this is still a new idea. For now, I've only tested this for the show, and you know when you test something and you don't really have time to see what works, because to print also takes a week. So then you hang it up and go 'okay, this is what I should have done'. So now my potential for the show in Slovakia is to do a lot more and I can just pack it in a case and take them with me. [The location] has got a tall bell tower so I can just hang them from five or six meters.

Laura: That will look amazing!

Diane: It's the ghost of all the buildings and all the histories and in Europe there are so many more. So the problem has been people would always come and make smoke drawings and then what to do with them? This is perhaps a way to be more movable and installation based. And then [the resolution] would always be one to one. That's my taste. The scale of the drawing is the scale of the print.

Laura: And what material did you use now for the sheets?

Diane: It was chiffon, really one of the cheapest ones, because we were experimenting. I wanted something that was translucent, because to me smoke is about the fact that you can see through it. But I will test other things. But then I'll do smaller ones. The problem now was we had little time. And I wanted to do tests of small prints and then look at them and see what the potential is for that material. And if I can do things to them, what happens if I soak them. So it becomes another medium, of which the smoke forms a part, but it is something else.

Laura: What would you do with the original drawings?

Diane: I don't know. They'd be in my studio, but they then passed on their history to an extent. I don't think I would want to sell them as drawings. I might just destroy them. Better that they are gone, especially if they are damaged. I told you, that's where all my ash comes from. You get all this wonderful ash and then it becomes something else.

Laura: I think that is great. The soot drawings on the glass panels at the exhibition at UJ, is the soot closed in between to glass sheets or not?

Diane: Those were not designed for living forever. So previously, when I worked with smoke on glass, I've often built them into window frames or with the original works in the abattoir, I

sealed them in between a second sheet of glass. Not with the two glass sheets running together, because it damages it, but with a glass box. So 3mm, then a 2mm strip, then 3mm and you bond the second strip of glass and then you close it. But it had lots of problems. You can imagine the problems humidity will do to it. And then things started to grow inside them that I couldn't anticipate, because it was a new medium, so I started leaving gaps where there is some circulation of air, but the soot is still protected. The best solution is when they are built into window frames. So I have the original glass built in in a spacer and the second sheet of glass tucked in as you would normally with a frame, which can be removed. Also, the wood allows it to breathe. The problem with the UV-bonding with the glass is that it's sealed perfectly, and they become little glass houses. They are very beautiful, but these things started growing inside them, all over the drawing, and the people that bought them were very upset. So we had to take them back and reimburse them. Maybe it's just because I'm a printmaker, everything potentially in the future, some kind of growth inside there is something that one could perhaps use or help become part of the work or direct or something like that. But the ones [that were in the exhibition at UJ], I will clean them up after this. They were already only shown in Potch[efstroom], and then I stored them because so few people saw them. They were partly damaged, but I just wanted to give them a chance to be seen again, in a reconfiguration because for me what the work is trying to address is still so relevant and needs consideration. So even if they are destroyed during the show, which they might be because of people or insects, it's fine. It speaks of the lives and the people.

Laura: I also noticed that one of the glass panels was broken. Was that intentional?

Diane: That was intentional, as in an experiment. Because in this case I was projecting light through them as a group, rather than the individual shadows. So I was aware that the thrown [shadow] pattern was quite confused, so I produced two or three more, again using women who were killed by their intimate partners, but I did that on shatterproof glass. And shatterproof works on the principle that you can break one sheet but the second one doesn't break. So it's a sheet of glass, then a sheet of plastic, and then a second sheet bonded. So if it's broken, you don't have the shards of glass, the plastic holds it. That's how it works. If you break it carefully, you don't break the second sheet, you just have the exploded [first sheet]. Because that's what it does, it explodes, because of the pressure, but it's held in place. But I did it and then decided that it looks slightly contrived, and it worried me. So it was intentional, but again like so much of the show, you make it up as you go and see how it works. In the future we'll use it for

something else, but not like that. But it was also the idea of a hanging gallery, and these women were targets and they were destroyed. And I had considered very seriously to bring in a pile of stones to be on the floor. The implication, the stones and a sheet of glass, it's that it can be any of us in that room. The potential to break glass, the potential to destroy is in all of us.

Laura: Yes, that was very powerful. And also, that when you were standing in front of it, you could see your own shadow together with the shadow of these women, it was very powerful.

Diane: I want people to be affected by the works of art.

10. The meaning of fragility

Laura: I think it was great. And when speaking about the soot drawings and their fragility, like you said, it relates very much to the subject of your artworks. What do you personally think of the conservation or preservation of these works?

Diane: You know, when I originally made them, it did not matter to me that they would be destroyed, because I intended them to be destroyed. Everything changes when it goes to a gallery context. And I have a huge problem with it, but I also realise that I am part of the problem. And because I generate them [the smoke drawings] and people buy them, they invest money in something they assume will be there in 10 years' time. So the very first ones I did was for that installation. I wasn't going to frame them, I couldn't afford to frame them. It was something I wanted to do. And it was only when Stevenson and the other gallery asked to show them and then said 'Oh, Iziko wants to buy them'. Because they went to Stevenson unframed. I had them all in boxes, I made these insect-proof boxes. But they were framed and then everything changed, and now they have a market-value. It's a problem for me actually. With the whole financial value system related to art is a problem to me. But I have to make a living. Part-time lecturing, as you can imagine does not pay many bills, sometimes not even your petrol. So I make works so that I can continue making work. But they [the smoke drawings] actually shouldn't really be there. And if they are destroyed that's fine. What I hate, is that when you go down to a museum and a work has been damaged and it is hanging in the space and nobody says, 'It's damaged'. It's hung as if this is the way it was meant to be. And that freaks me out. Because you come into a museum space, you see it and there's a sense of confusion, why [is it that way]? Unless it's explained in the process; this is designed to deteriorate. And museums also won't take it on. Because it a problem, money gets spent on it,

it's an investment. As soon as money is involved, everything changes horribly. Much of my time is spent repairing works that are damaged, and I am certainly open to it. When people contact me and say 'we have a drawing that's been damaged' or a museum, I'll go there, and I'll repair them. But long term wise, I hadn't thought this through. Because you don't, you follow an idea, and once it's manifest, then people say 'oh, but you can do this' and then you stop and go 'oh'! It's like creating a little monster, and I am very aware of this. So, there's not a set answer, they were never intended to be a long-term thing. They were just the ghosts. It's all they were. And their strength was in the fact that they disappear.

Laura: I get that. And I'm assuming, even if we find something that could prolong their lifespan, you wouldn't want them to last forever.

Diane: If we could find something that will prolong their lifespan, I would change the way I would handle the medium. It would become something else. Because all of a sudden it would become a medium like using a wash. And then the subject matter of what I'm working with would also alter. And I must admit, I've worked with probably more smoke drawings than I should have. When I first made them and I did that series, and the second series was about children from the missing children files, children that had been gone for longer than their time period. And they were lost children. And I should have stopped there, but the galleries said: [we sold all of them, when is the next one, and the pressure, we want this and that. And rather than telling them 'Go to hell', I tried to take the medium further and bigger. It's something I kind of invented on my own. Not invented but I had come up with my own stylistic approach and I tried to take it further but in retrospect, no, it probably should have stayed at those first two bodies of work. As the two lost. Or literally only been used when really needed. I'm very aware of that. And it's an issue I have. So if I could find a way to stabilise, it would allow it to move into a more mainstream material.

11. Deterioration over time

Laura: You know, the change over time that these drawings go through. For example, when you transport them, the loss of pigment because of vibrations...

Diane: And the accumulation of dust! It's like a patina that sticks to it, no matter what you do!

Laura: Do you personally view that as damage?

Diane: No, it's part of the process. Soot changes, the minute you put it down it's kind of fresh and it almost sparkles. And I don't know what carbon atoms look like, but I assume they are faceted, and they are sticky. And they become duller as they accumulate particles from the world around them. It's just part of the process, they are changing, it's almost like a patina.

Laura: I like that idea.

Diane: Yes, it's sticky, they absorb, they breathe in the world around them.

12. Conservation of soot drawings

Laura: When us conservators now were to be given one of your soot works, would it be important to you as an artist that we approach you, or would you rather have that people approach you directly to rework or retouch something?

Diane: I can't retouch everything, there are a lot of works all over the world and I am sitting over here. I would be very happy to discuss with people, who could contact me and say, 'We're trying to restore this work' and give whatever advice I could. In many cases, I think the restorer would know more about the medium than myself. And perhaps have more skill with it. And at some point, I'm not going to be here to do it, they [the drawings] are going to live longer than me, they are, and I realise, it's something, they are almost monsters. I've spawned them and they go on and they will deteriorate with time, they will. At one point I felt that I needed to put in an expiry date at which they should almost be... But people who put money into it, they won't do that. Once money is changed hand the object becomes theirs. Two or three years ago, someone who had bought a drawing from me, that drawing appeared on an auction site. And it was the arm of a smoke drawing. And I contacted the auction house and said, 'Here's the drawing, they've cut it in half'. They've taken the section with my signature, and they tried to sell off the drawing. And they probably damaged the top half! But it's their drawing. And what right [do I have]? If they want to cut it into six pieces, can they do that? Sorry this is jumping your topics, but it's a really interesting thing. And they withdrew it from the auction, but they didn't know that! So if somebody brings in a chunk of a smoke drawing that's got a signature, you've got no idea if there was another five metres above it that has been cut off. Or any drawing for that matter. And if you own it, do you own the right to change it? These are very big questions that are going to have to be addressed. Because I mean, you own the copyright

to the image but once pass money to me that piece of paper is yours. If you want to burn it that's fine, but if you want to modify it...

Laura: It's problematic, because it has got your signature on it.

Diane: Exactly! That's the problem. But that could be done to any work. It's just so much easier on something that is so fragile. I have no problems with restorers with the best intentions trying to [repair damage]. And I would be prepared [to help] anyone who contacts me, and they have. Then I would say 'do this, don't do that' and I could do a demo and if I am back in that country and they ask me to I could come and do restorations. But it's their own lives, once they've gone out there, they have their lives. It's just... your signature is on the bottom, and nobody knows, if it gets re-exhibited, with these really bizarre alterations, I don't know. Maybe it's something I need to think about. It gets built into the contract of the work. But can you enforce that?

Laura: That would be very interesting to look into...

Diane: Probably not, because I think once somebody has paid you for the work...I mean if you were to buy a Picasso and change it. Remember Jake and Dinos Chapman, the Chapman brothers who bought a series of Goya's Disasters of War and they hand-painted them all. Okay, it was an edition, it was a print-series, but it was original prints. They hand-painted them and put on all these clown faces. But they had the right to do it, it was nothing illegal. They owned them and they changed them.

Laura: It's interesting.

Diane: It's more little roads to go down. But I have no problem with restorers working on them. It's because they are doing it, one assumes, with the best intent.

Laura: They should! There are obviously a lot of aspects to conservation treatments. For example, the first step is usually preventive conservation, which means implementing measures to prevent deterioration and decrease the rate of ageing and damage. It includes the way an artwork is stored, exhibited, light exposure, prevention of vibration during transport, etc. Do you have certain measures that you take in your studio, or that you feel that a gallery should stick to? Or when people buy your smoke drawings, do you give them advice?

Diane: Obviously, I prefer people buy them framed. Or I take them to a framer and say ‘Buy them [framed]. There’s a couple of framers who are really good doing it, please frame them’. But you cannot enforce it. I don’t believe the soot would be damaged much from light or heat, because it is inert, it’s carbon. But the paper would be. And because the paper I use is not the best quality, it’s basically cartridge paper or something a little bit better, my warning is ‘Keep them out of direct sunlight and use acid-free boards’. It’s more the paper that I’m worried about. If you damage the drawing through contact, that’s another story. But I think the soot, once it’s on...

Laura: It’s inert.

Diane: It is! It’s what sits in your chimney. I don’t think it’s going to change, it’s sticky. And no heat or sunlight is going to do anything to it. So in terms of that, it’s more about protecting the paper. Because that’s actually the fragile component of it.

Laura: Yes, very much. It gets brittle.

Diane: Yes, and it’s not great paper, I know! We unfortunately do not have much great paper in this country. Fabriano is quite a nice paper as well, it’s quite a smooth, hot-pressed paper that I use. But it’s got a slight tooth to it. But it’s better than the standard 280g cartridge paper.

Laura: If you had the choice of a conservator working on it versus you working on it?

Diane: It depends on what the damage is. If it’s paper damage, the conservator. If it’s soot damage, I’d probably be the best person, because if it’s modifying the drawing slightly, I can kind of do that. Because I made it, I should be able to replicate it as close as possible. Of course, it depends on the damage.

Laura: Yes, you spoke about muscle memory.

Diane: Yes, drawing with the smoke really is muscle memory. Because as you know now, you don’t see very clearly through the flame. Because you are reading through a bright light. So your eye adapts to the brightness. But I’m not actually seeing what I’m drawing. You do that, and you feel, and then you look at it. So it would be a combined effort, depending on the damage.

13. Galleries that exhibited Diane Victor's smoke drawings

Laura: With regards to the galleries that have exhibited your smoke drawings, do you have a list? I'd like to contact them.

Diane: It mainly would be Goodman, because that's the gallery I've shown most of the bigger works through. And then because a lot of the smoke, especially the smoke of glass, because it was done experimentally, a lot of it was done for festivals. So not for a gallery. Because then I had the chance to show them in different spaces. The first smoke on glass works I did were for halls. So, I was a festival artist up in a small town by Nelspruit. The festival was called 'In the bush' / 'In die bos'. It was a really ghastly venue, in a townhall with green walls, and I thought 'NO'! But I found an abandoned abattoir on one of the farms, and I made the smoke drawings for that. So there was no gallery involvement. The big altar piece in 'No Country for Old Women', also smoke, was done for a festival in Oudtshoorn, where I managed for a church to give me a venue because it needed to be in a church. But the galleries mainly would be Goodman. Johan Thom, who lectures here, he used to run a gallery called Fried down the road in Pretoria, and I did some demos and smoke work for him. But mainly it was for Goodman. Because it would have been bigger and more substantial. The very first ones were done for a curated show by the then Head of Department, Dr Dreyer, had curated with these German artists and it was shown in Museum Africa. Which no longer exists in any form that you really want to go into. But then after they had been seen there, Stevenson approached me, which is a commercial gallery, to show it in Cape Town, and it was from there that they went to Iziko.

14. Diane Victor's expectation

Laura: For this experiment that I am doing, what are your expectations, what would you personally like to take away from it?

Diane: Anything I can learn about soot conservation. Because I tried at one point, I mean, I was really keen to try and stabilise it. Because I realised it was an actual nightmare. Every time I wanted to move one, I had to build a crate to move the paper. Or if they need to go internationally, it costs a fortune. Because they need to be shipped in glass. So I'd be really keen to read what your research leads to. But your interaction with Yale and the fact that they have access to all these things that we don't. I tried to contact the chemistry department here, I contacted insurance agents who I thought might know, and forensic fire people who know

things about stabilising carbon. And they were not interested, because you are an artist, you are just someone who is messing around with a candle. I tried to, any number of chemicals that can soot damage out of materials but not to stabilise it.

Laura: Yes, that's what I've also found.

Diane: Exactly! Remove it, but not stabilise it. And if I thought, if there was some chemical process stabilising carbon that would allow you to produce a machine part or component that would go into a computer, there would millions be thrown into research. And there has to be a way. But I don't have the facilities, so after a number of years and people going 'but why would you want to stabilise soot'. You know, and then you show them the drawings and they say, 'But you are an artist'. And I got irritated and I stopped. And I am convinced... carbon is such a common material, there has got to be something that makes the molecules sit tighter. And I'm sure through this and any interaction with Yale or anybody else, they probably know what it is already. I mean, I'm not new to this, there are smoke drawings that have been made [before me]. How did they stabilise the art previously?

Laura: I know of Steven Spazuk. He uses a fixative, I emailed him. But he hasn't told me which one he uses.

Diane: I would love to see his images and if they're still brown, I'd love to know which fixative he uses.

Laura: And then the German artist Otto Piene, from the Zero Foundation, he also used a fixative, but it's not being made anymore.

Diane: But it would be really nice to know who made it and what was in it!

Laura: Yes. I do have the brand, but I'm still waiting for feedback. But Germany is in complete lockdown at the moment, so it's a slow process. Because what interests me, I want to know the ingredients to be able to compare.

Diane: I also think perhaps what happened is that if they were using smoke, they used it as a field of smoke, so if it changed its tonal range, it wasn't as much of an issue. As when I'm doing a drawing, when it does get fixed, it really changes the drawing. Because you certainly can spray and fix a smoke drawing. It fixes, but it's dead.

Laura: I also found that when I experimented with the smoke. And the texture changes as well

Diane: Yes, it changes colour! And the dimension that interests me in smoke, that you get some smoke that is light, it moves forward and the rest of it moves back, so you get that special quality, that is lost [when using fixative]. It's like a photocopy. So the chances are, they are fixing them, but they are not as concerned, because they are using the medium for a medium's sake, rather than as a drawing to itself. That's what I'm guessing. And if you work on foam core, the foam core is really absorbent and it sprays better, it's less likely to lose that. But nobody is going to buy a drawing on foam core. Because it's foam core, it's about as archivally stable as your polystyrene fish packet! So I am really keen to hear from you!

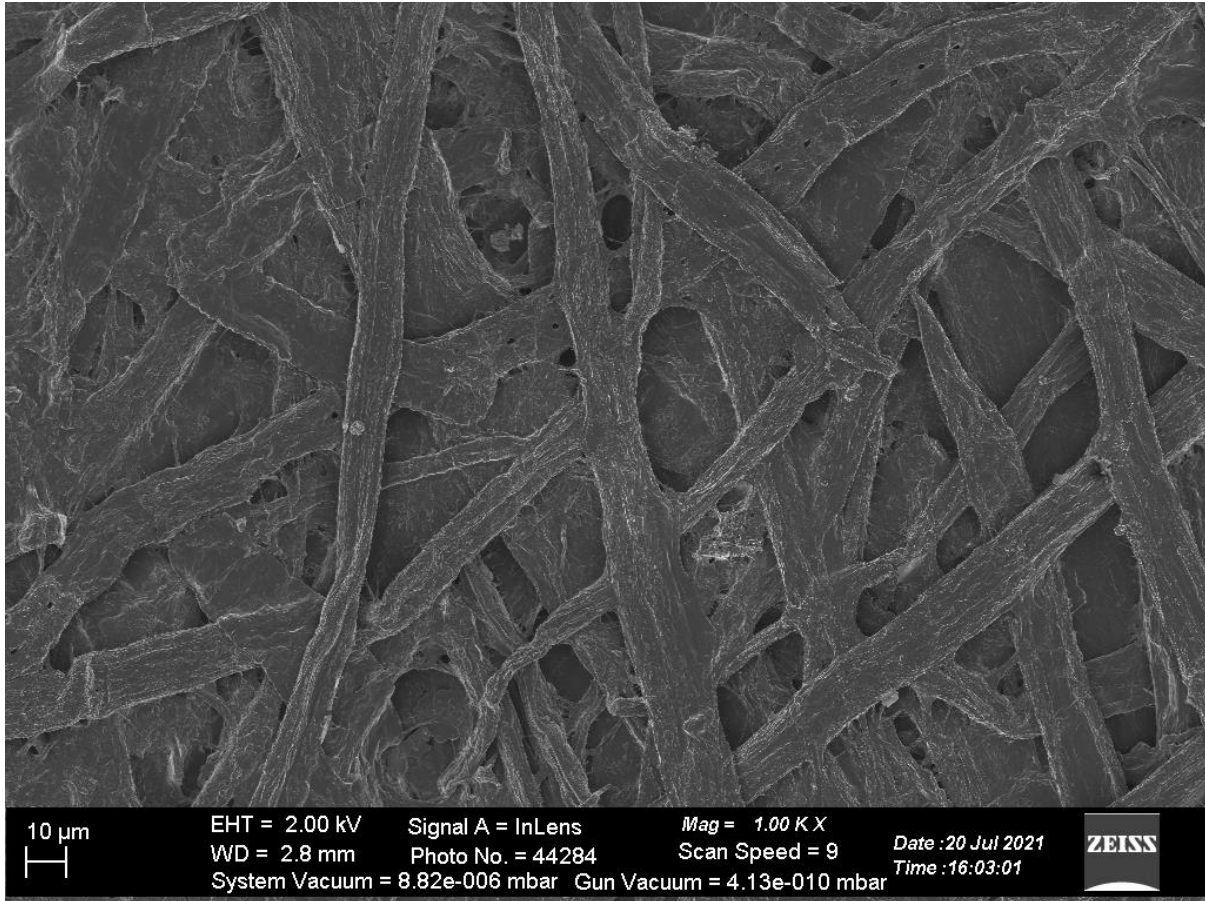
15. Conclusion

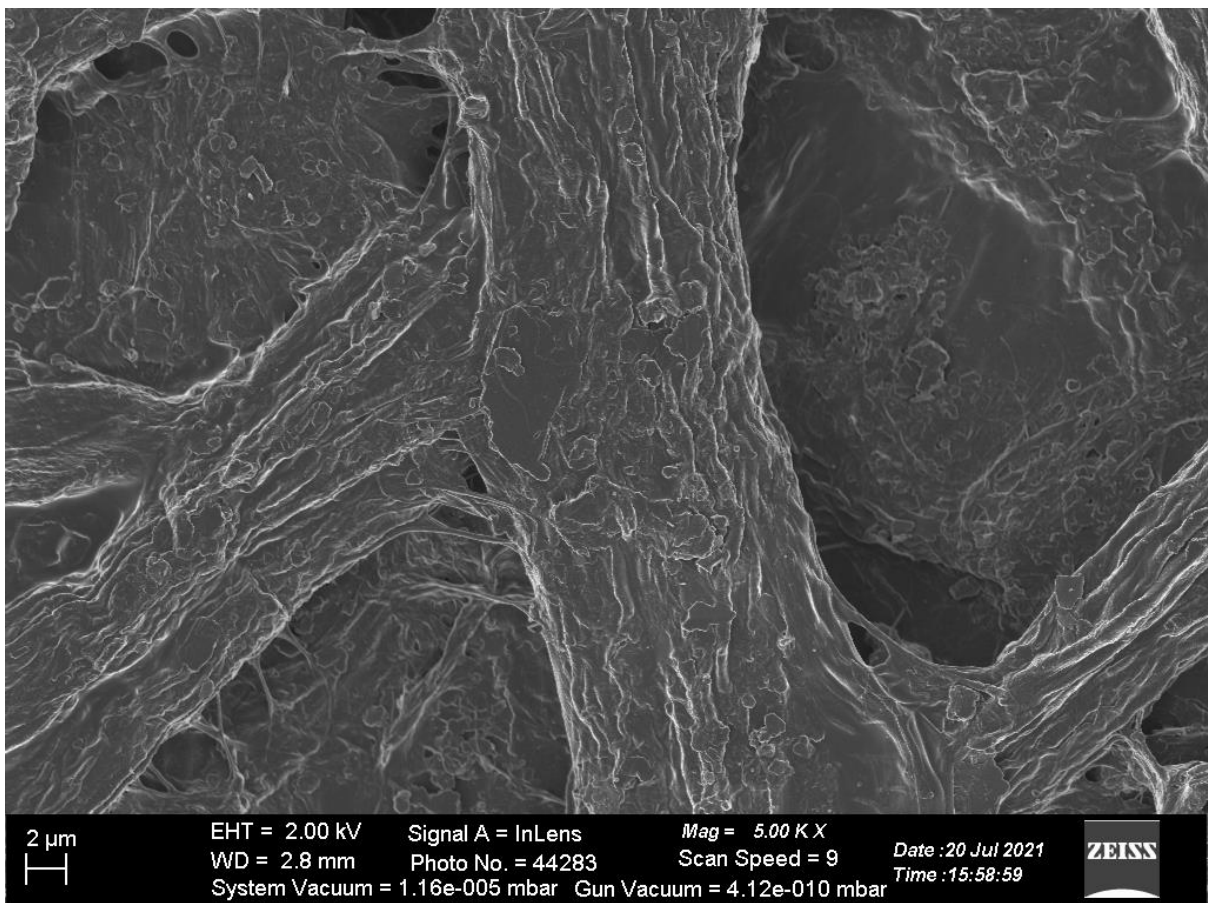
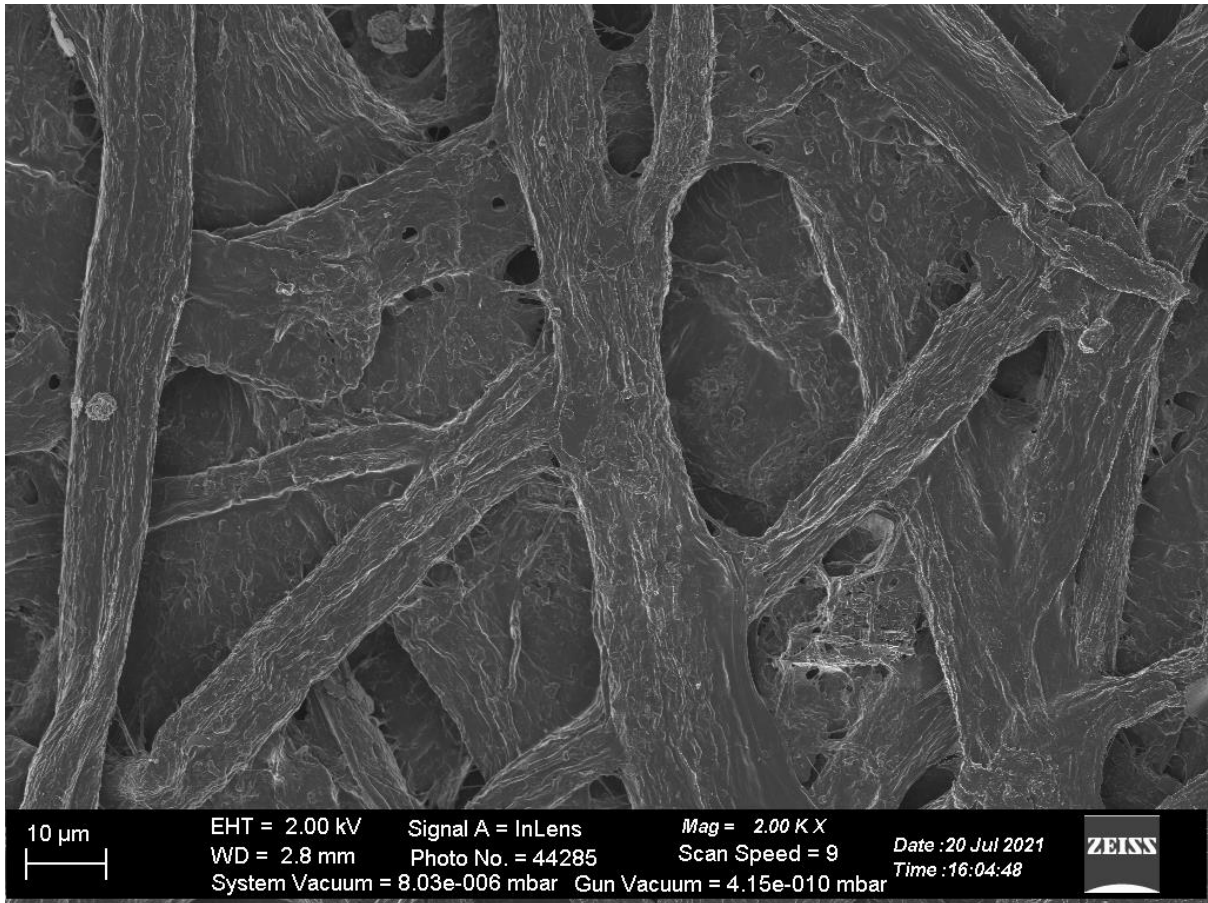
This interview gives detailed insight on Diane Victor's thoughts and feelings surrounding her processes, techniques, conservation practices and the question of increasing the longevity of her soot artworks. It can be seen as an important guideline for future practices around her soot drawings, especially for conservators dealing with her artworks and galleries or private people wanting to exhibit her soot drawings. The interview also highlights that Diane Victor is open to experiments regarding her soot drawings, and it shows that she has tried various experiments herself in the past, but none of them leading to a satisfying result. Most importantly, with this interview, a framework can be established for the experiments in the following chapter because methods the artist has tried in the past and has deemed unsuccessful can be excluded. It also establishes values that are important to the artist and need to be accounted for, such as the soot not showing the texture from the paper and the soot not discolouring from the use of fixatives.

Appendix 3: SEM Images

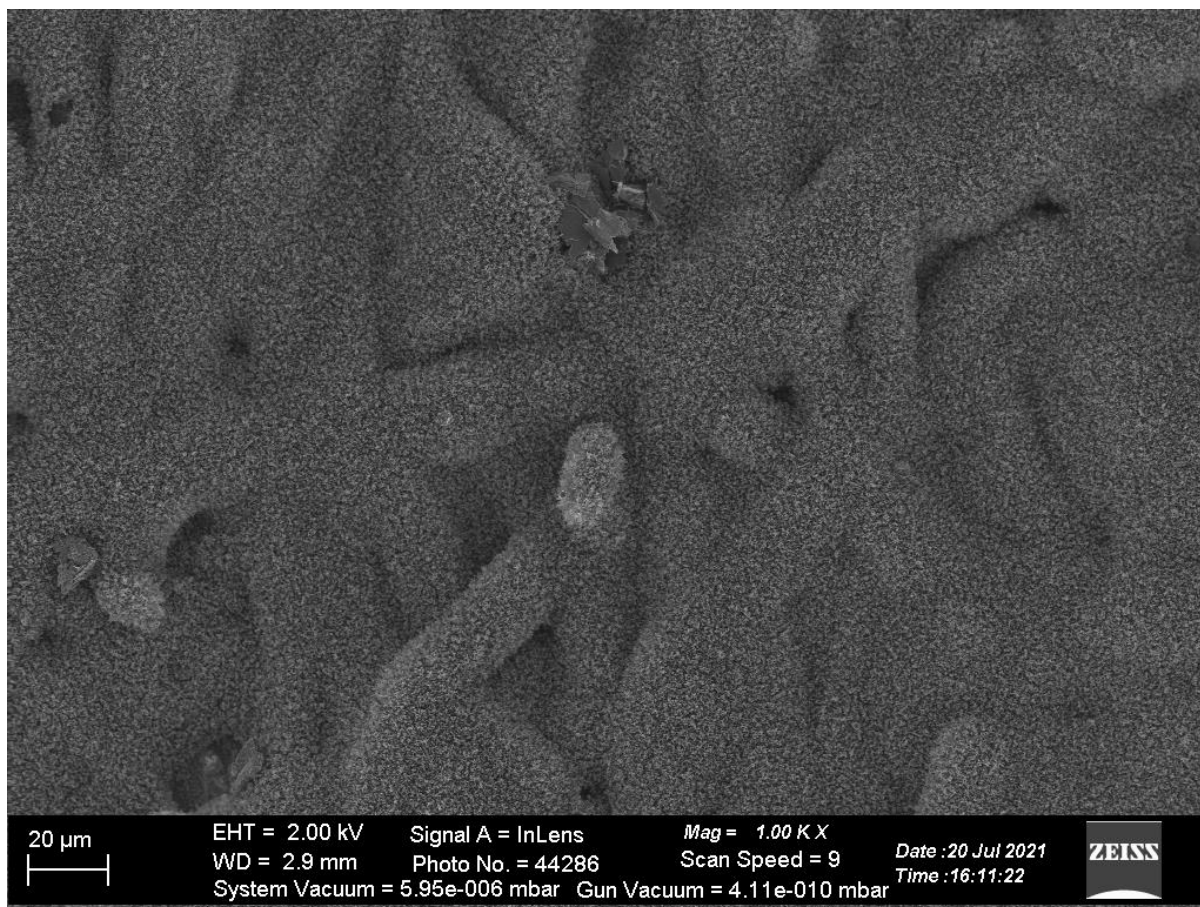
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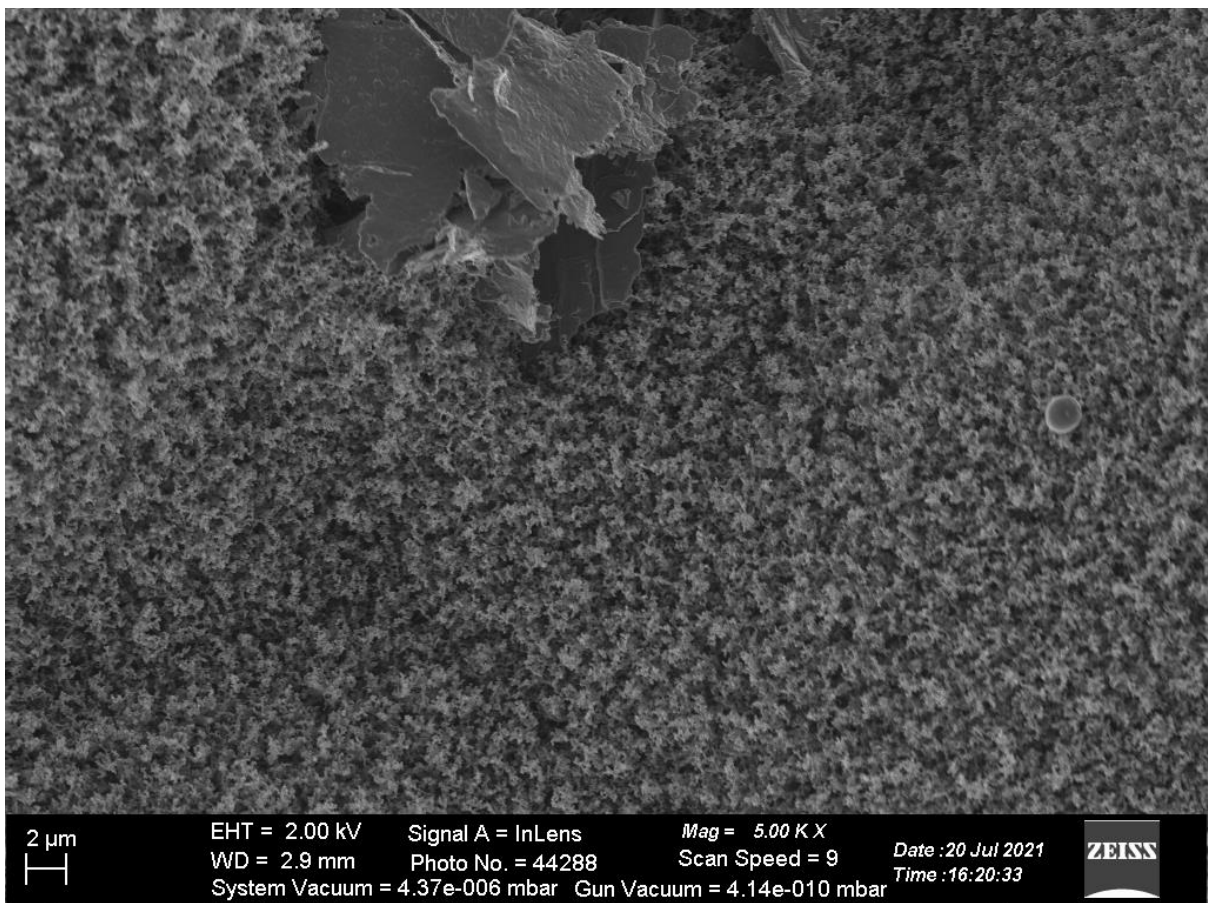
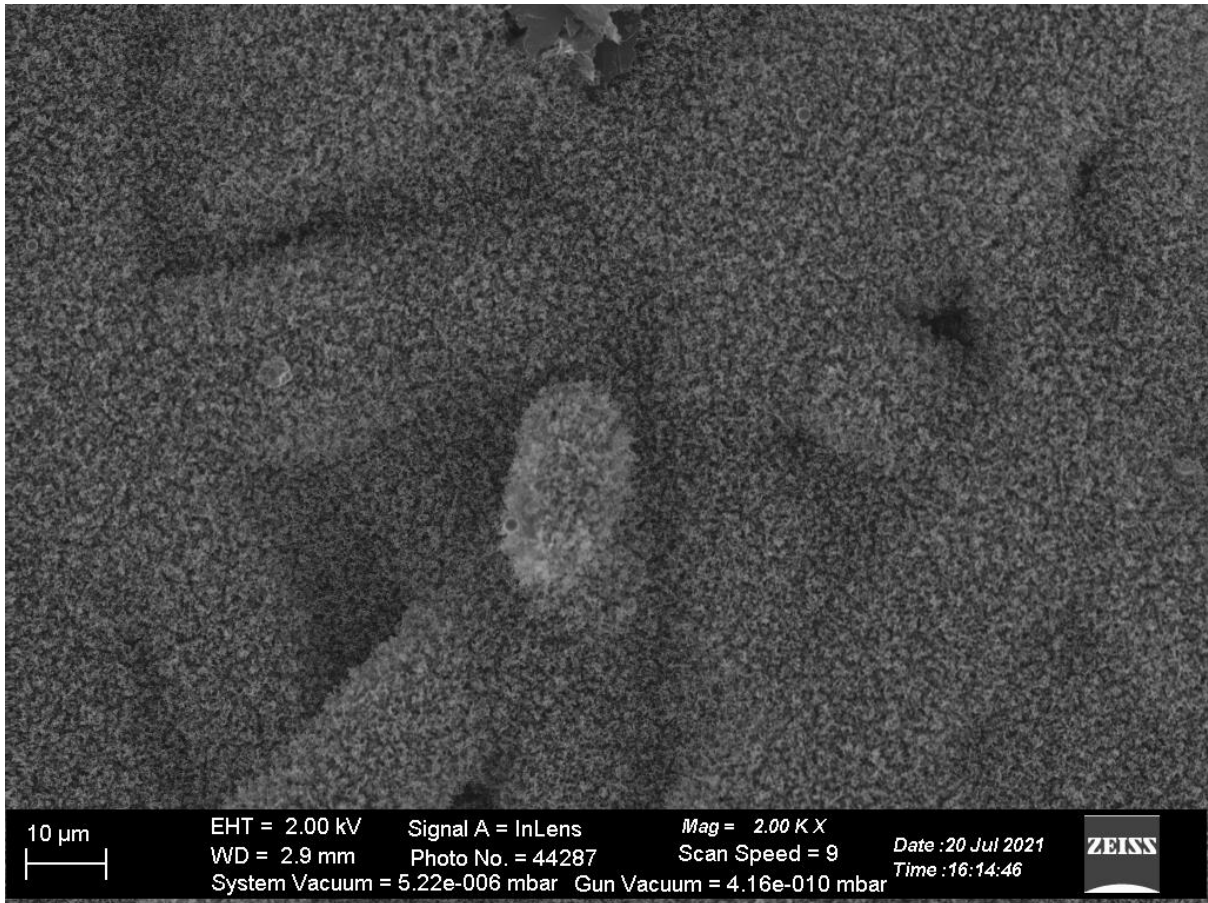
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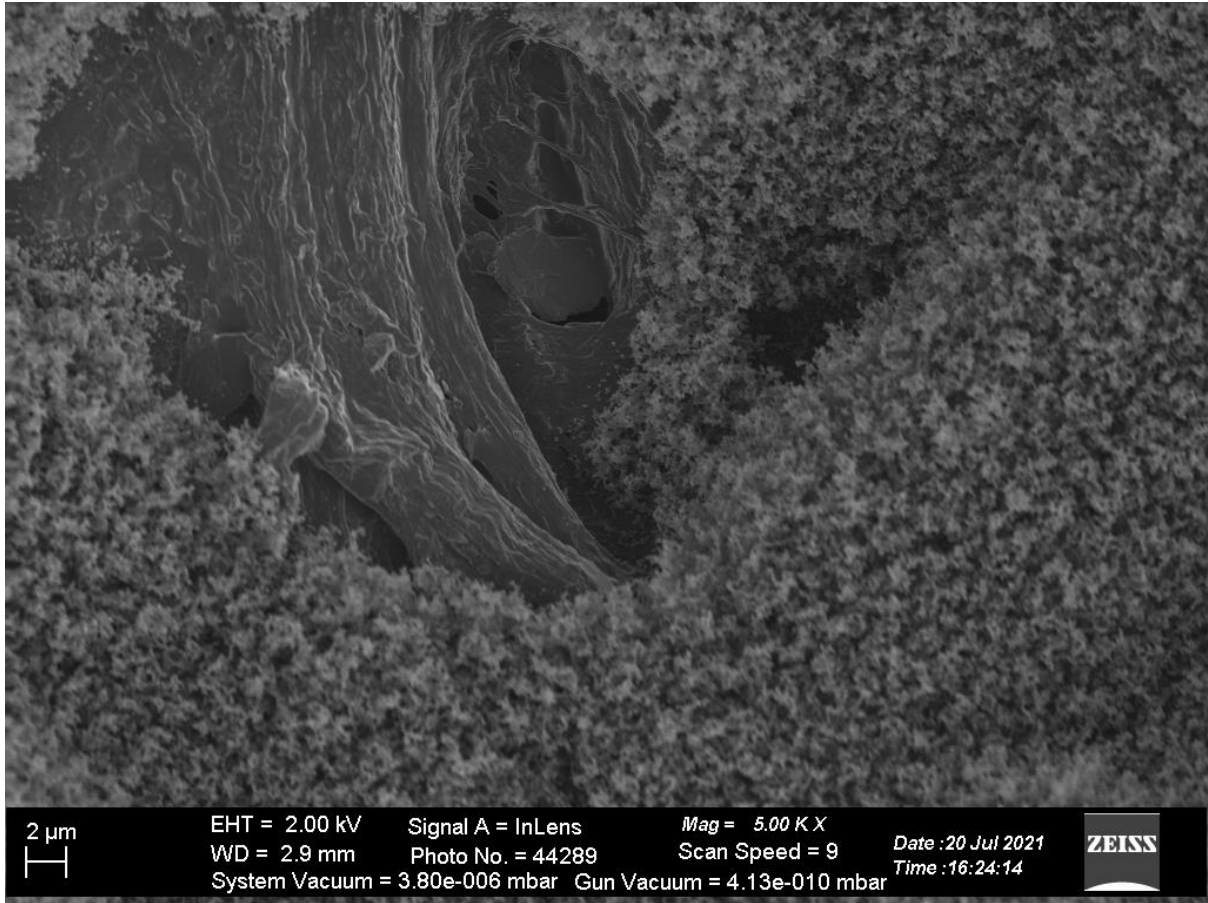




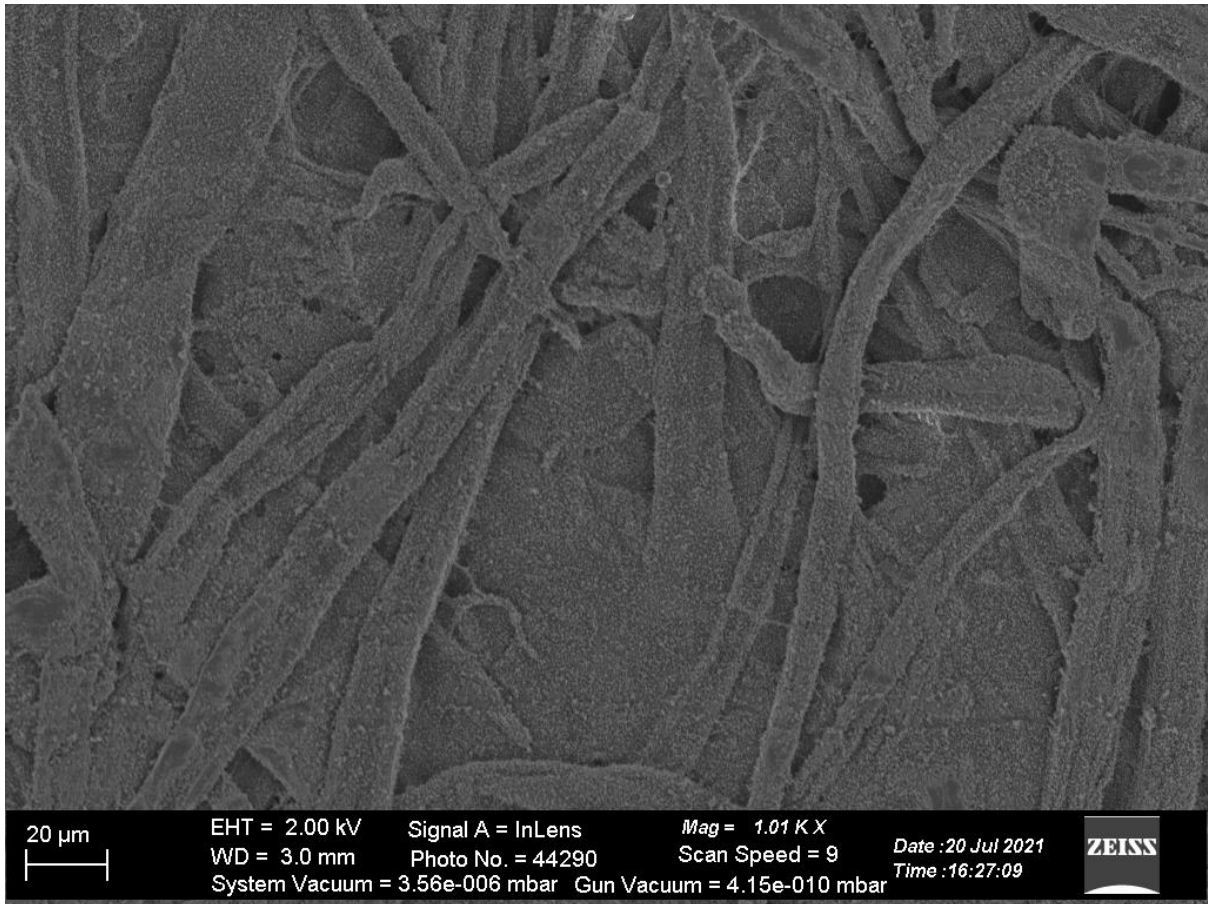
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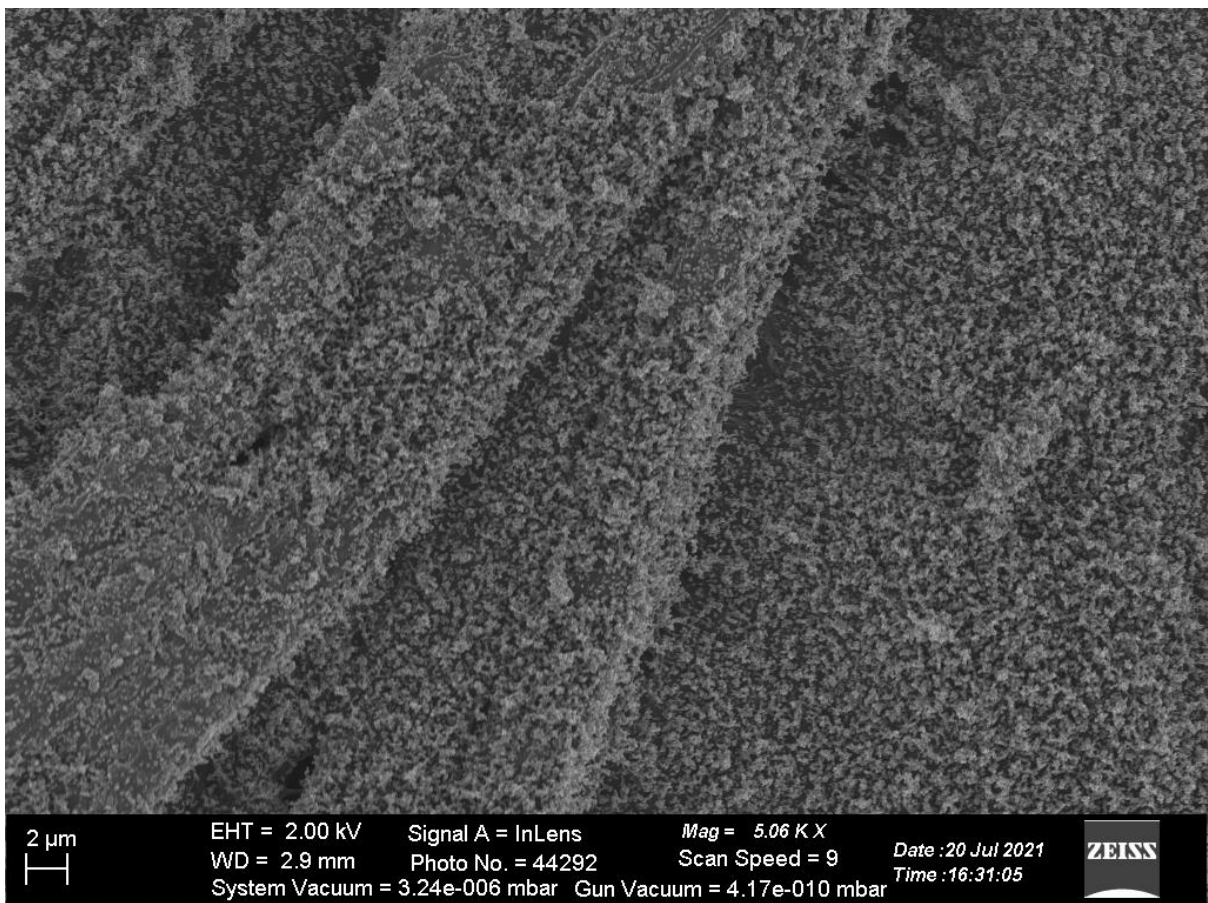
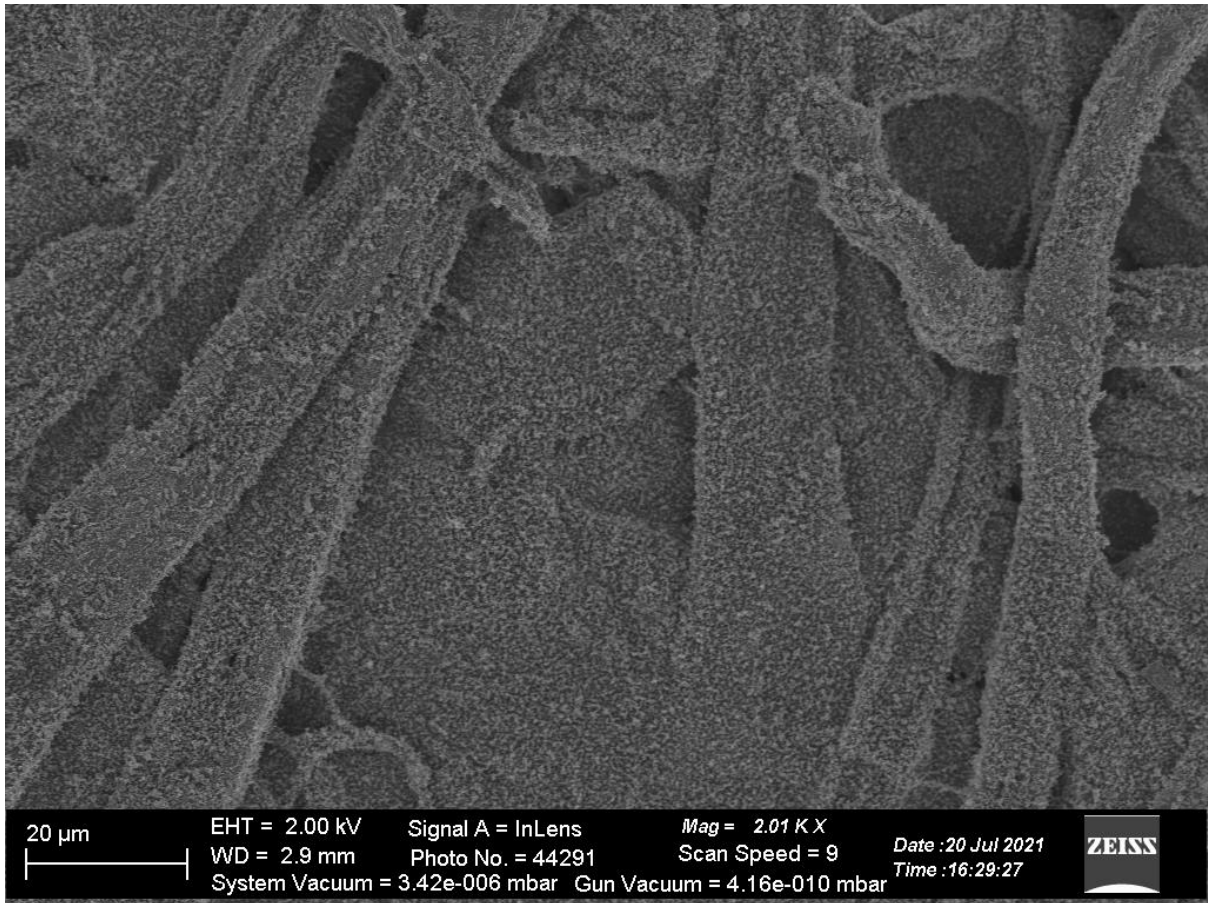




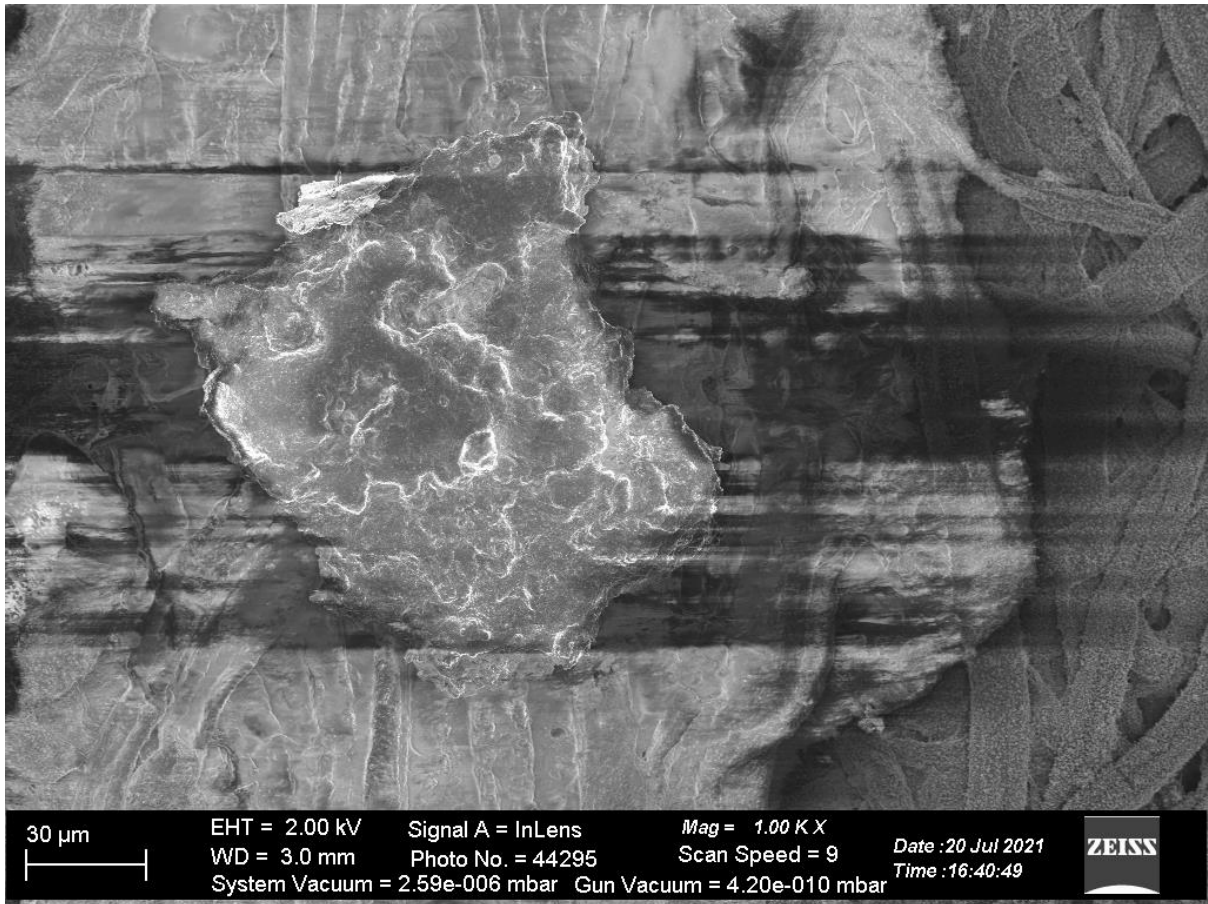


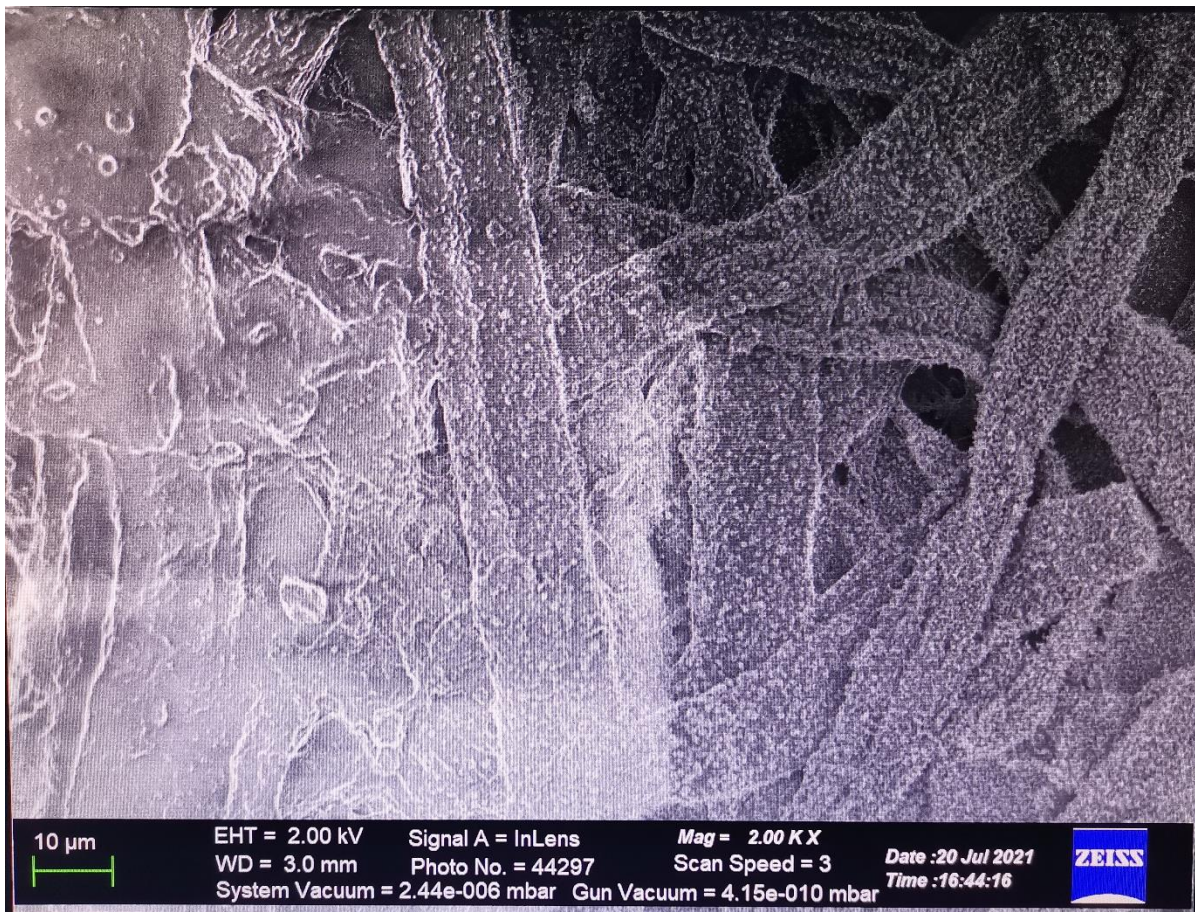
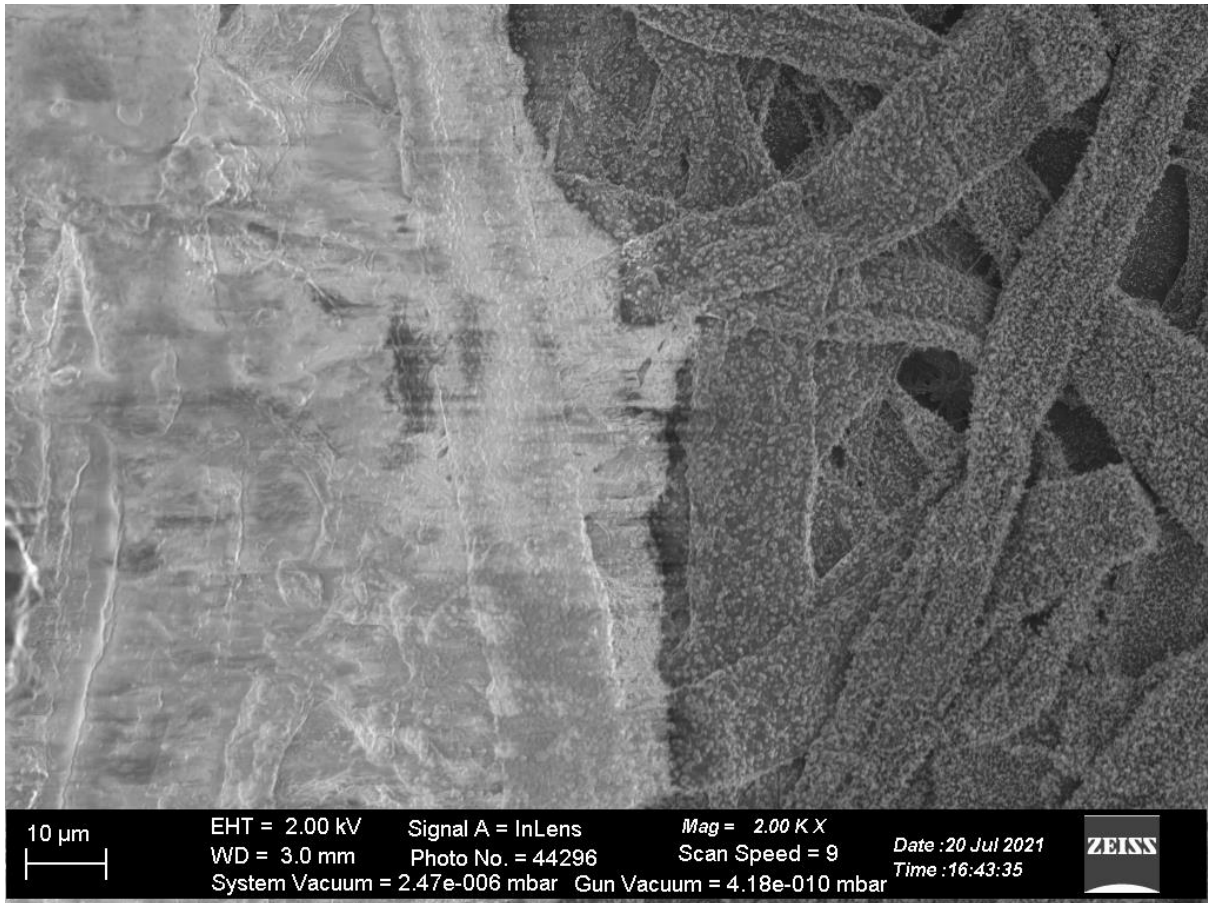
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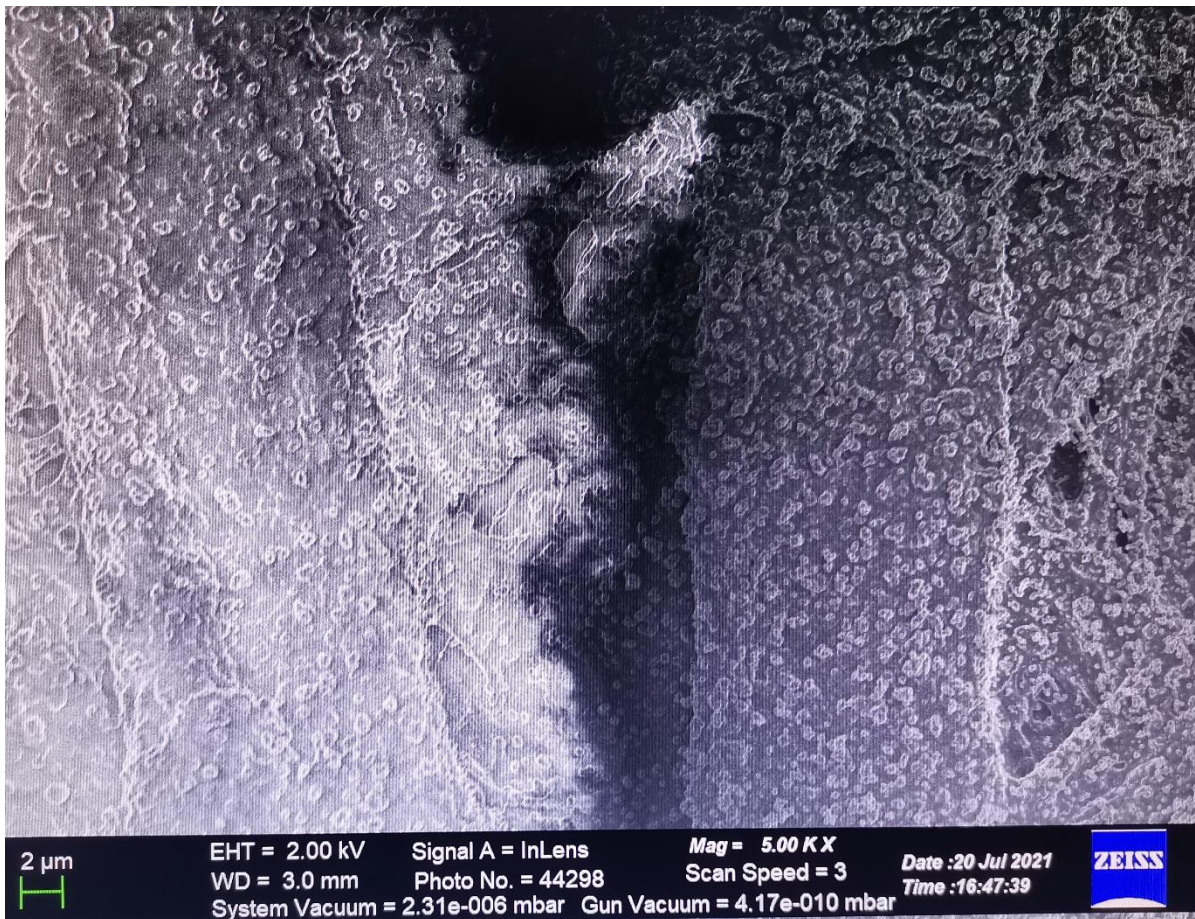
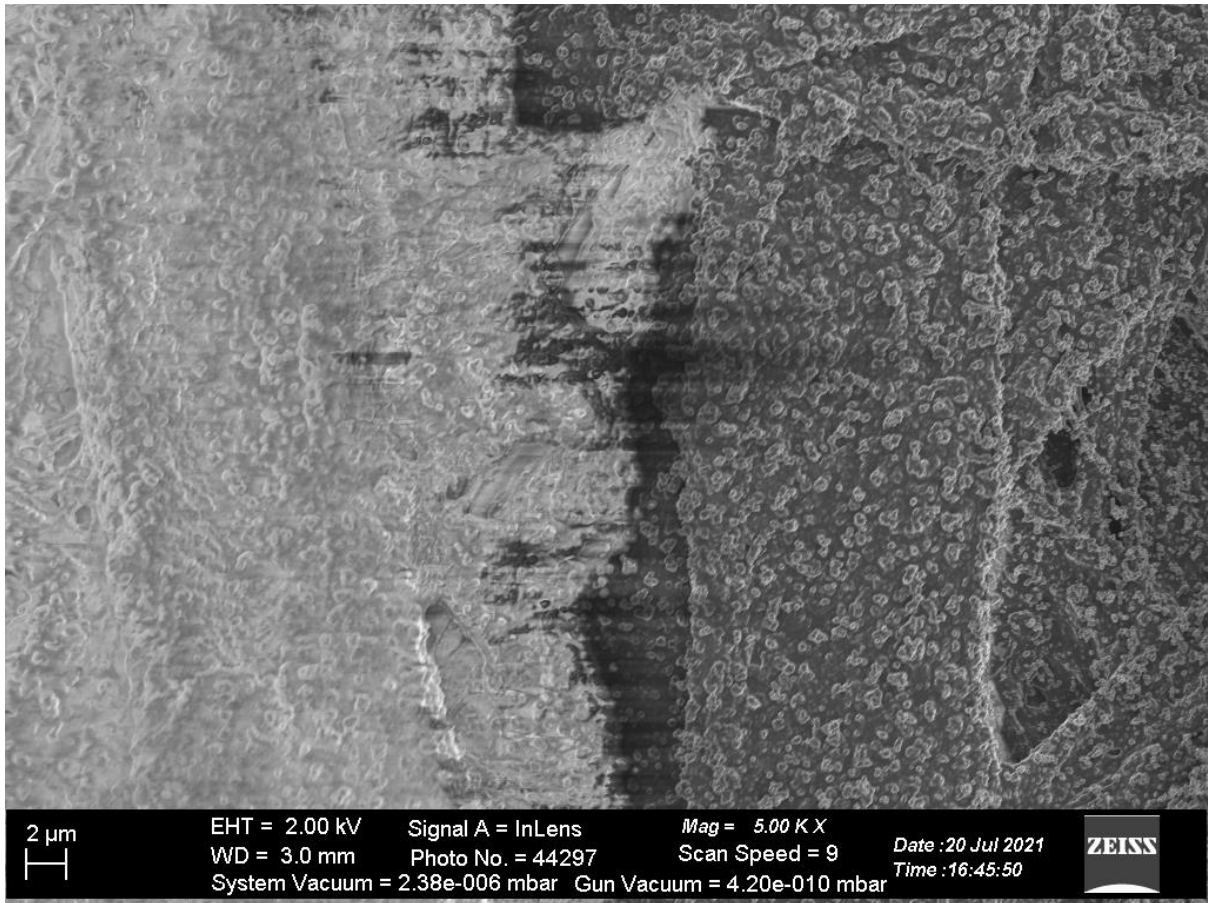




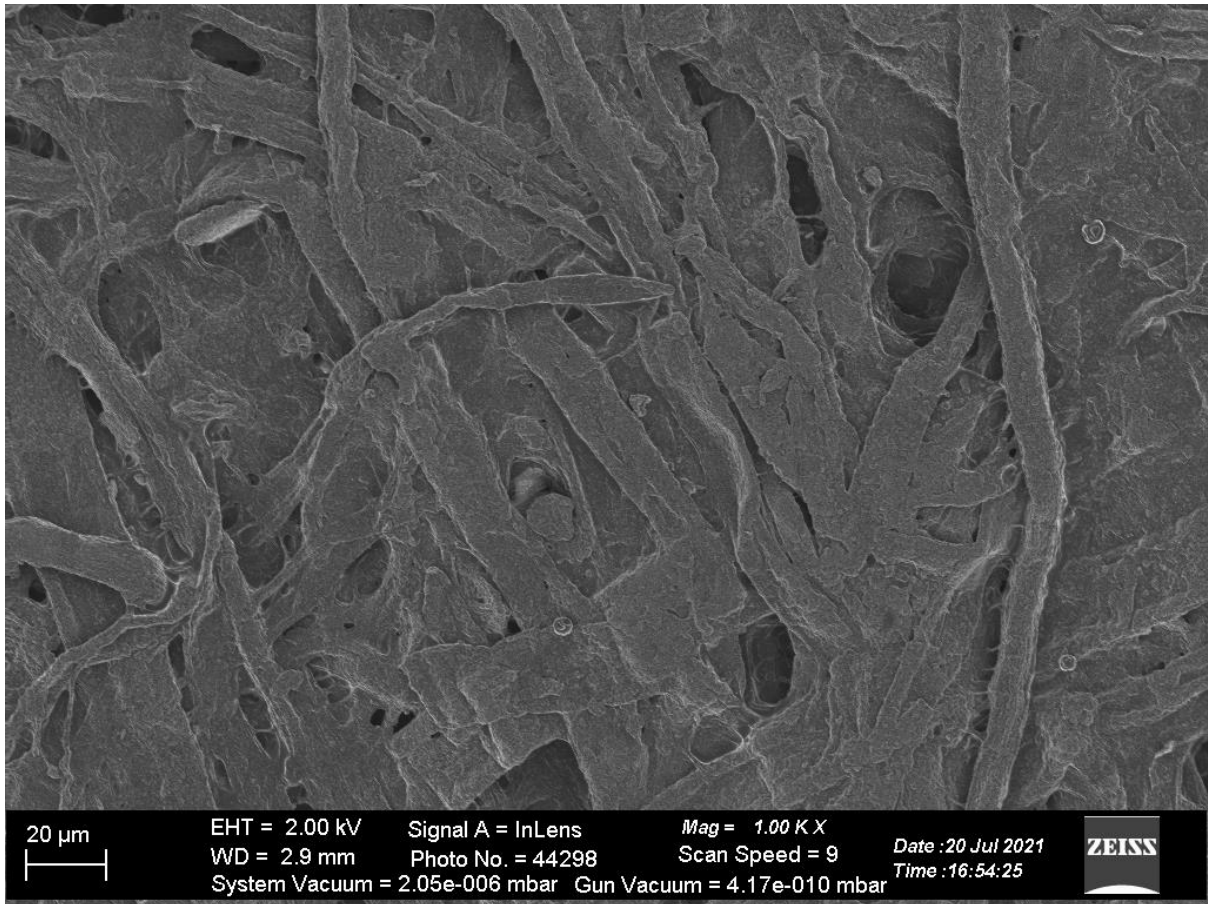
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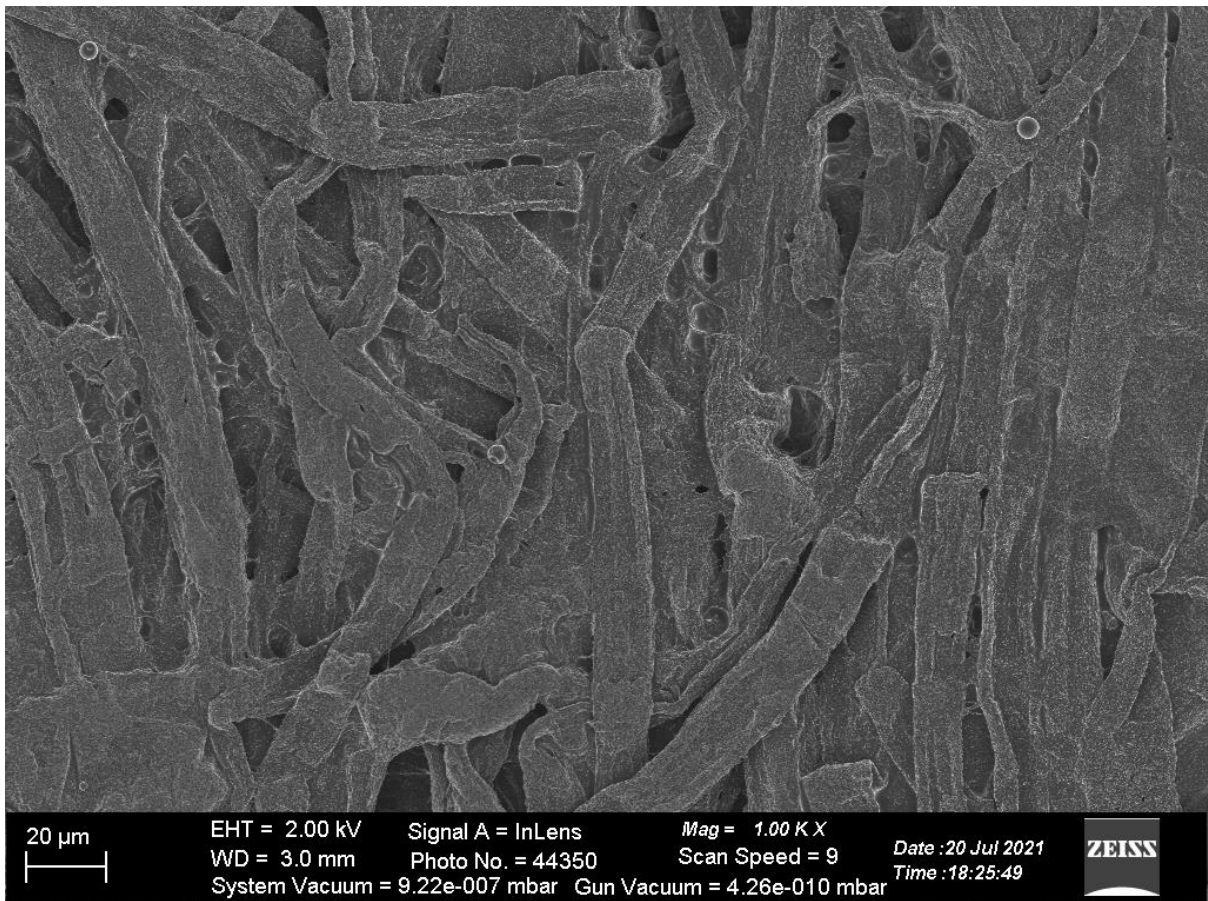
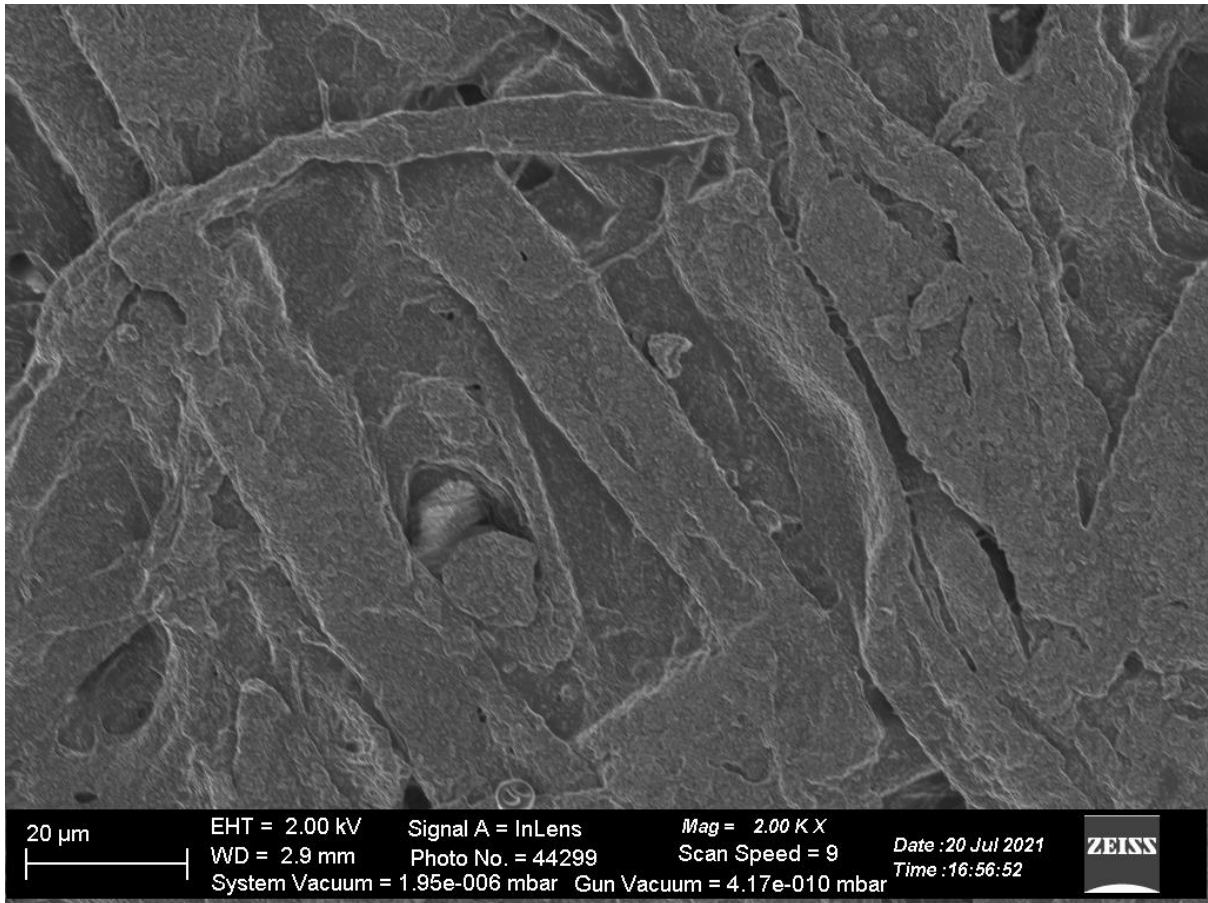


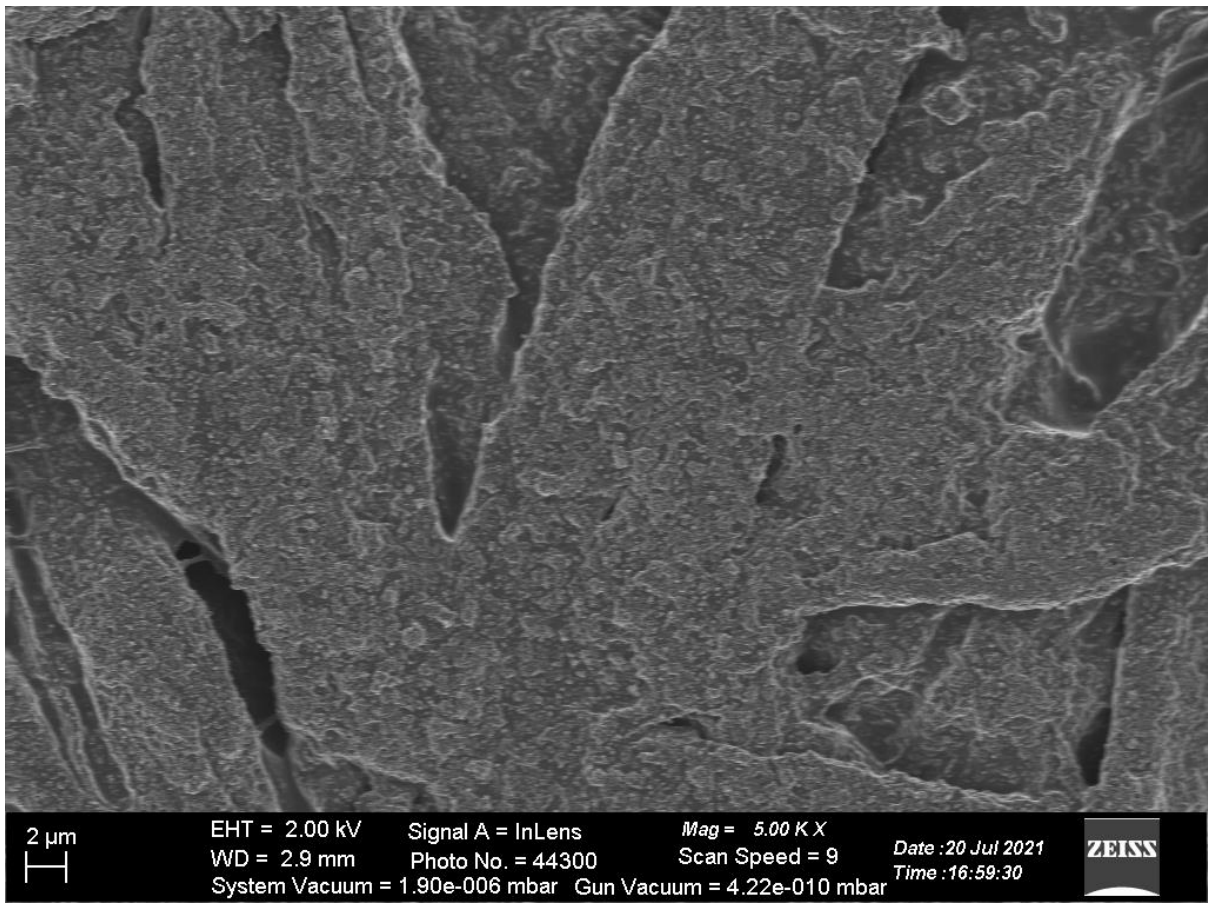
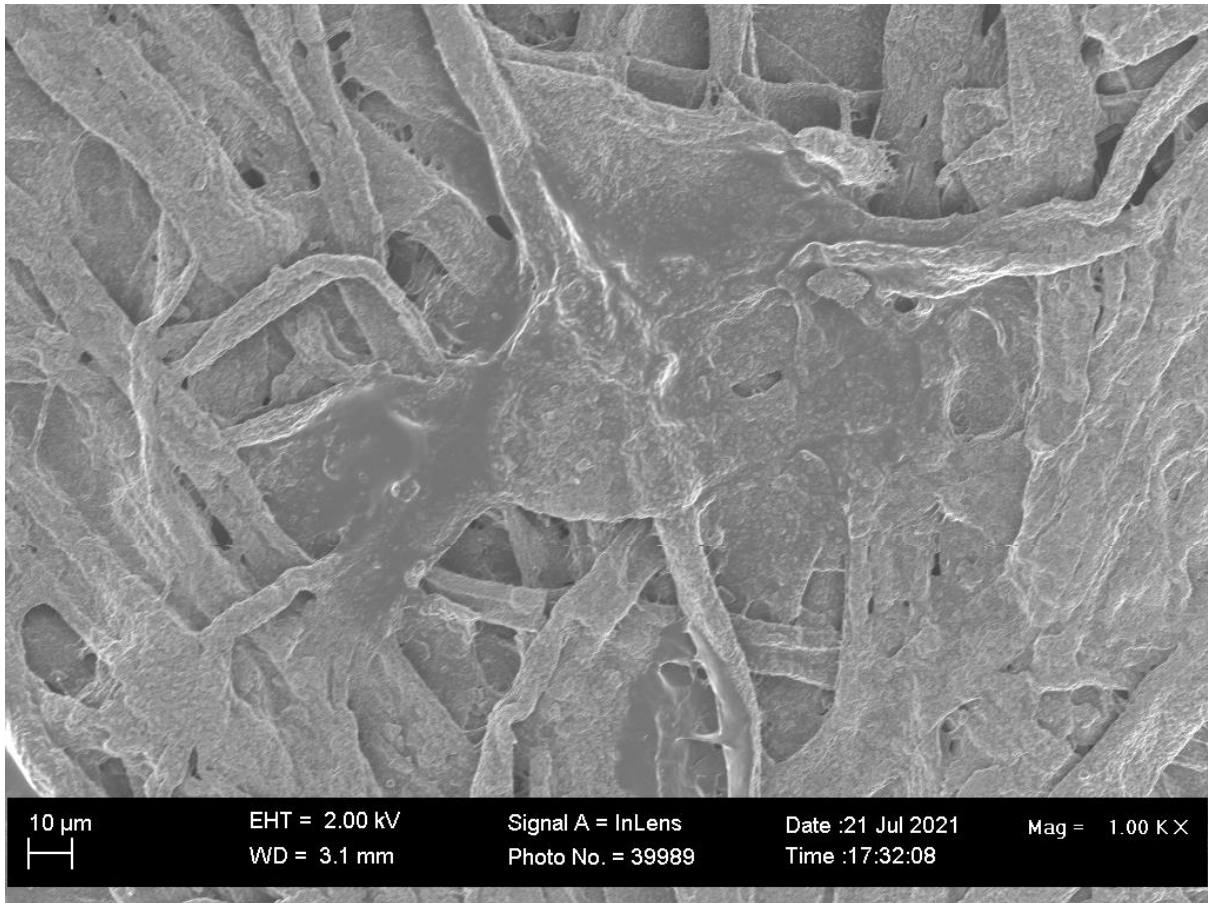


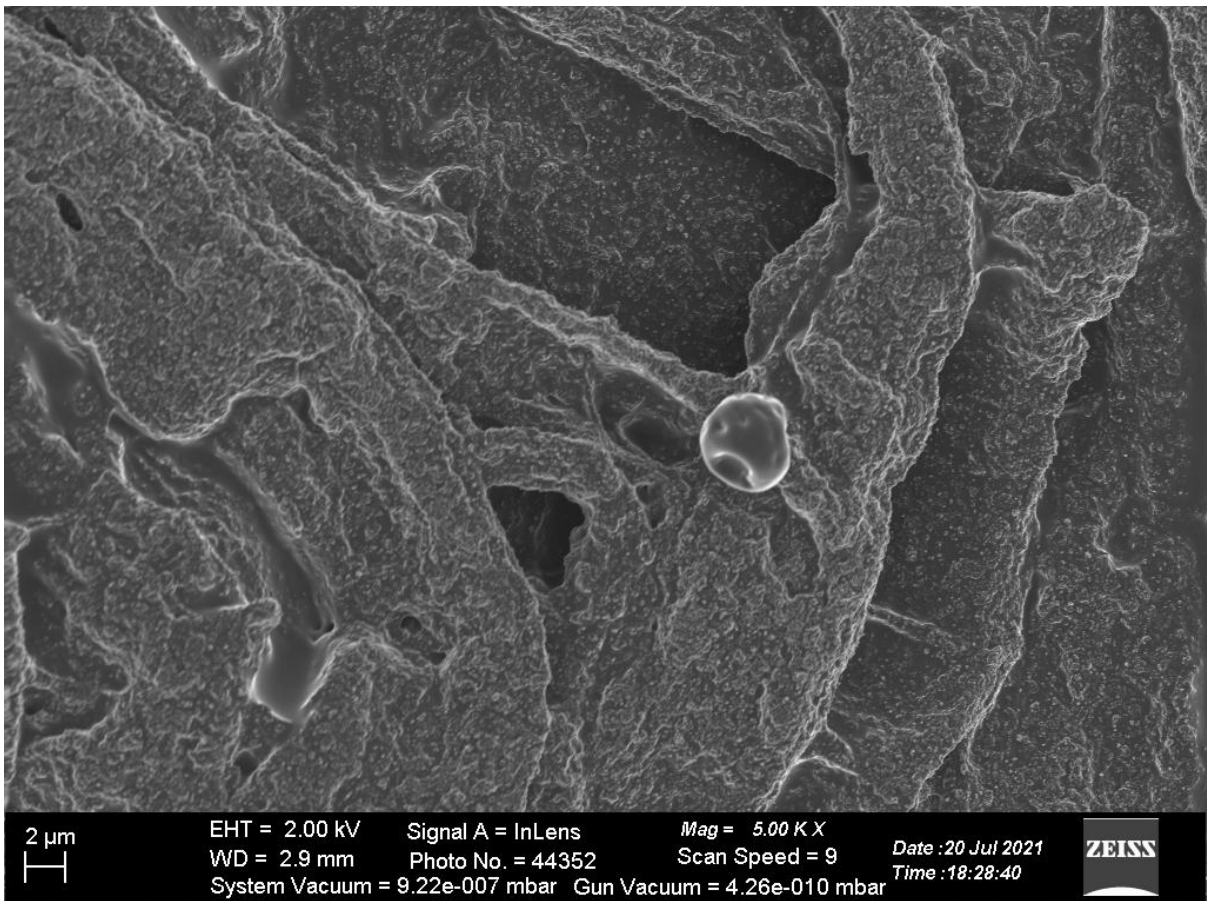
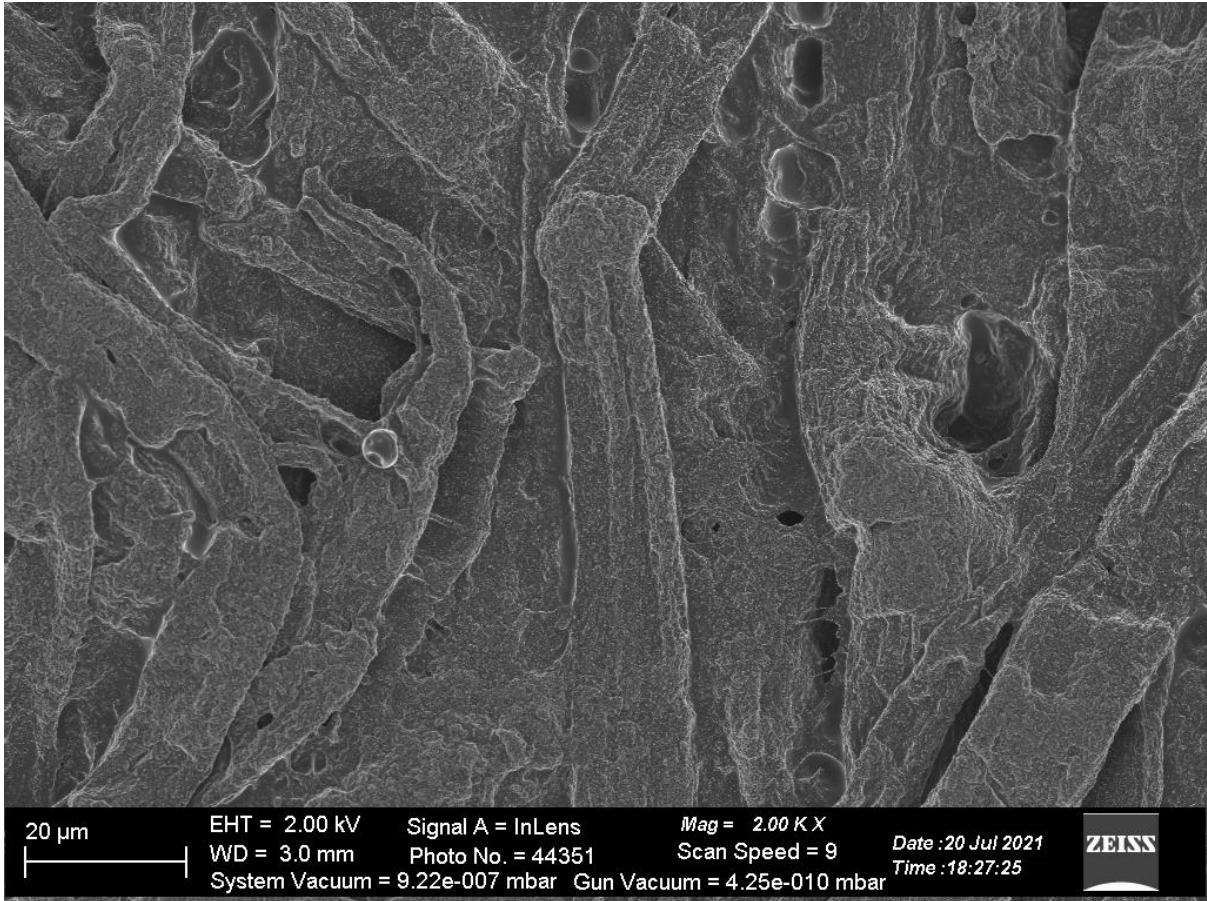


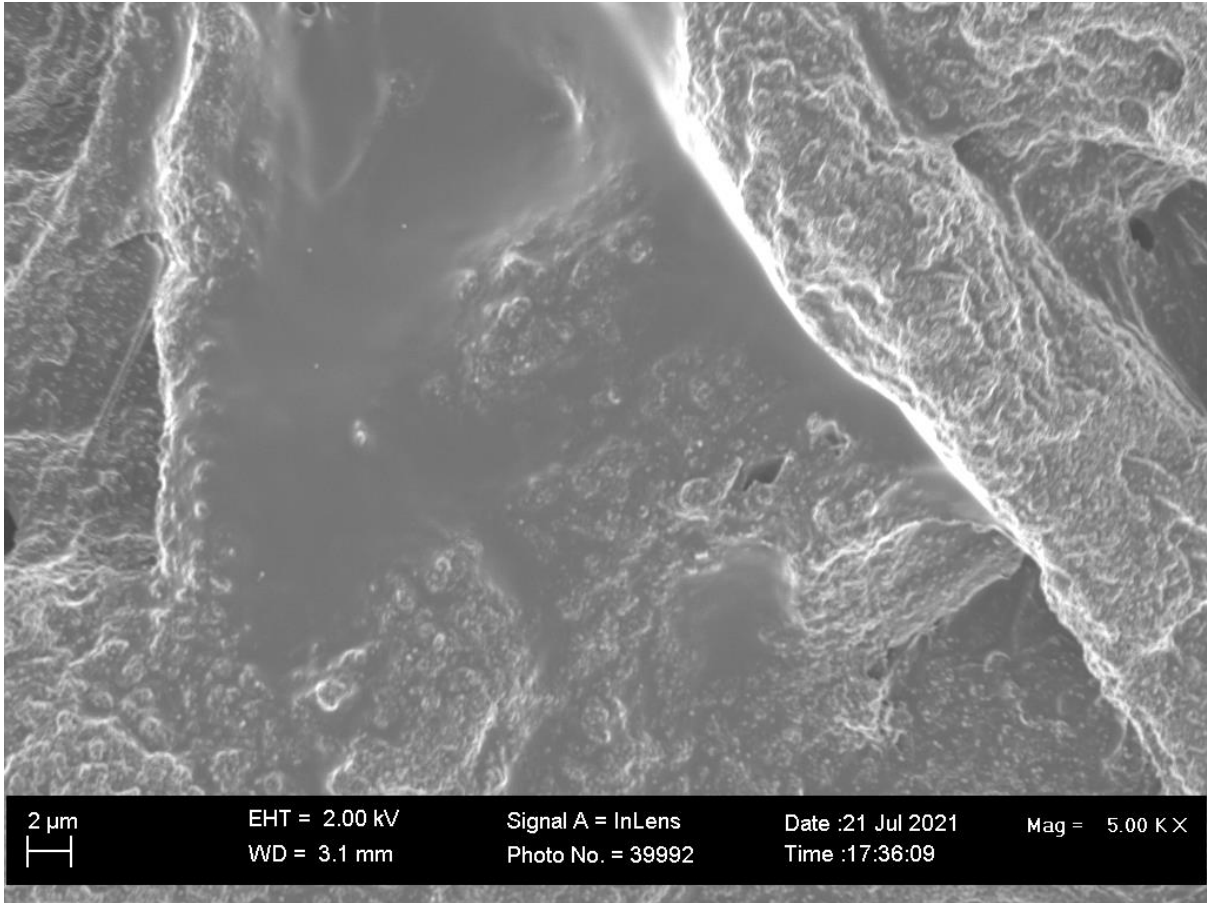
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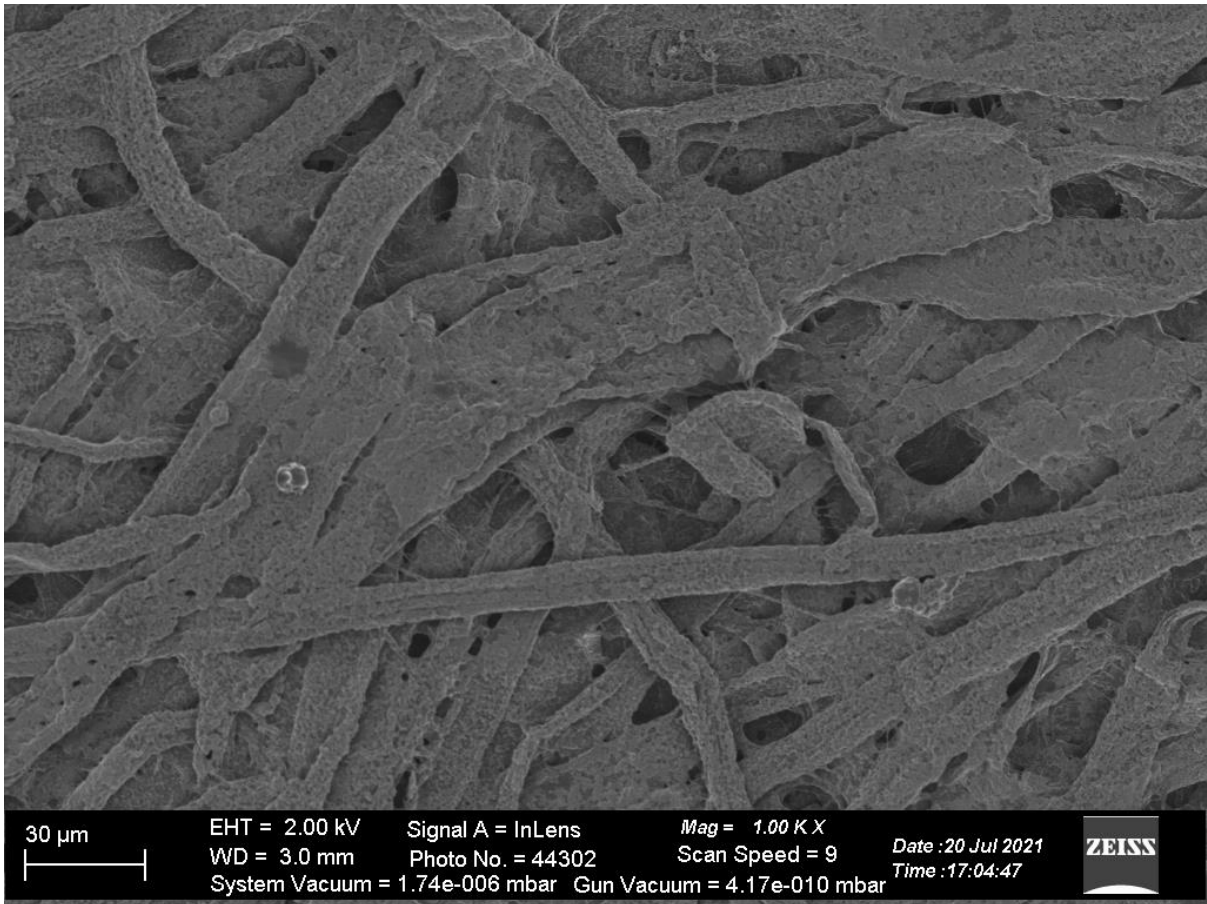


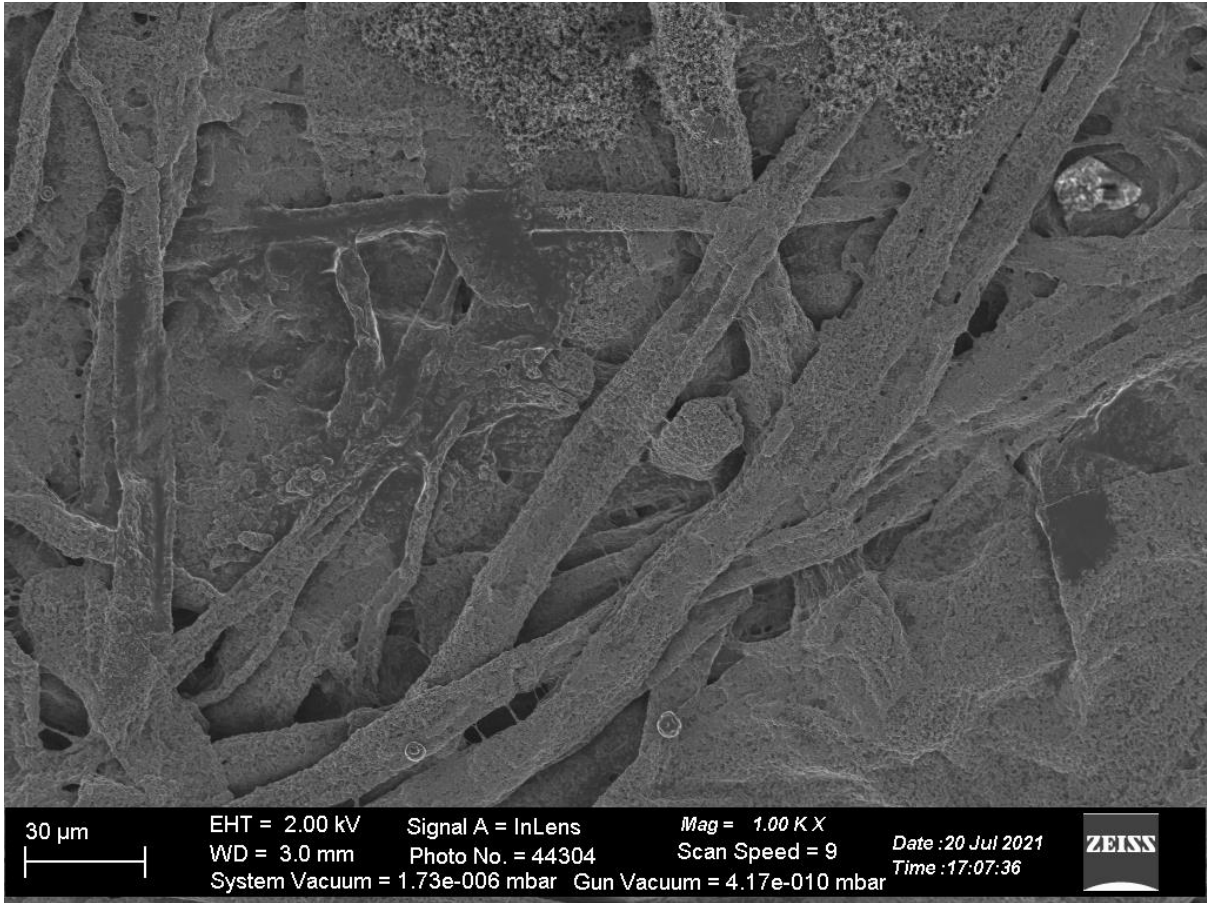


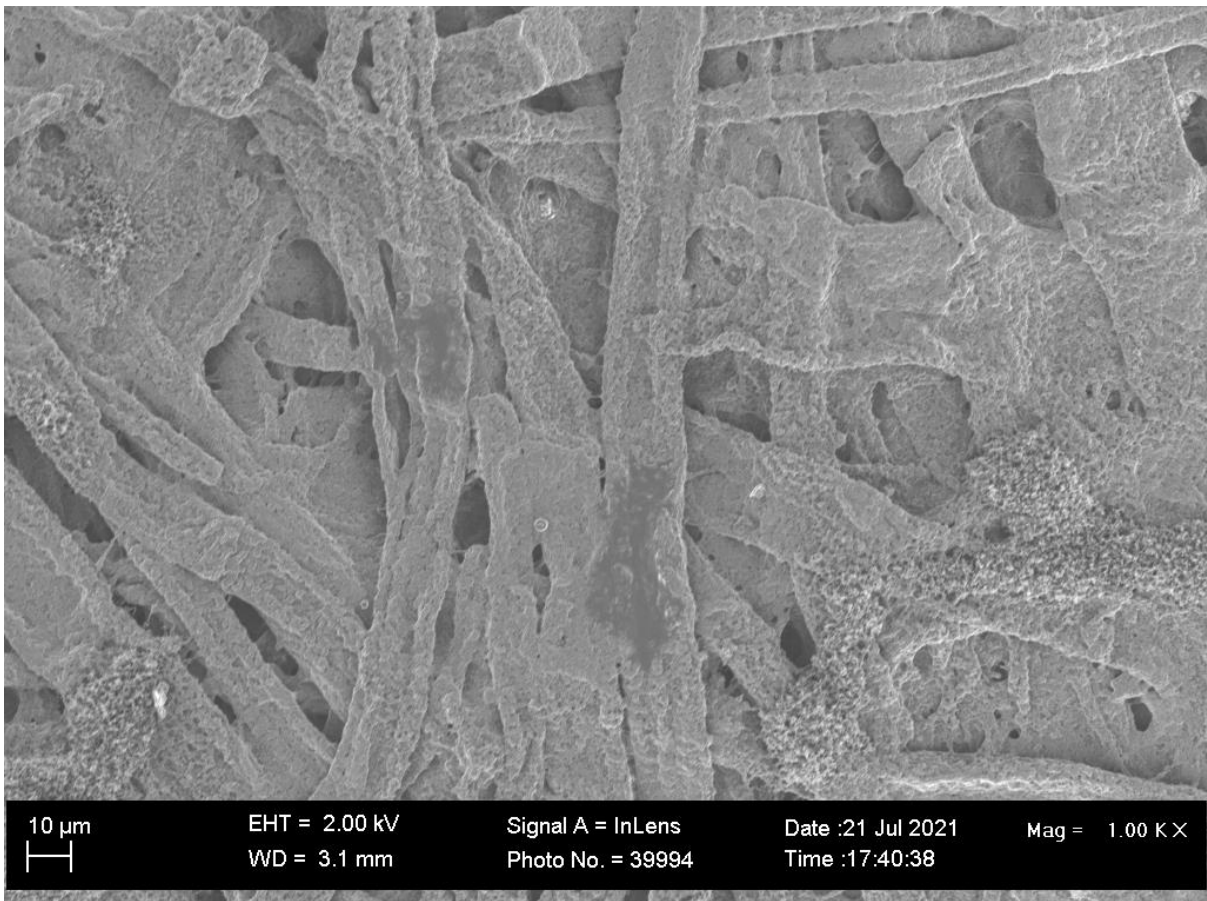
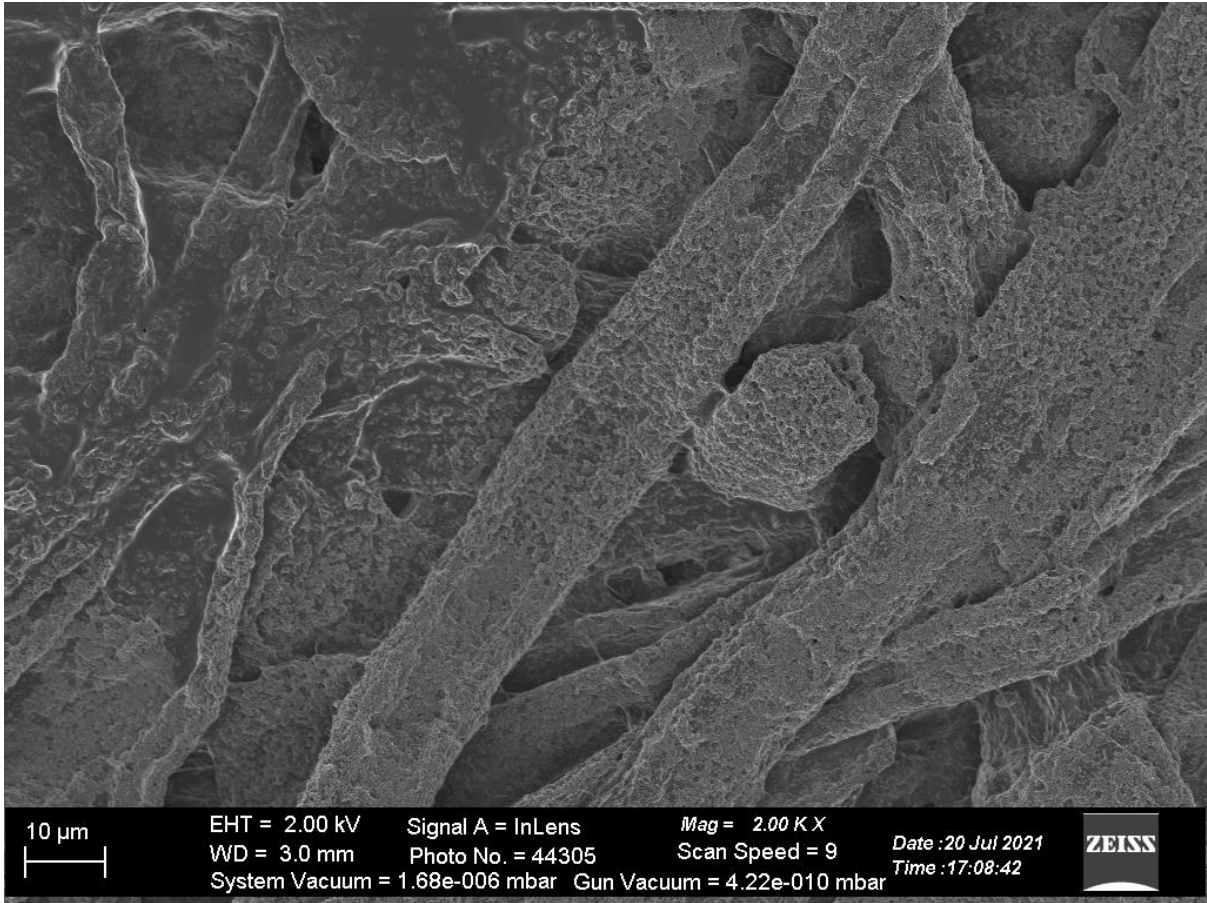


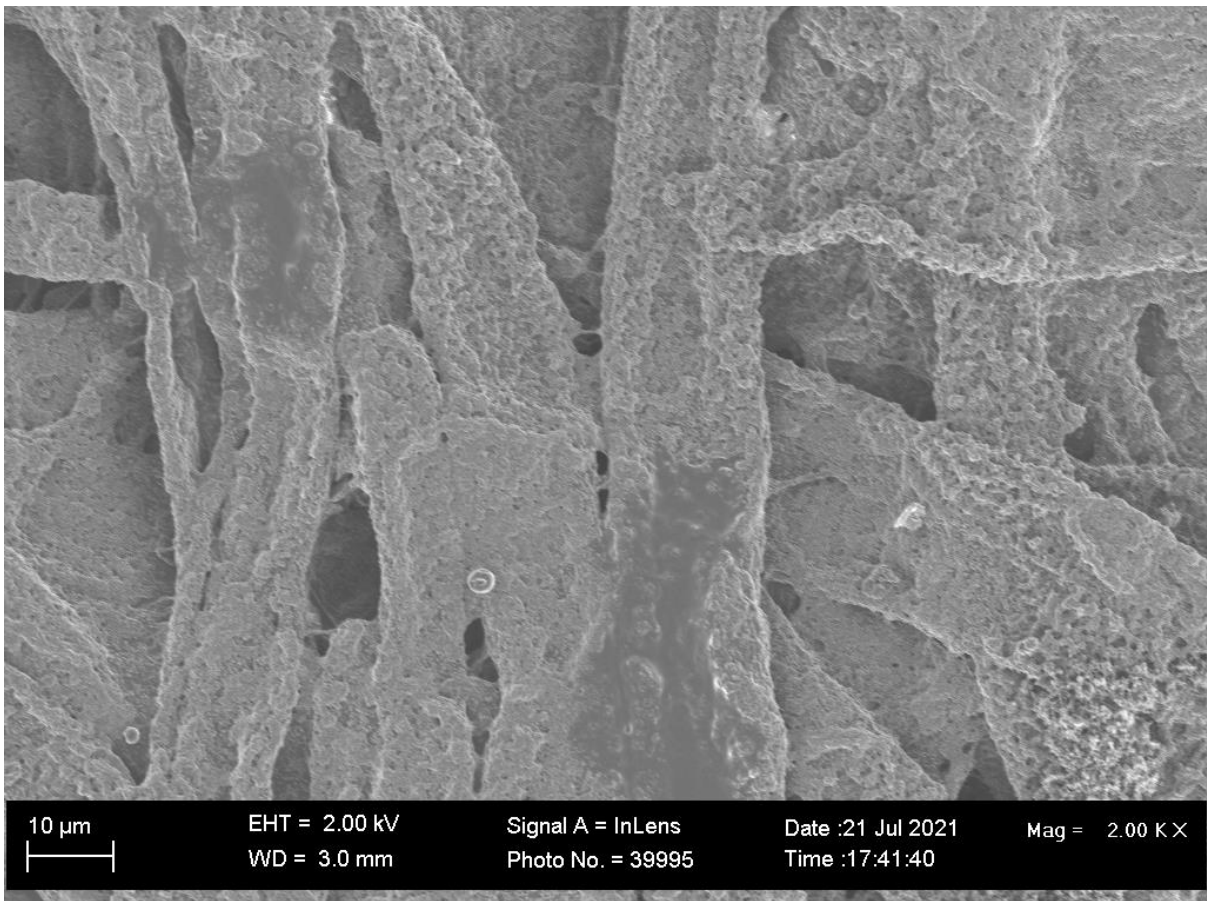
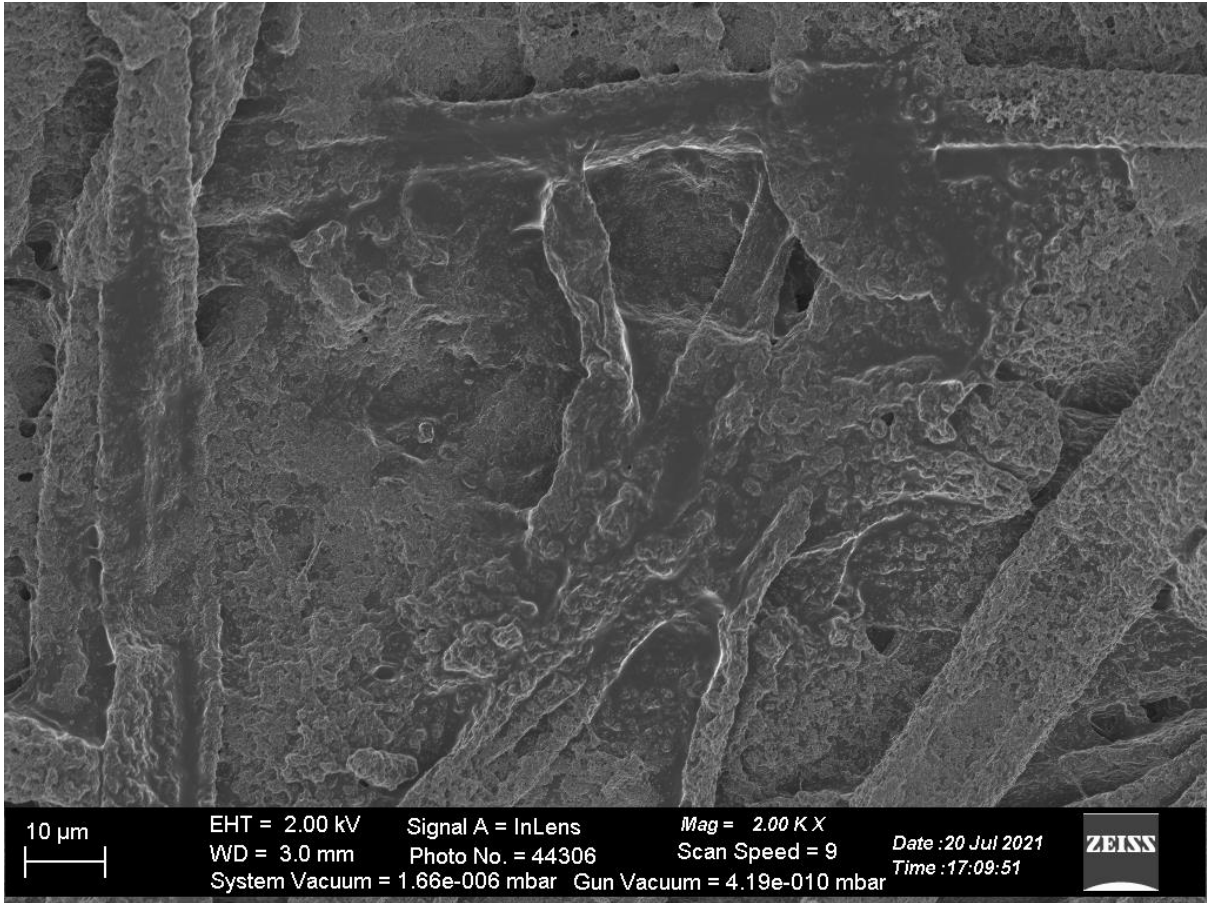


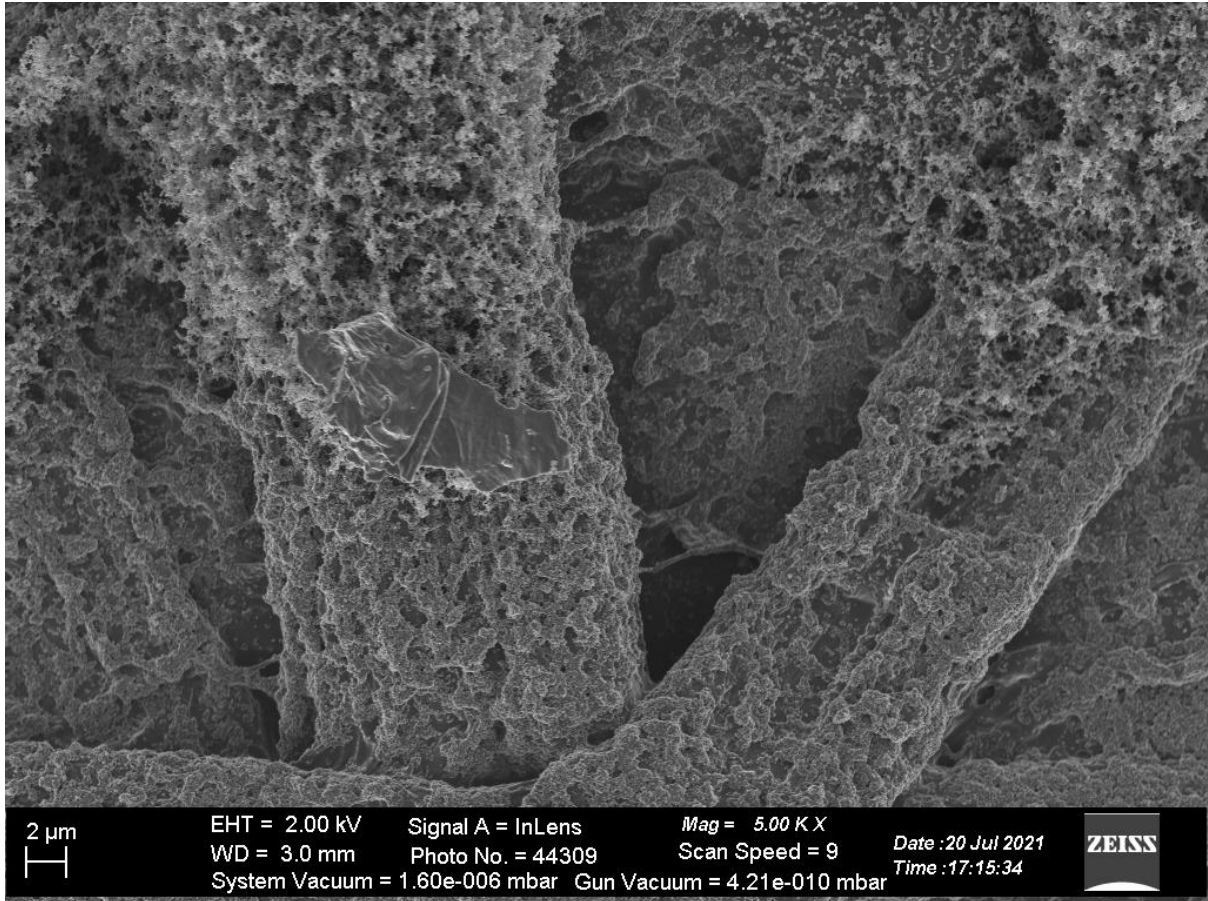
1.6. Paper Sample type 6



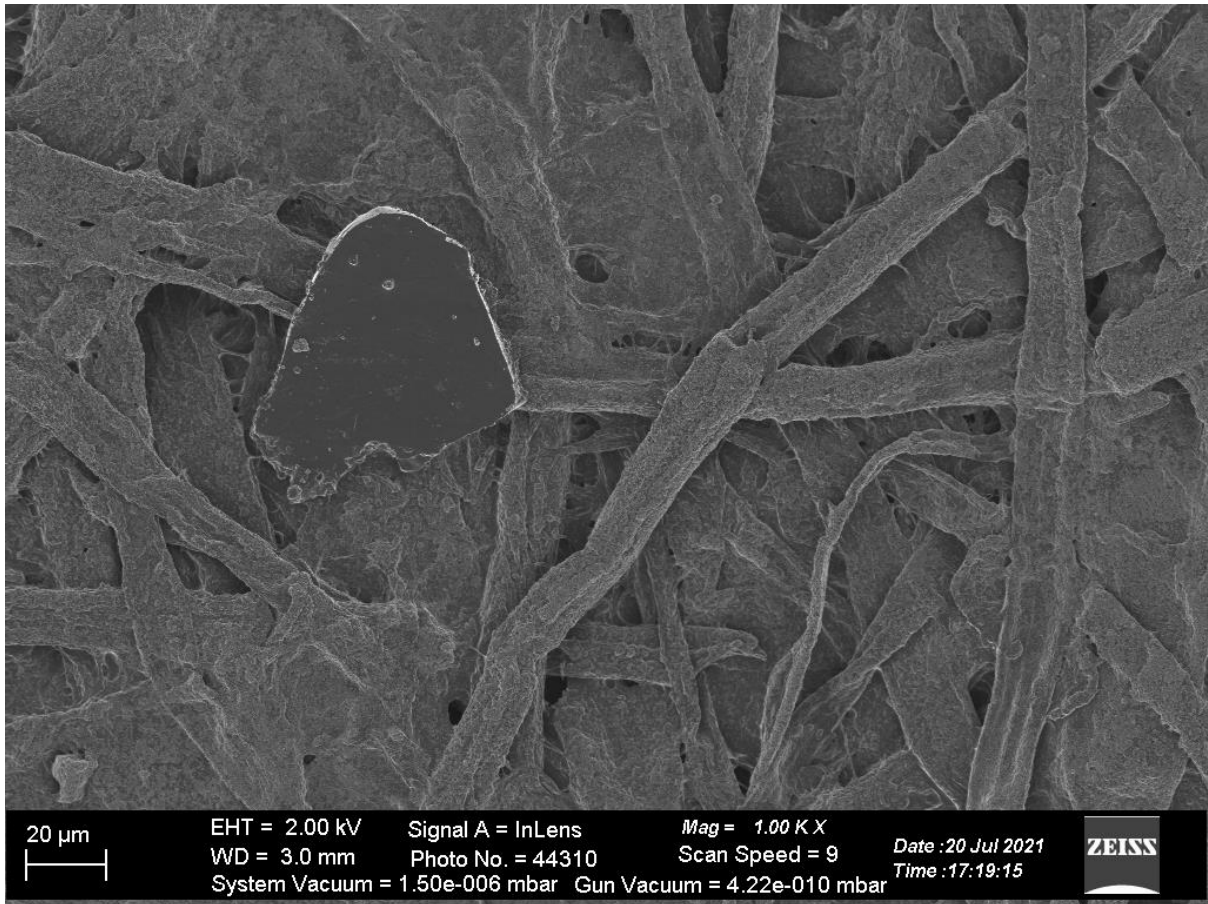


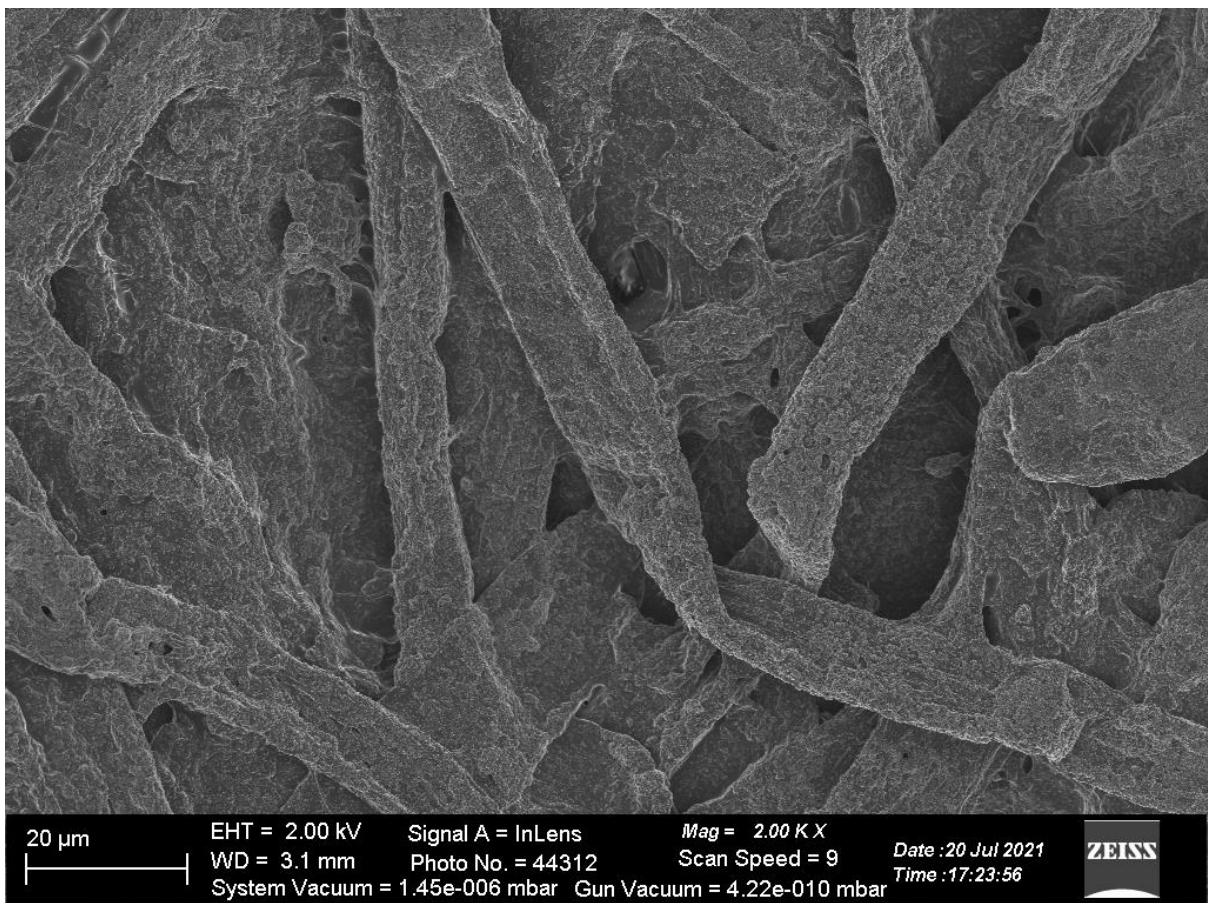
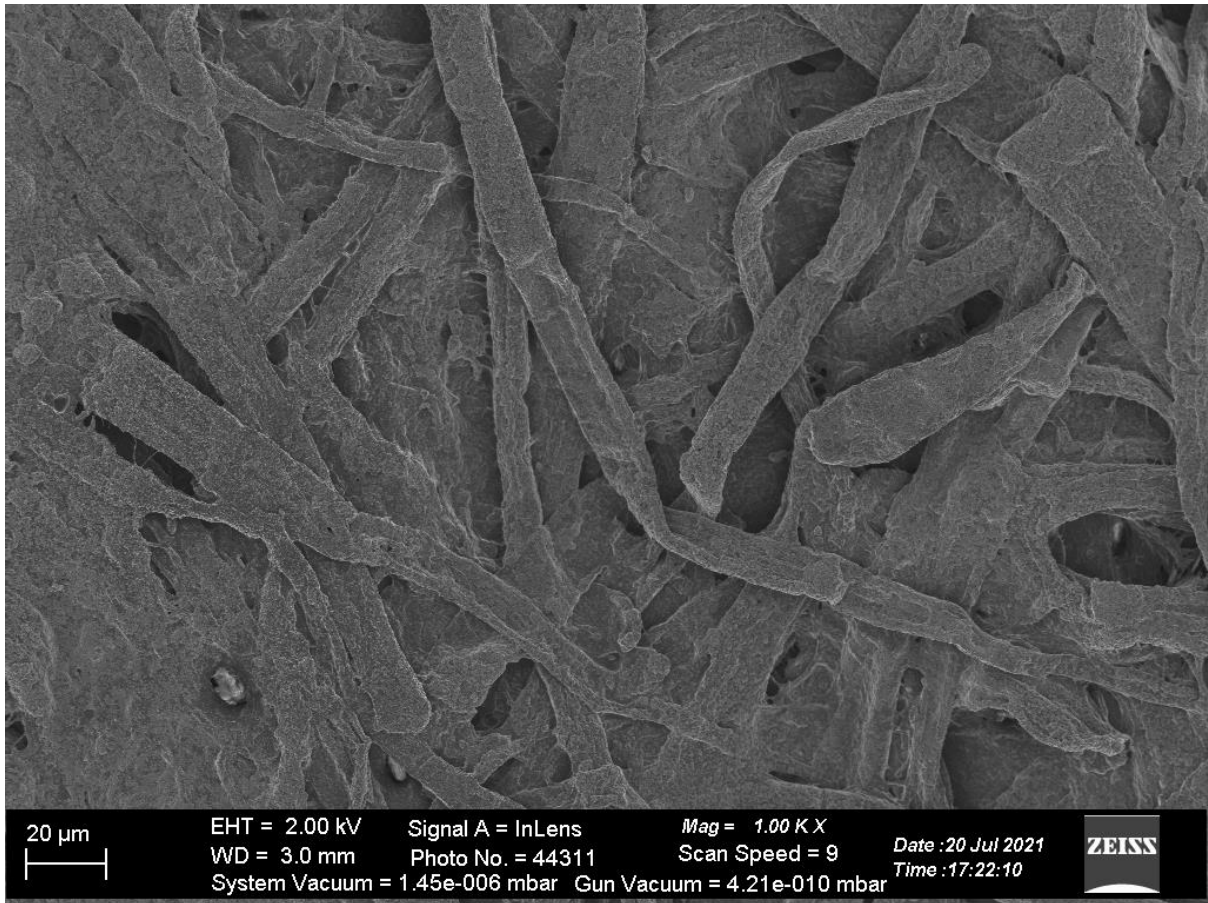


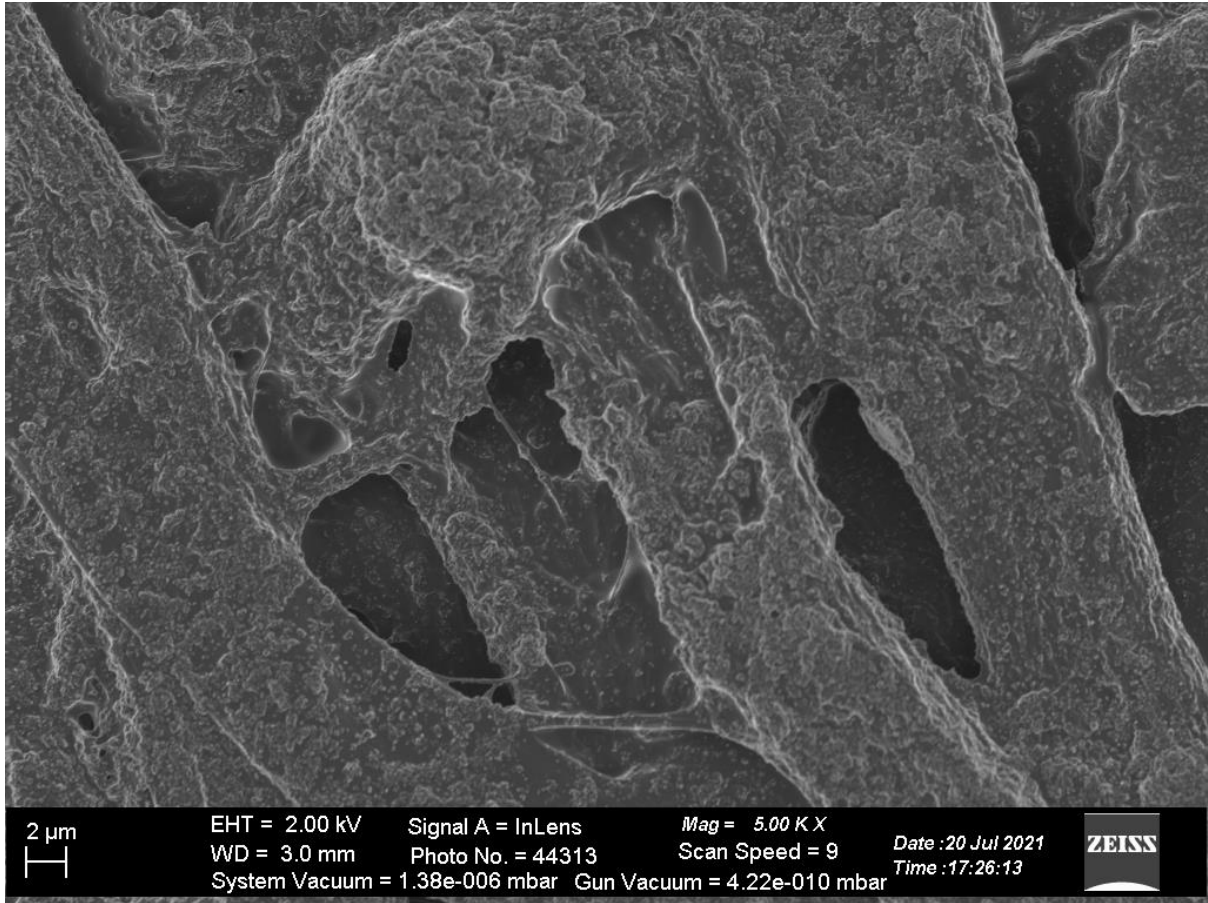




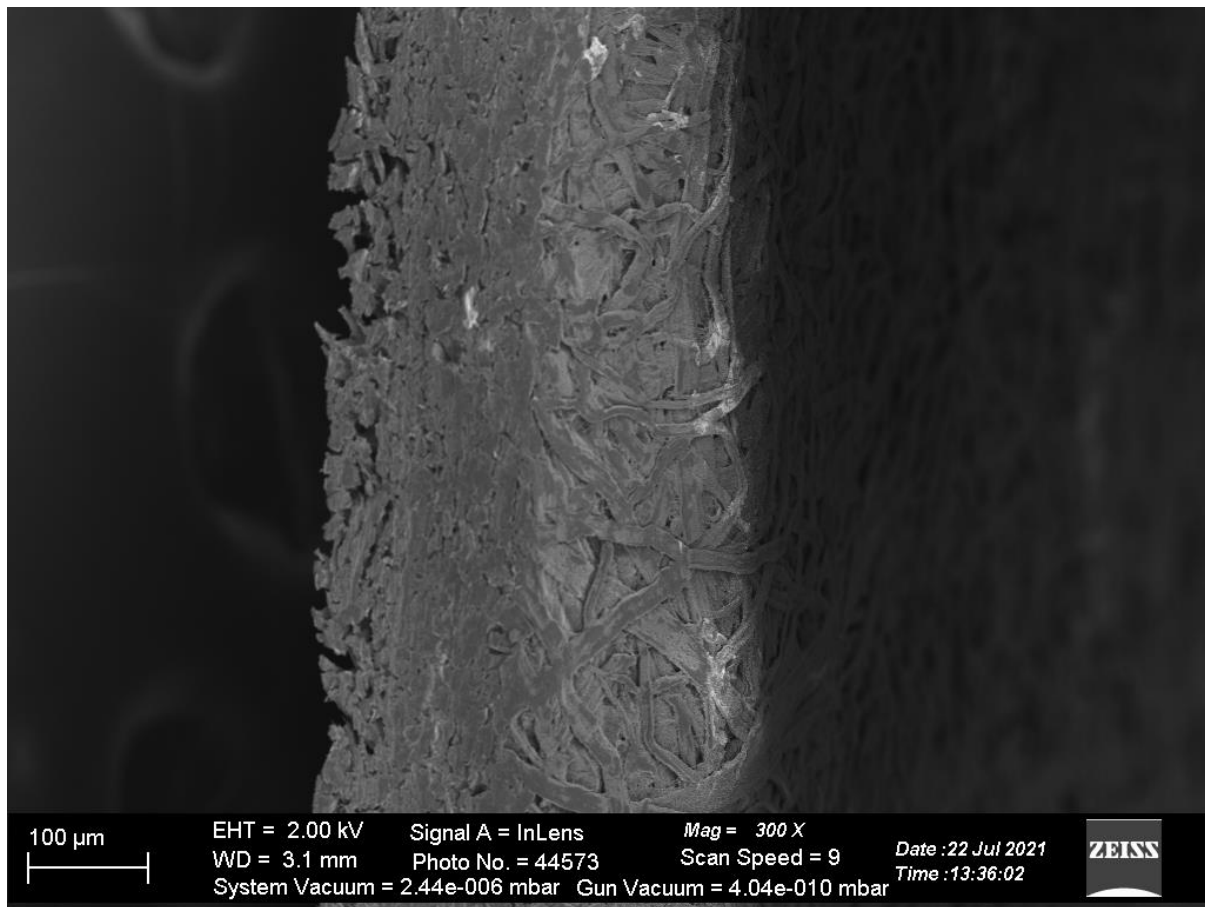
1.7. Paper Sample type 7

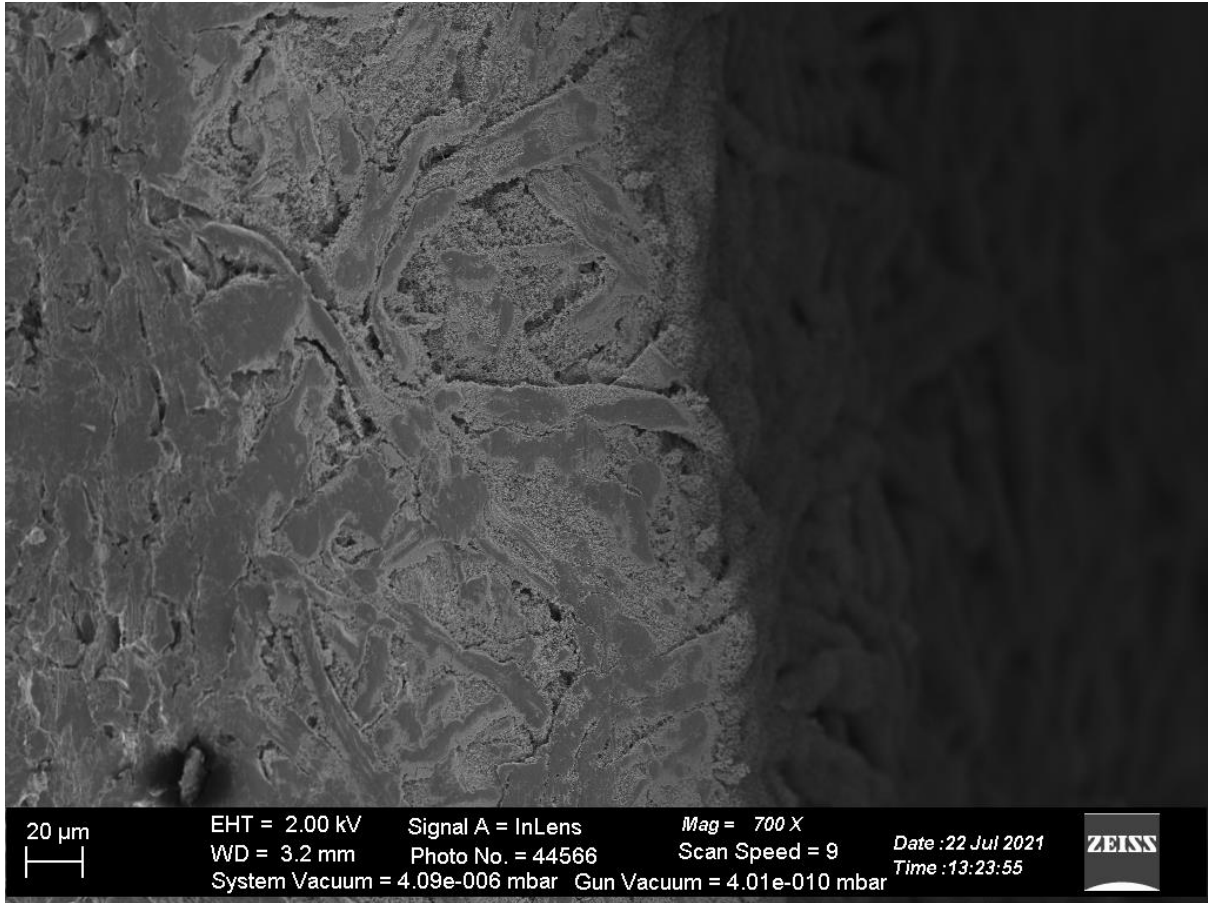


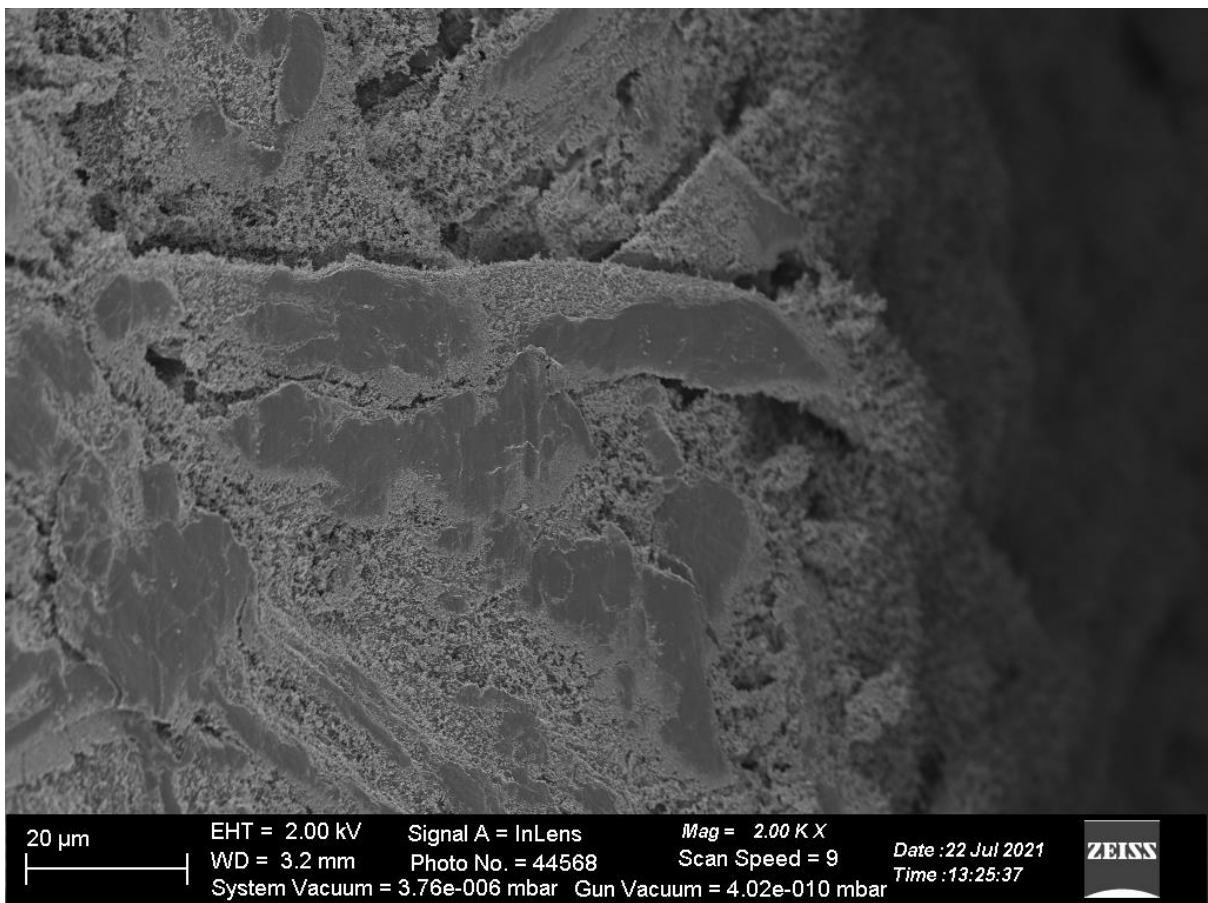
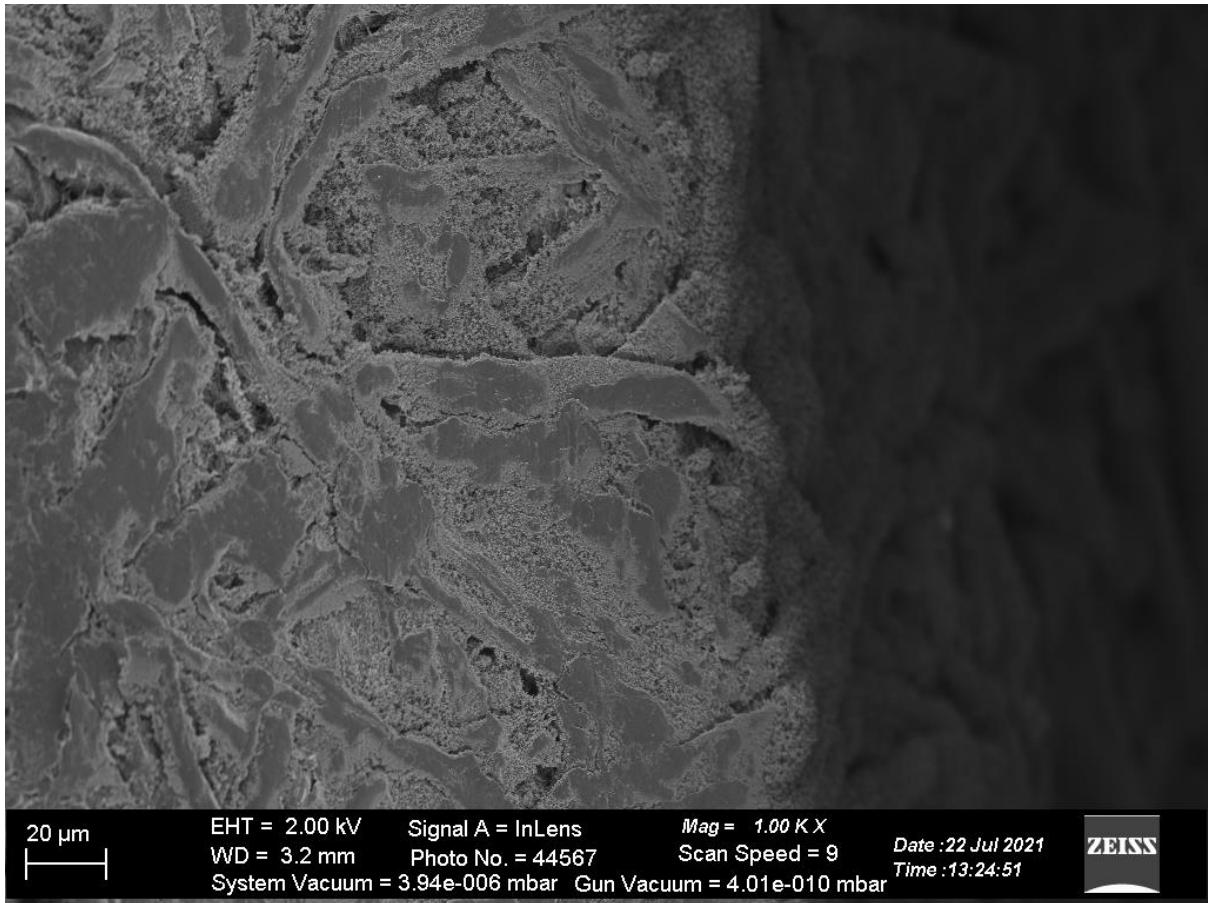


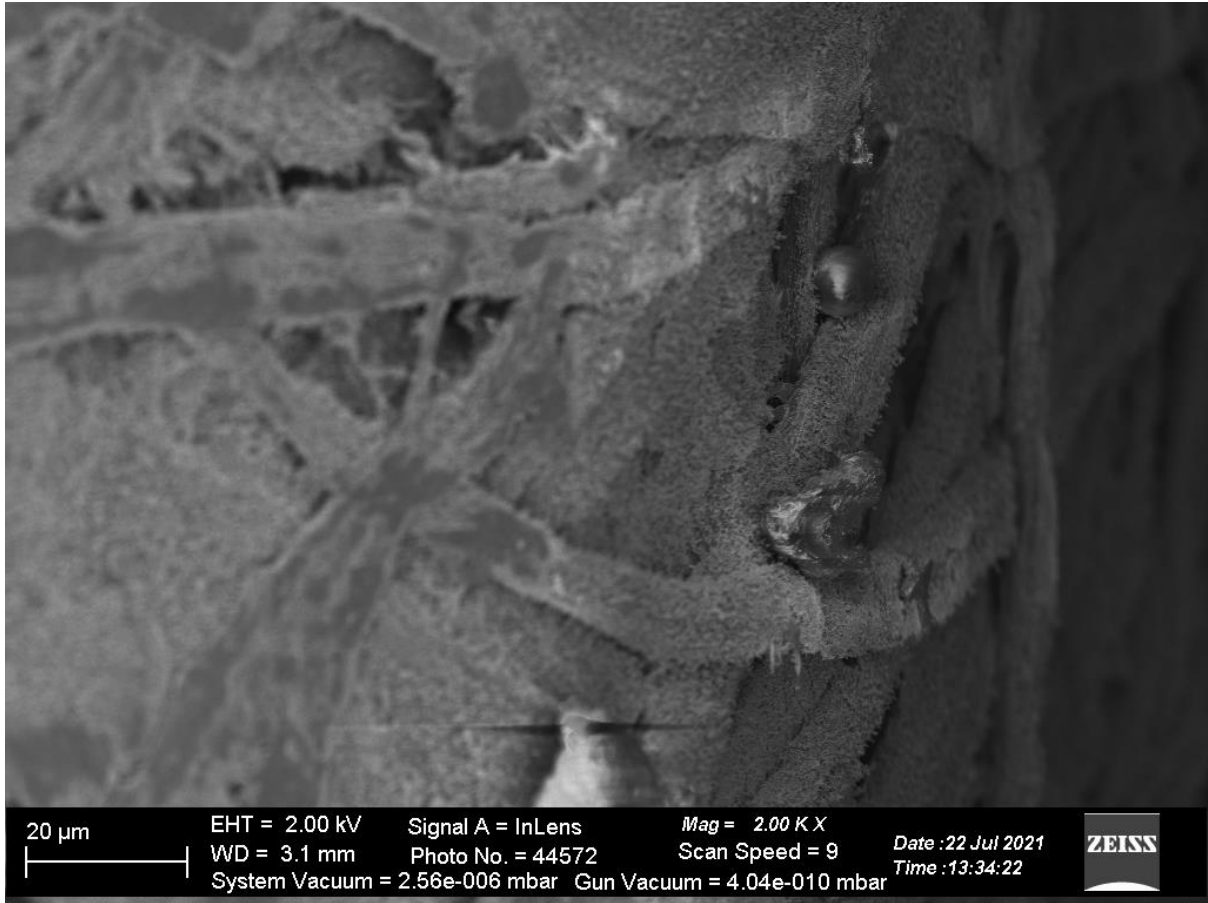


1.8. Cross Section: No fixative, thin application

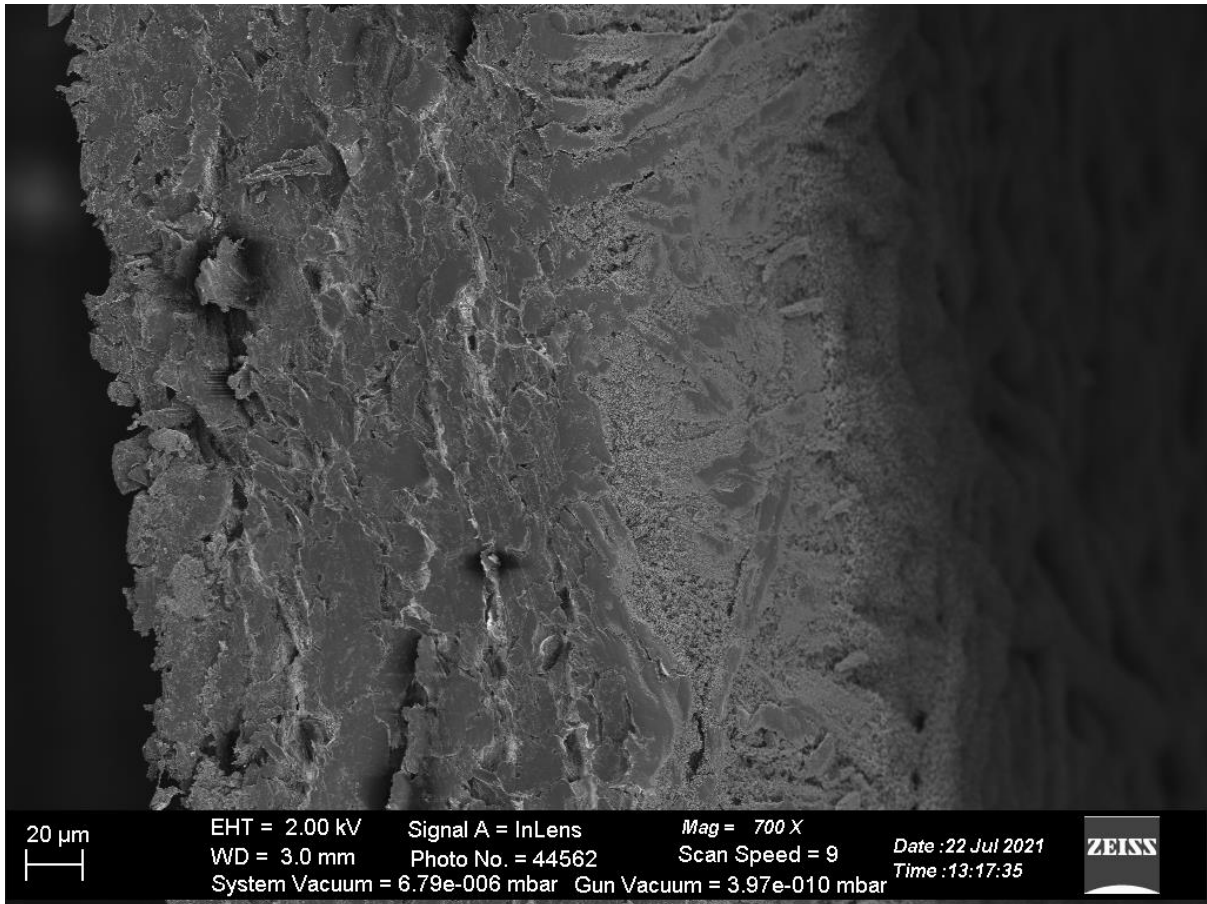


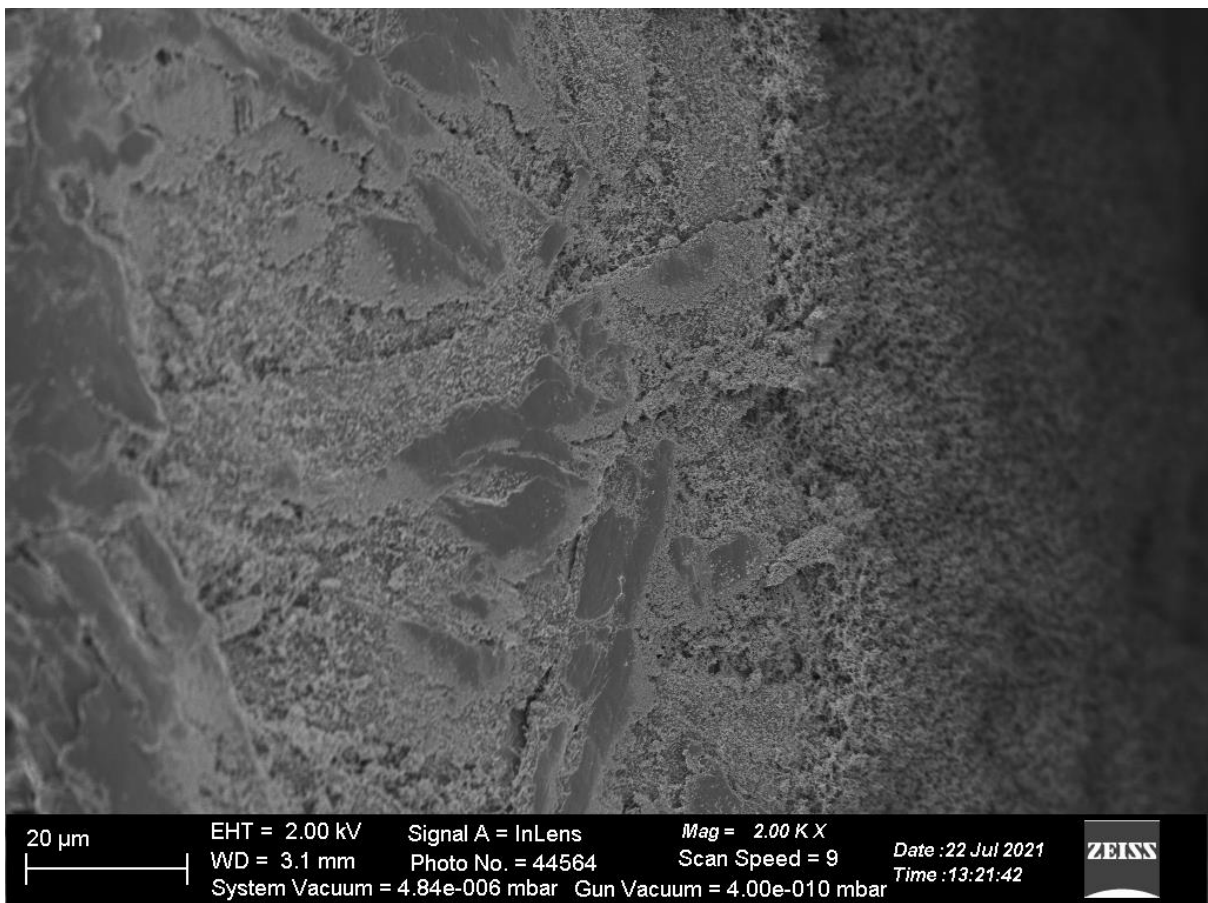
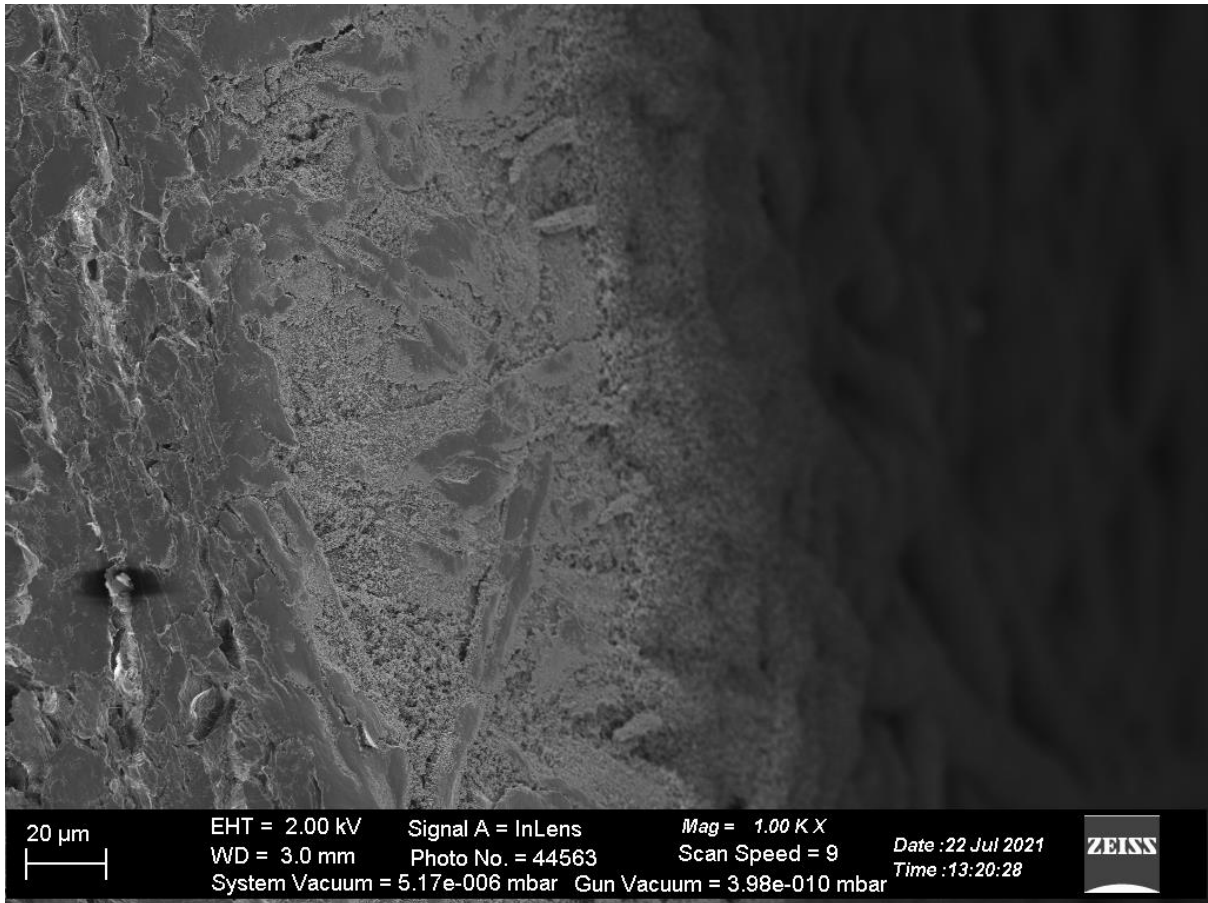




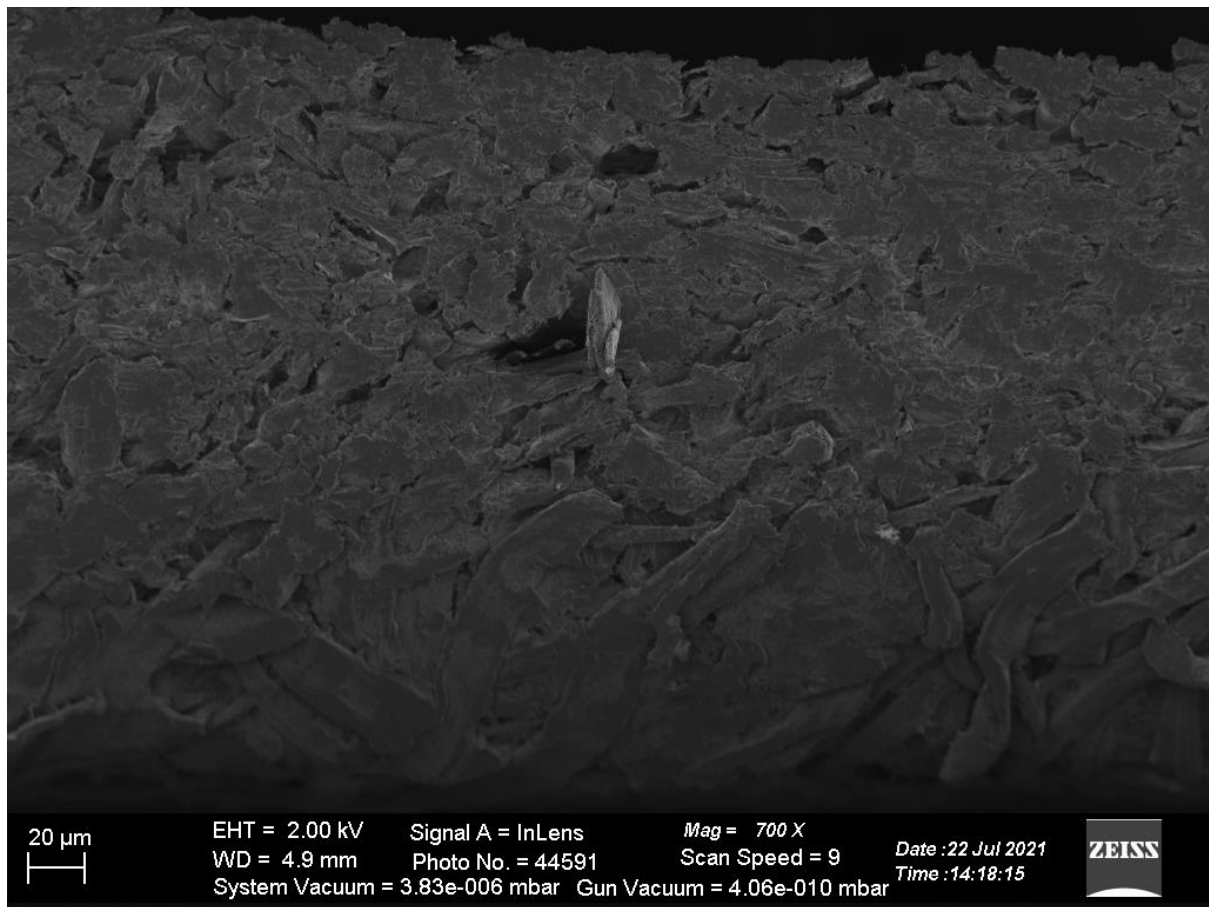


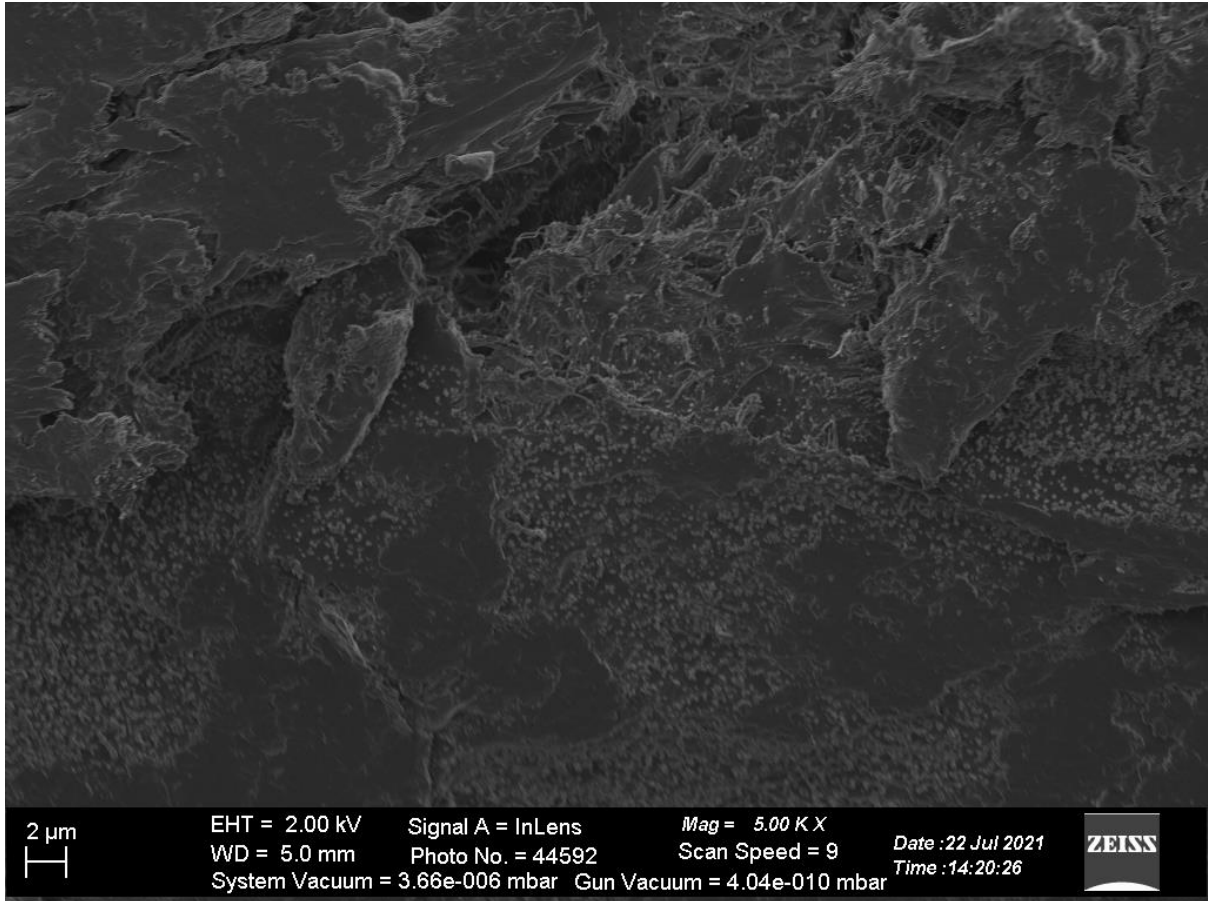
1.9. Cross Section: No fixative, thick application



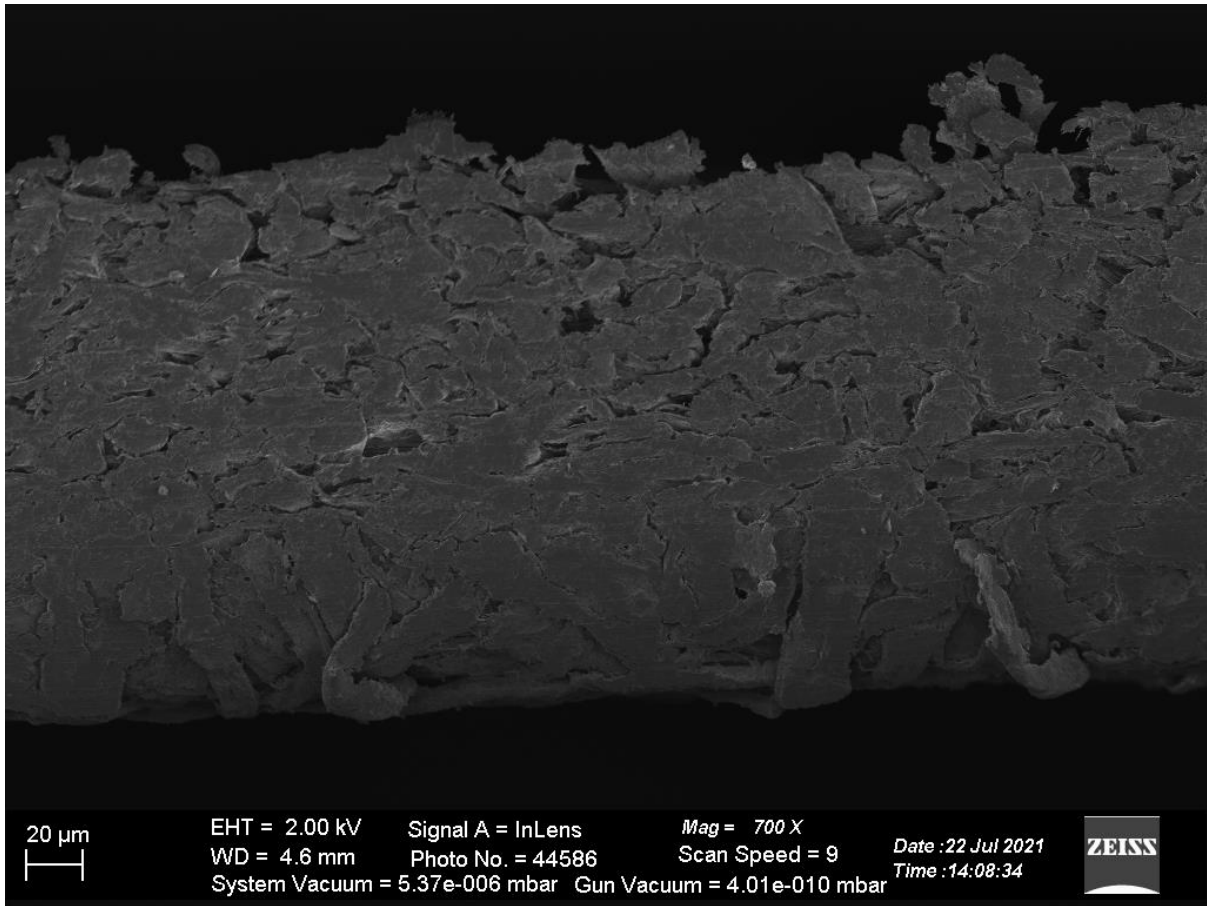


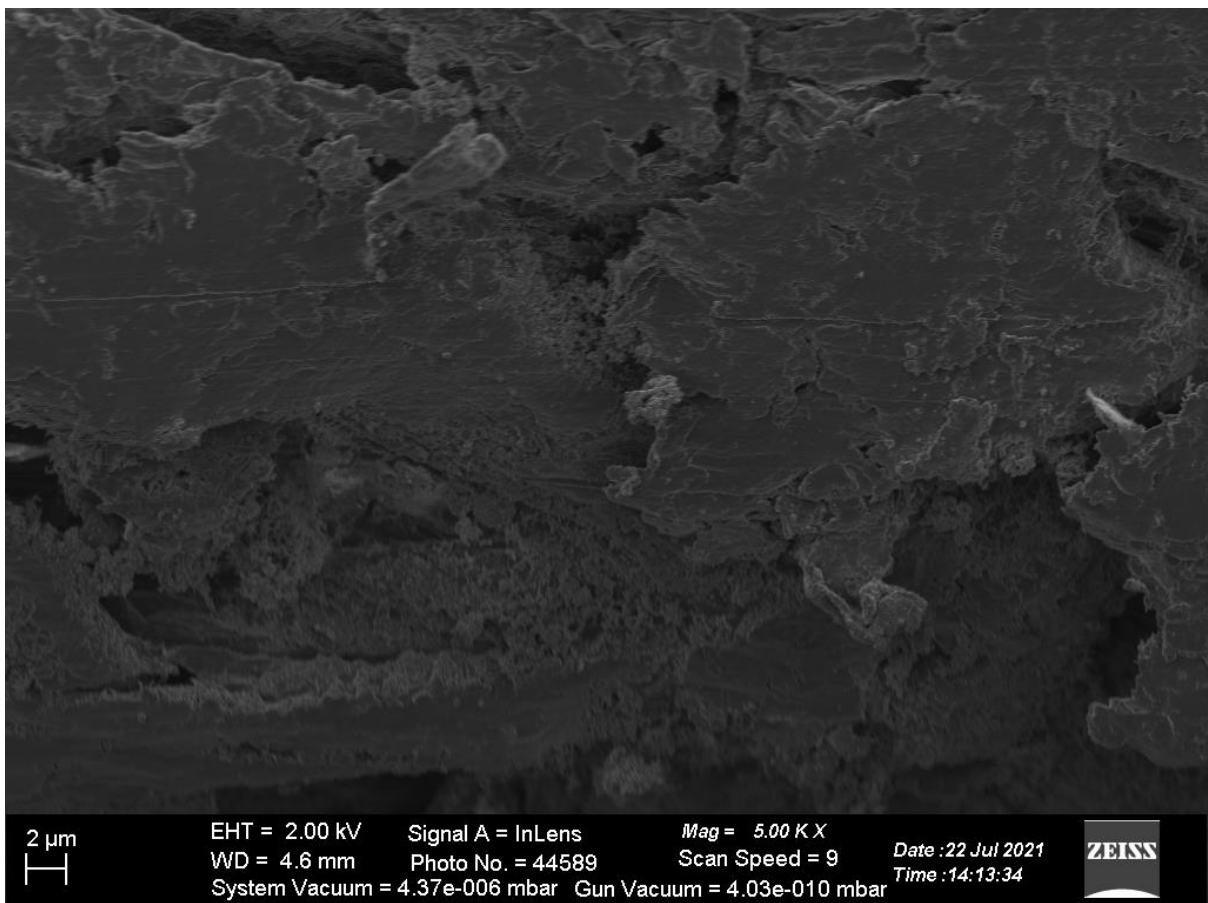
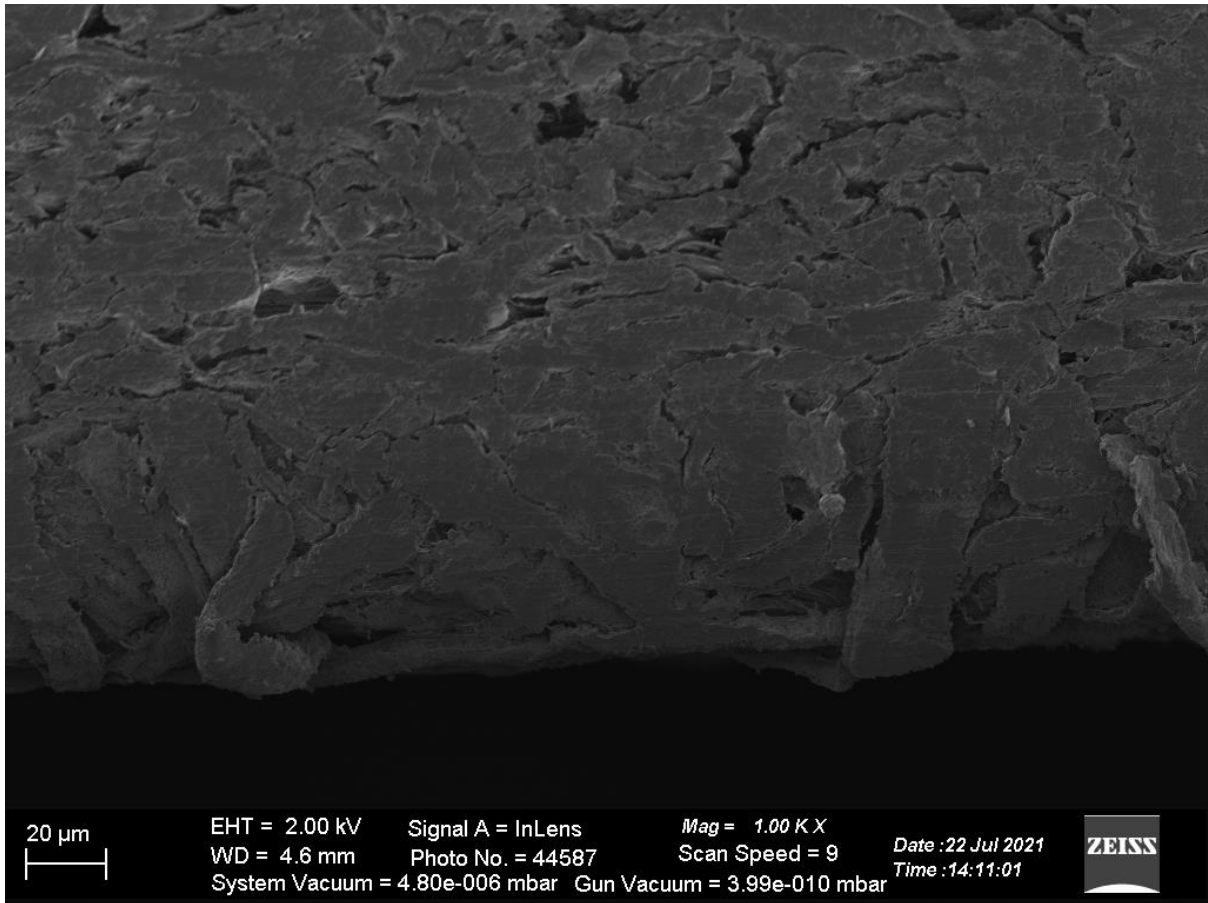
1.10. *Cross Section, with fixative*





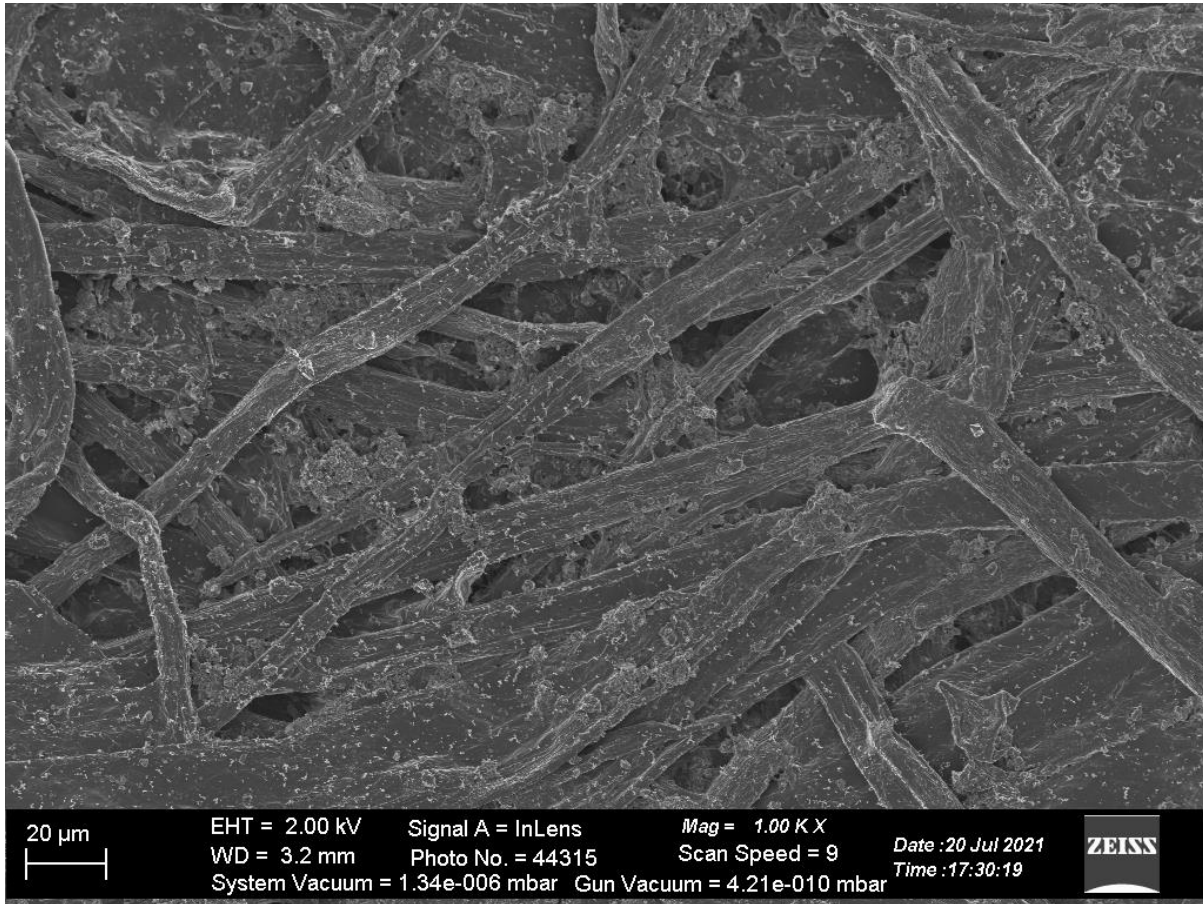
1.11. Cross Section, no soot

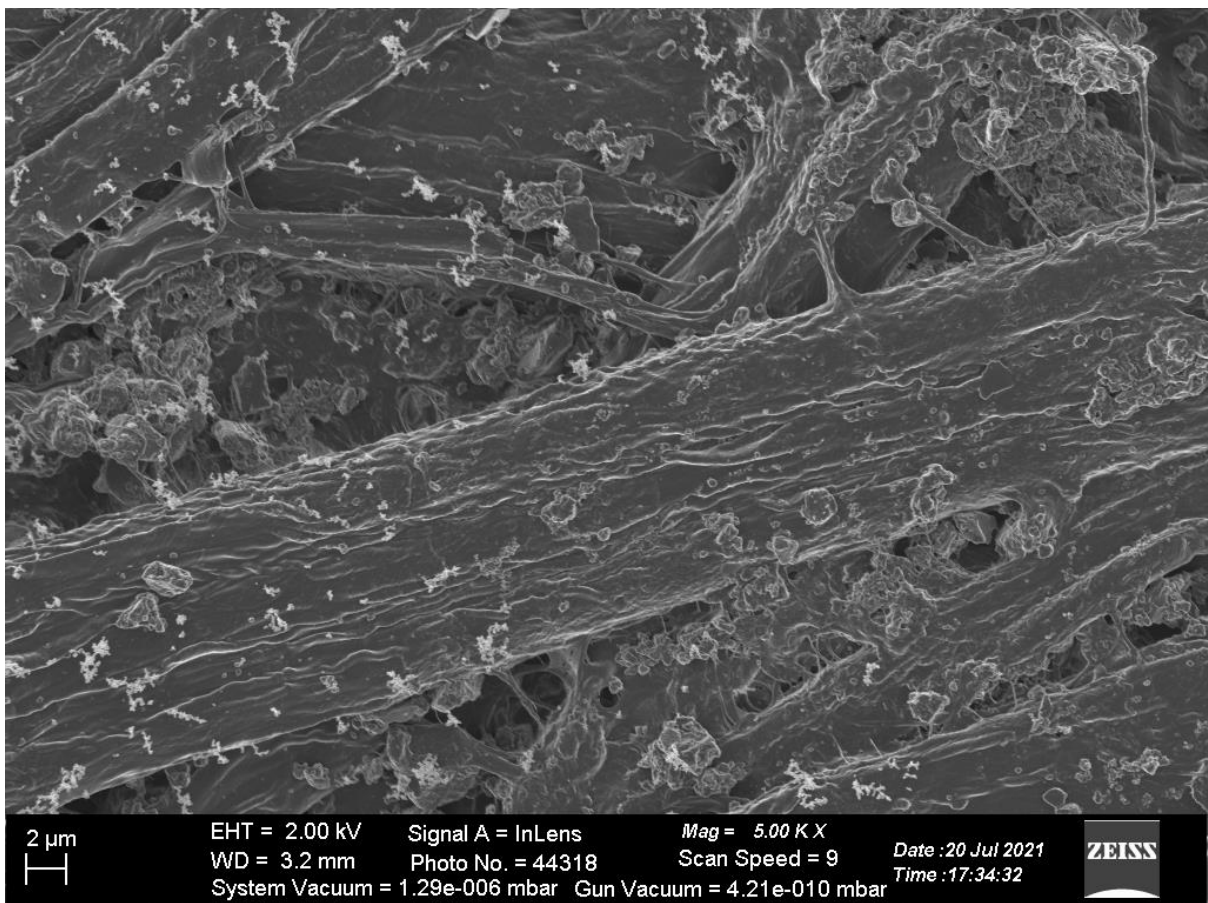
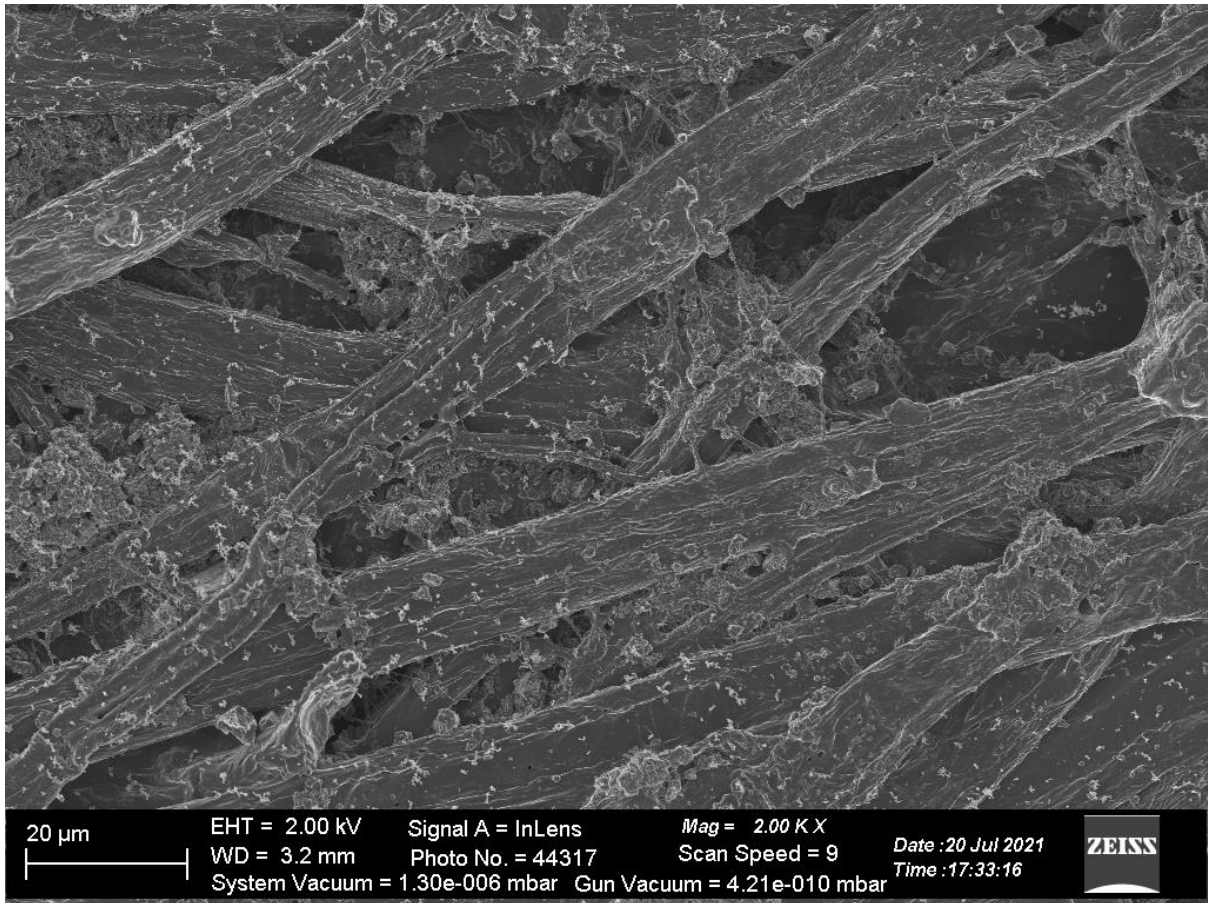




2. Cartridge Paper Samples

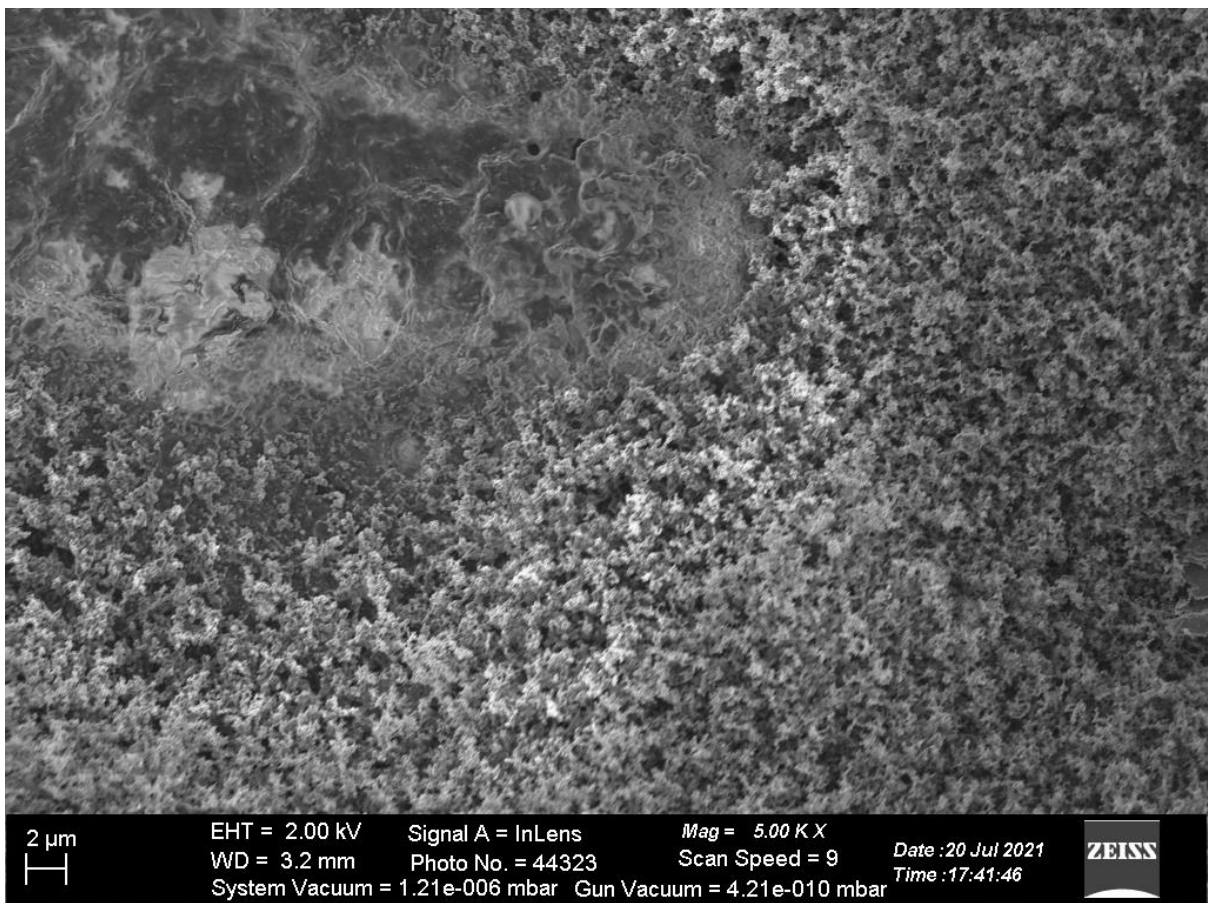
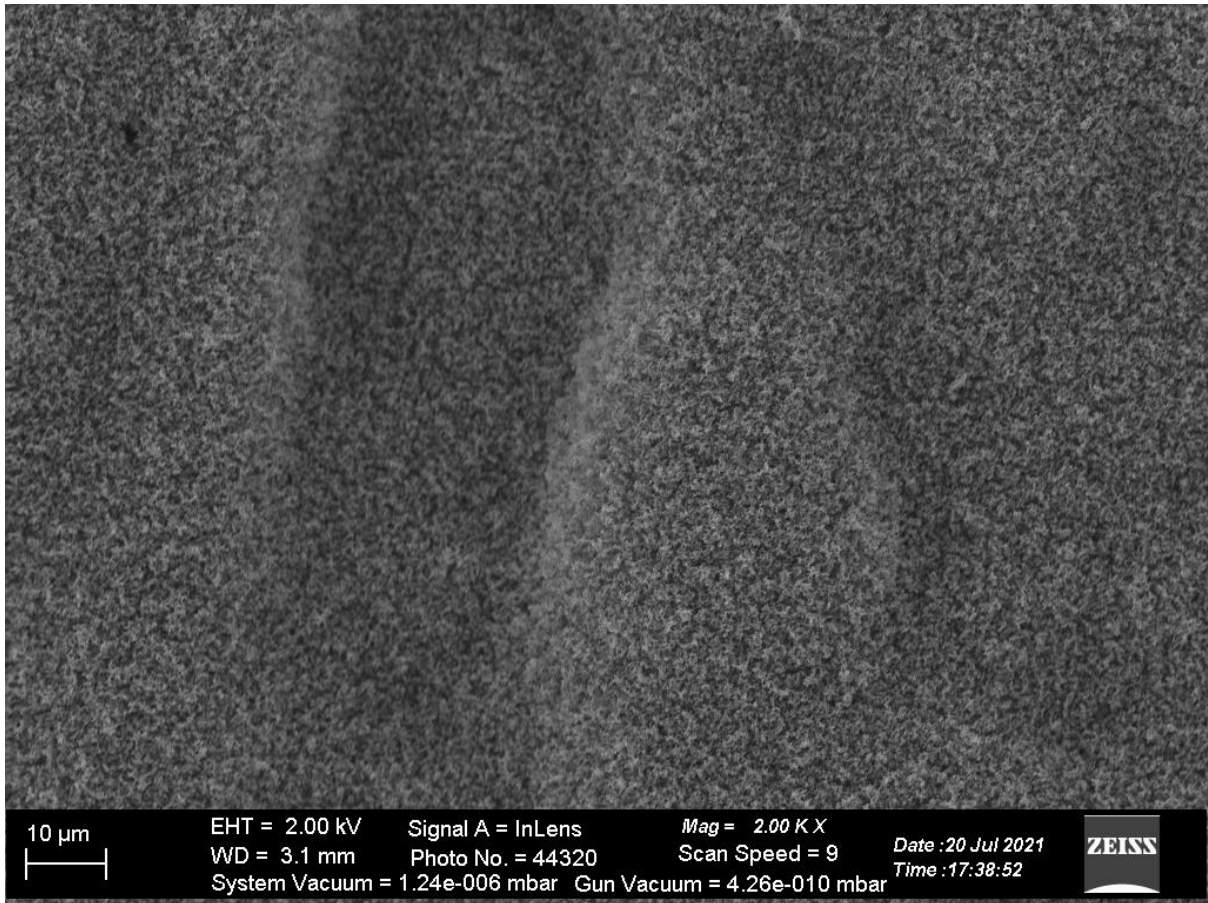
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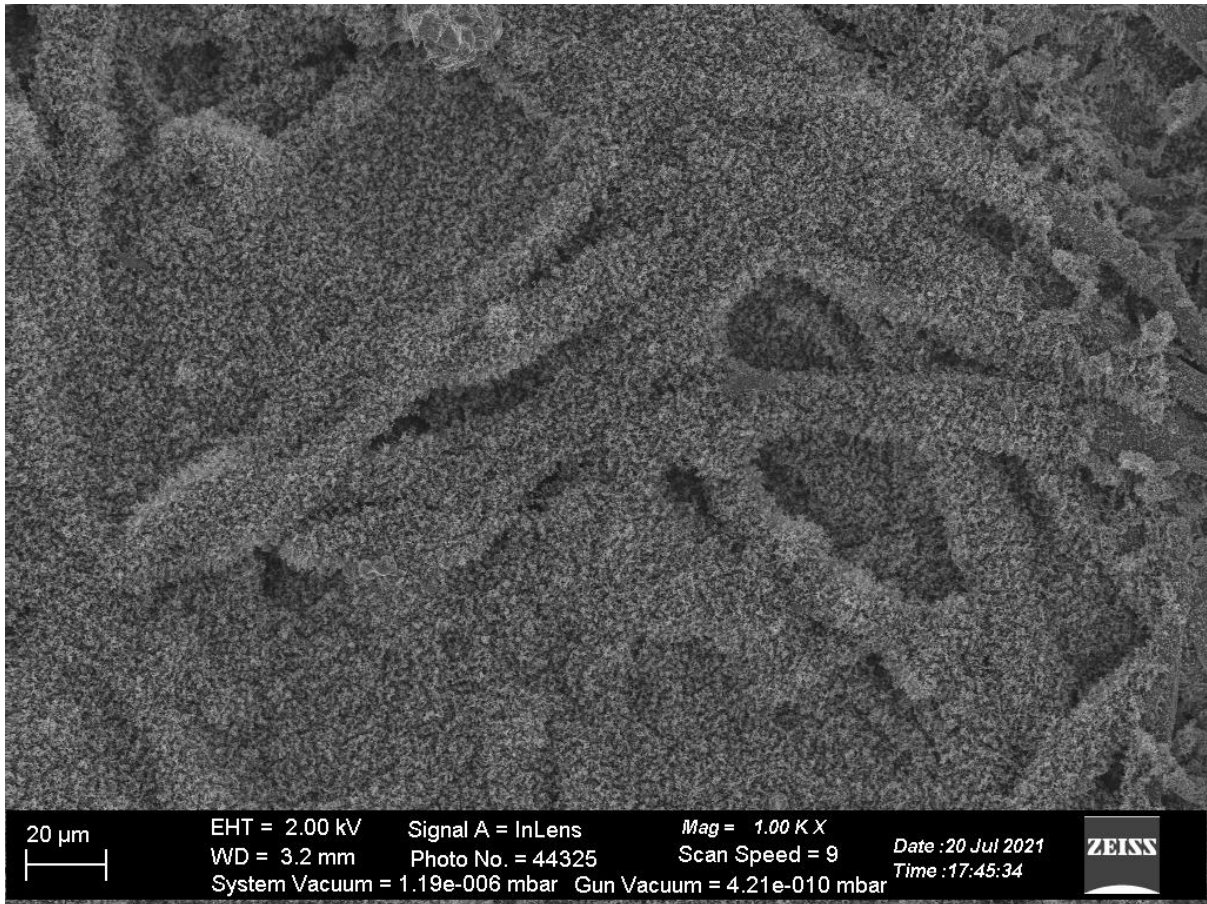


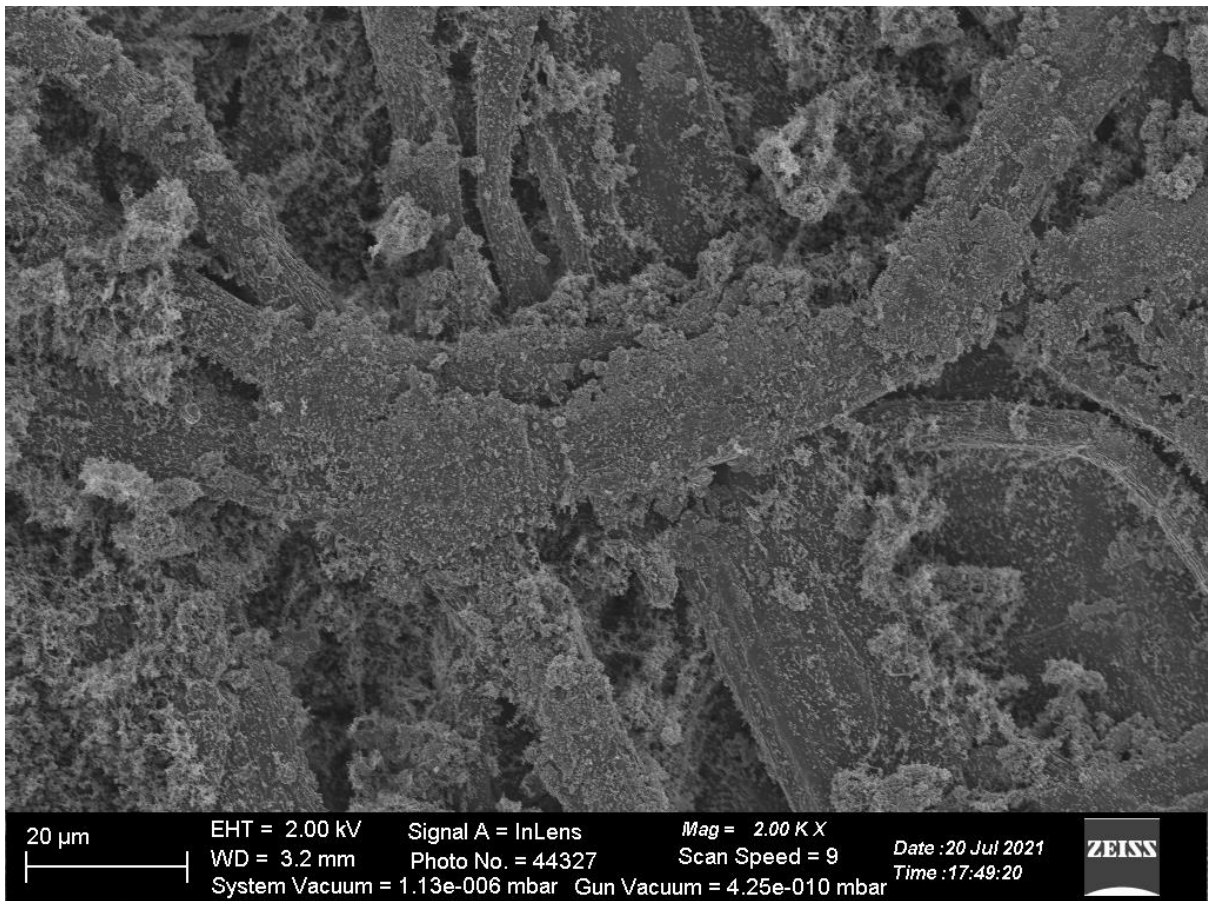
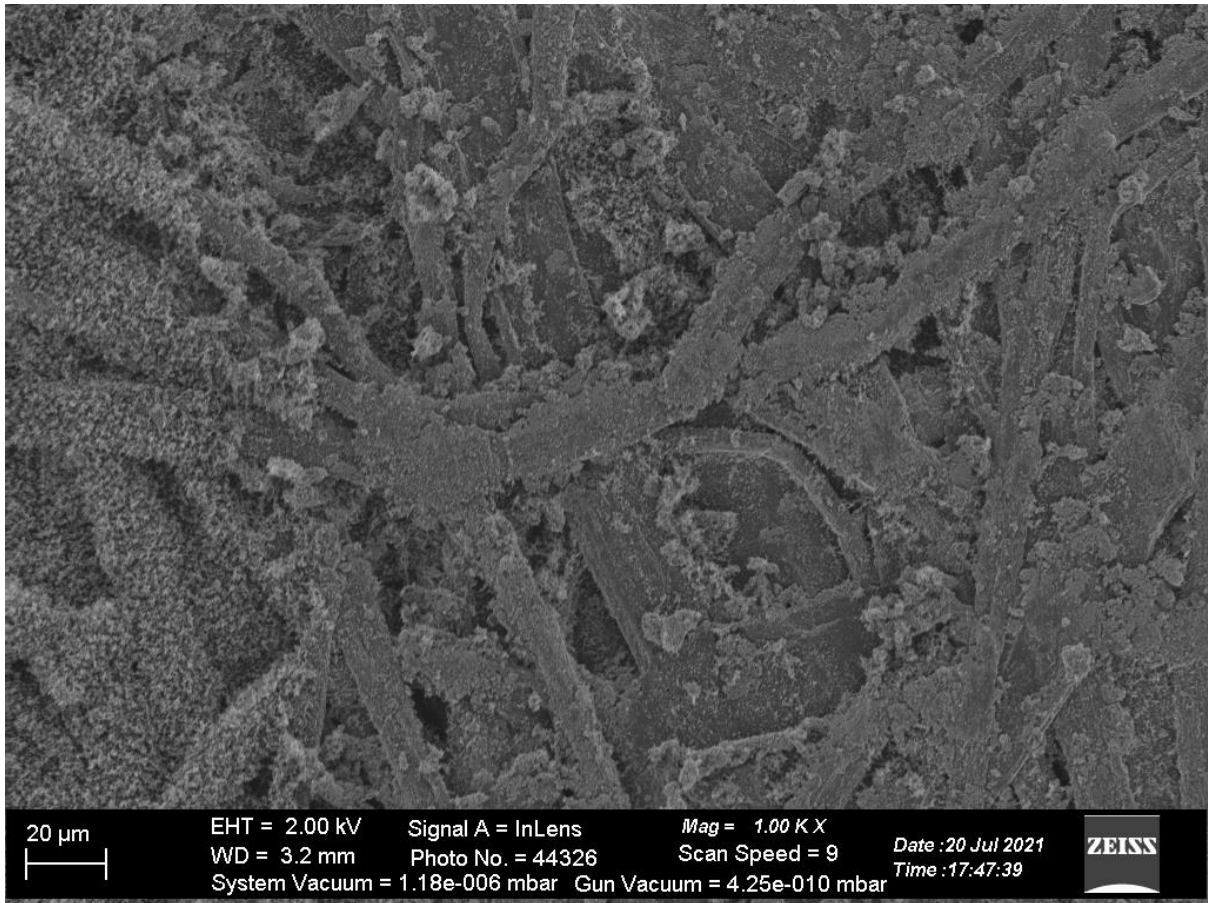
2.2. Paper Sample type 2

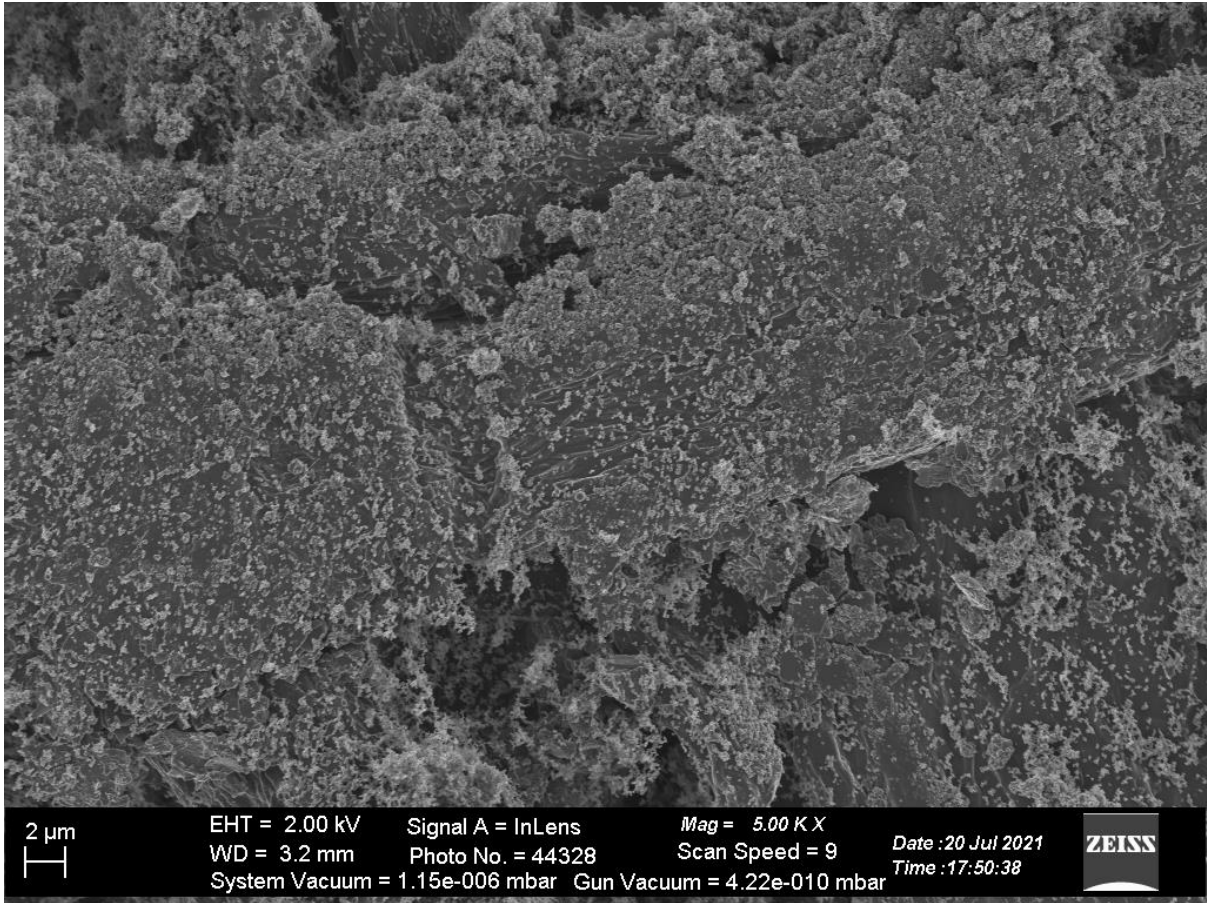




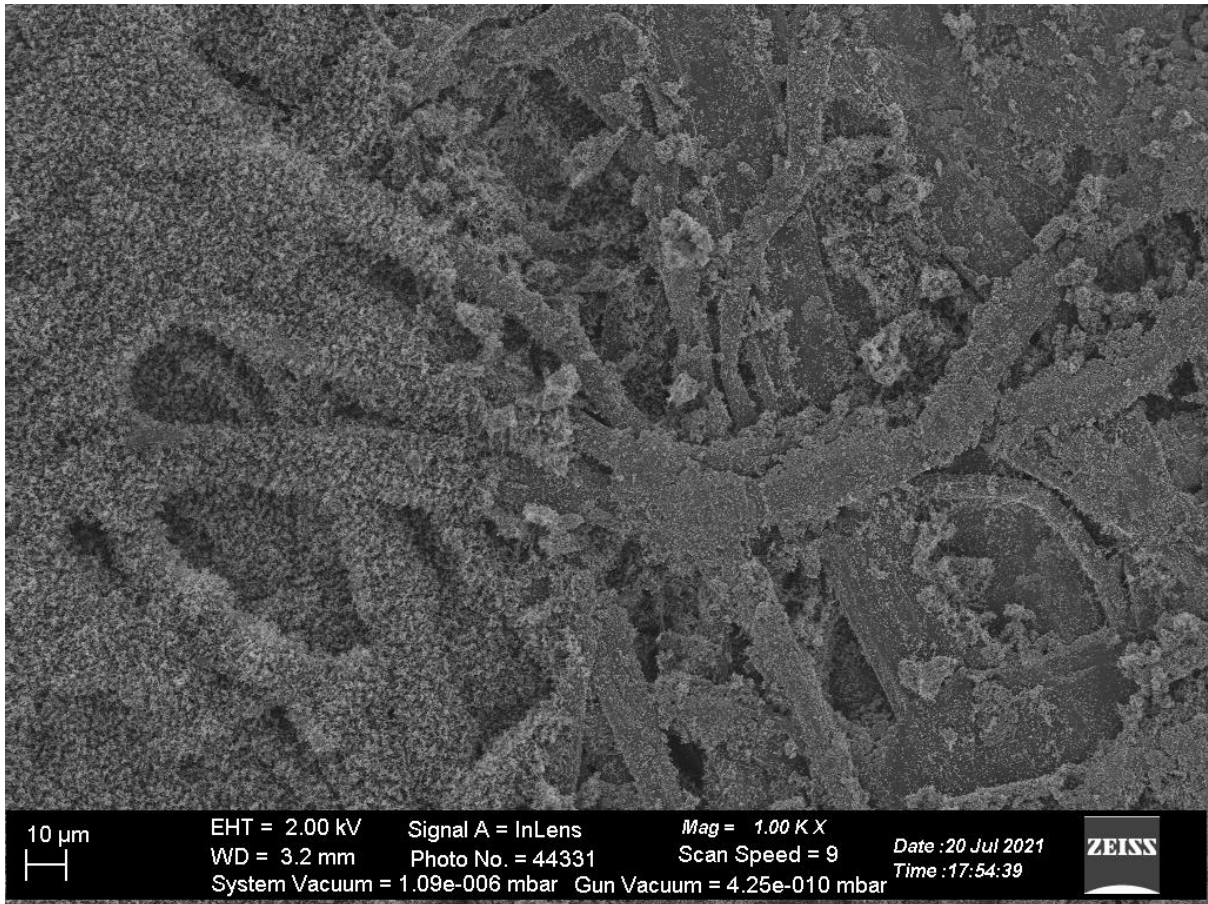
2.3. Paper Sample type 3

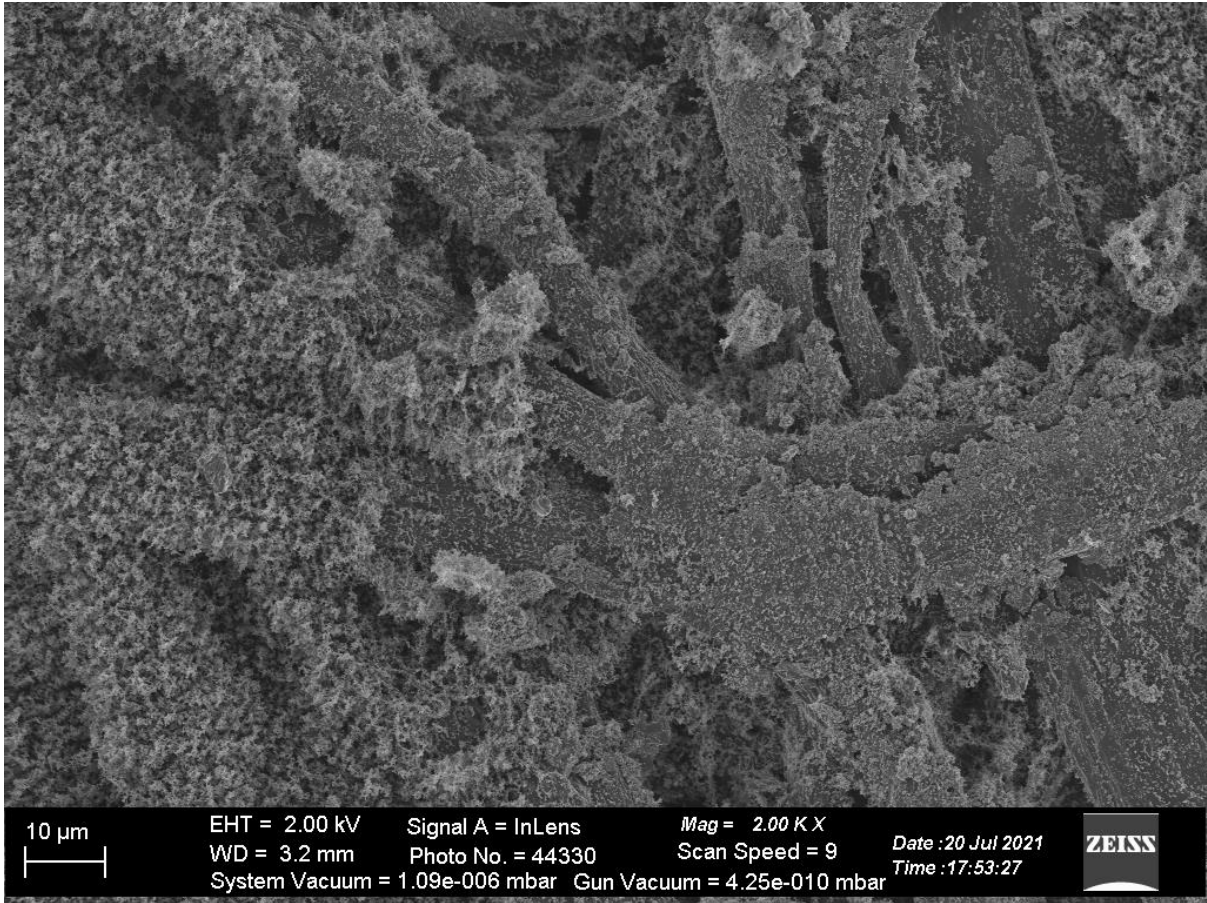


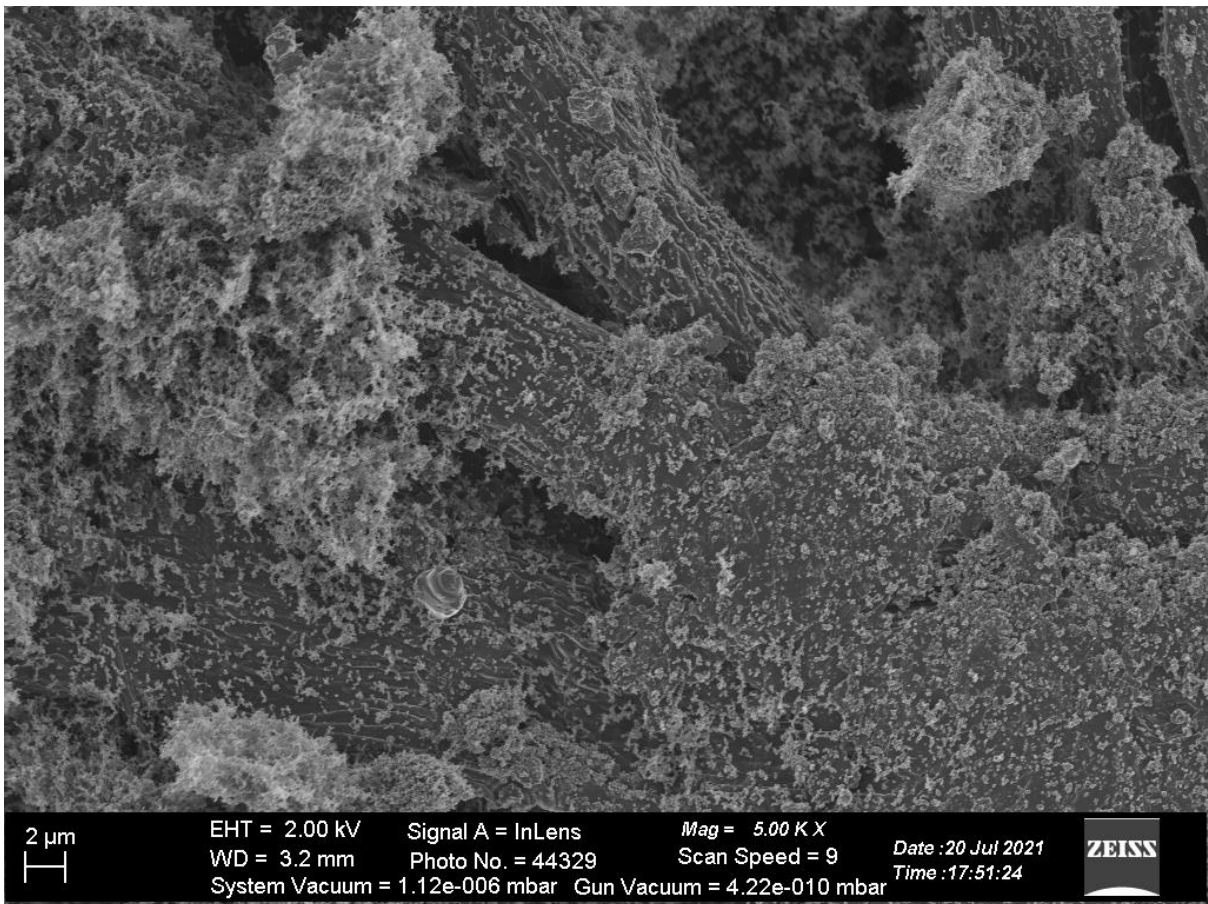
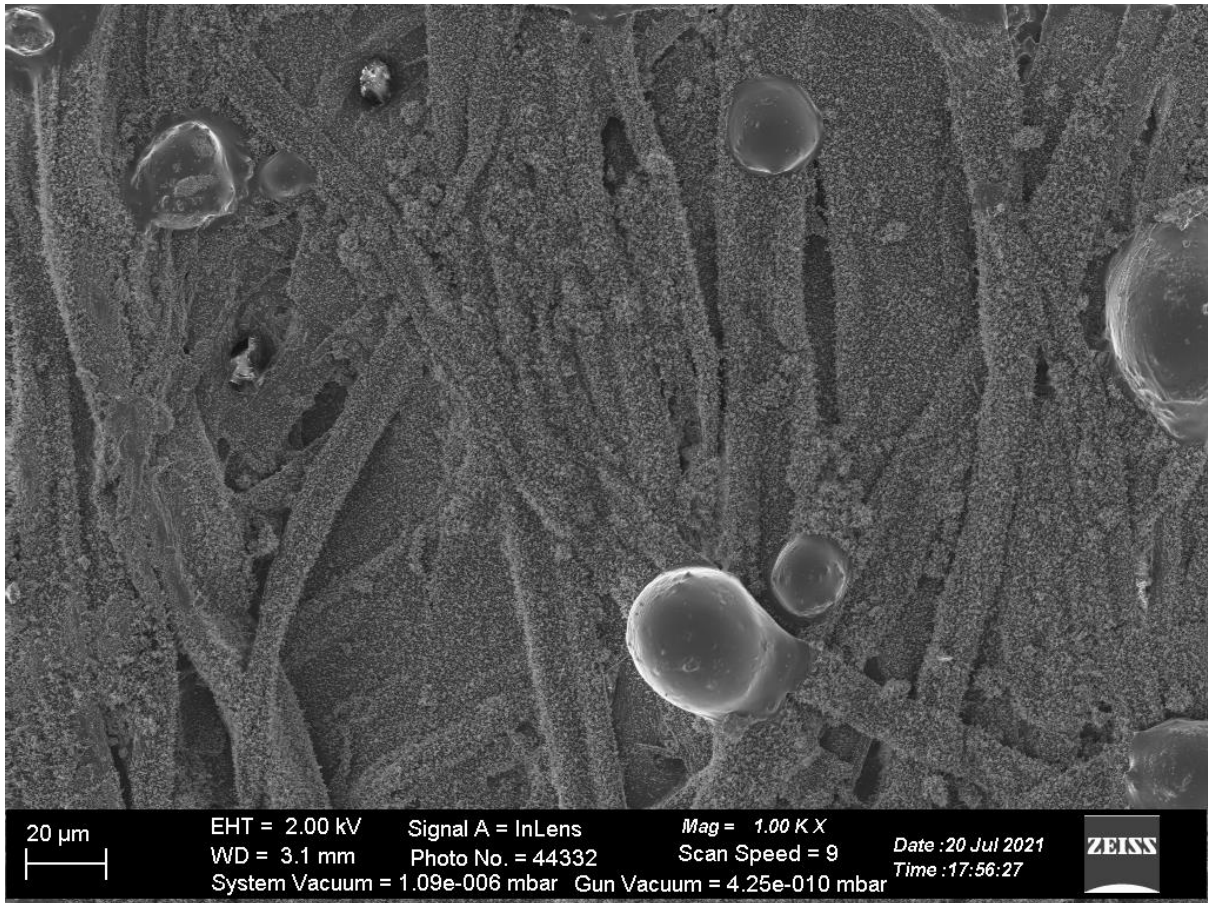




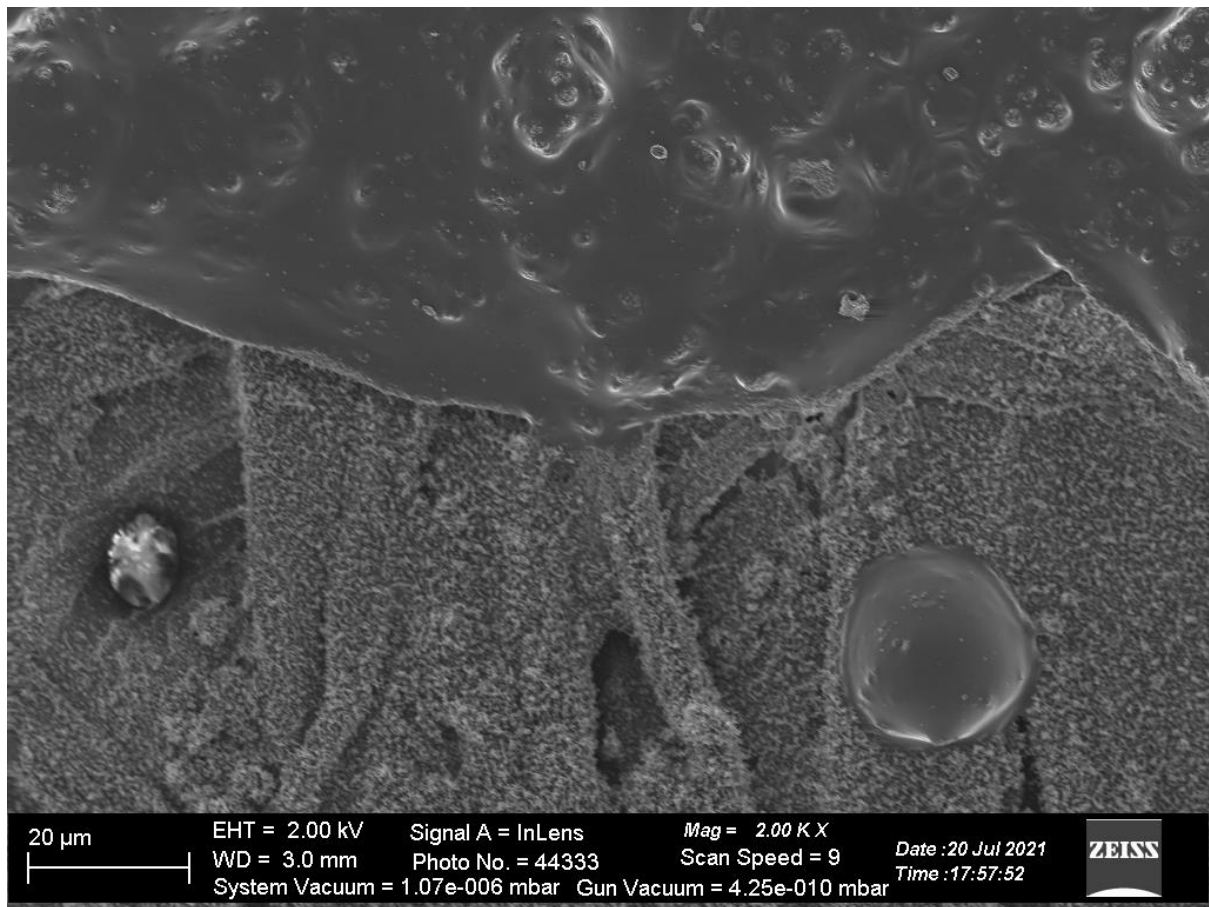
2.4. Paper Sample type 4

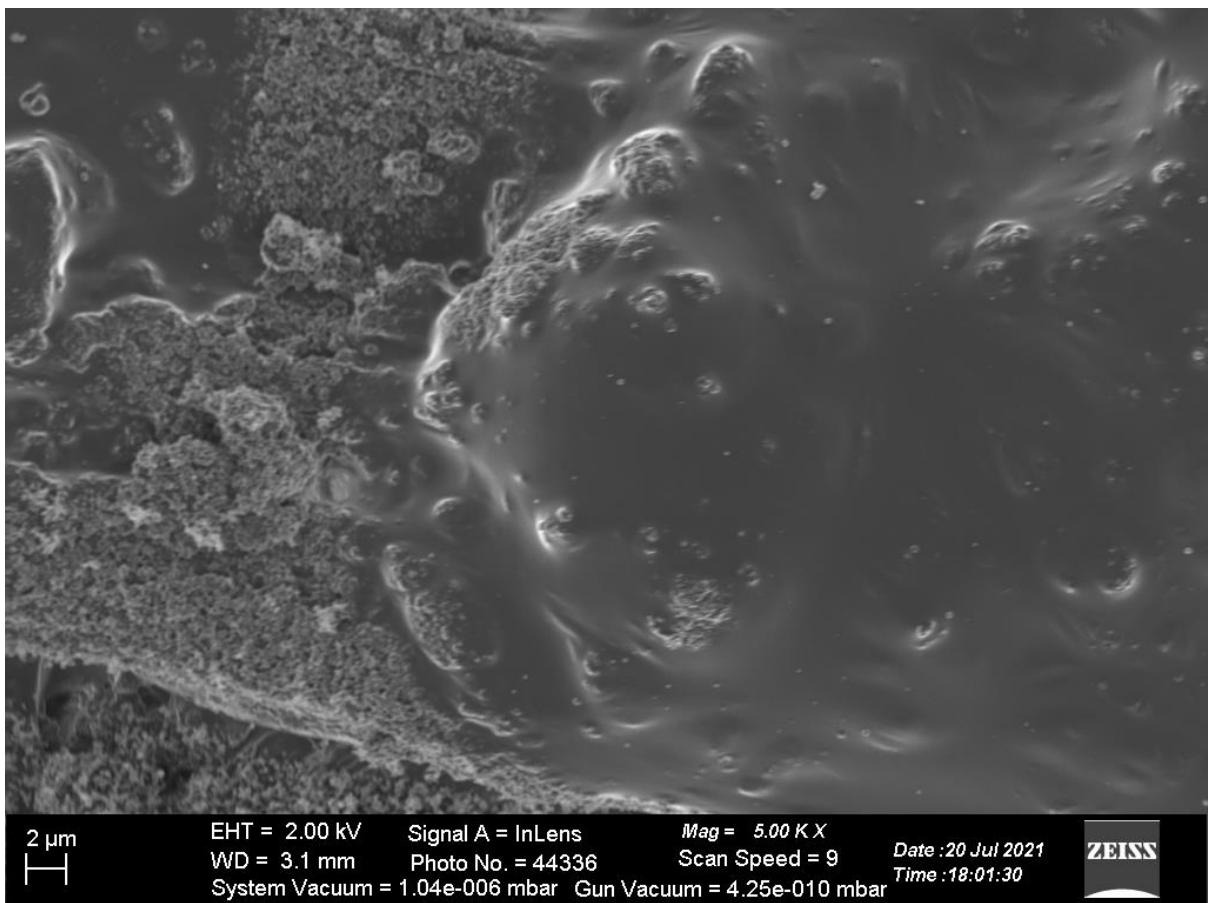
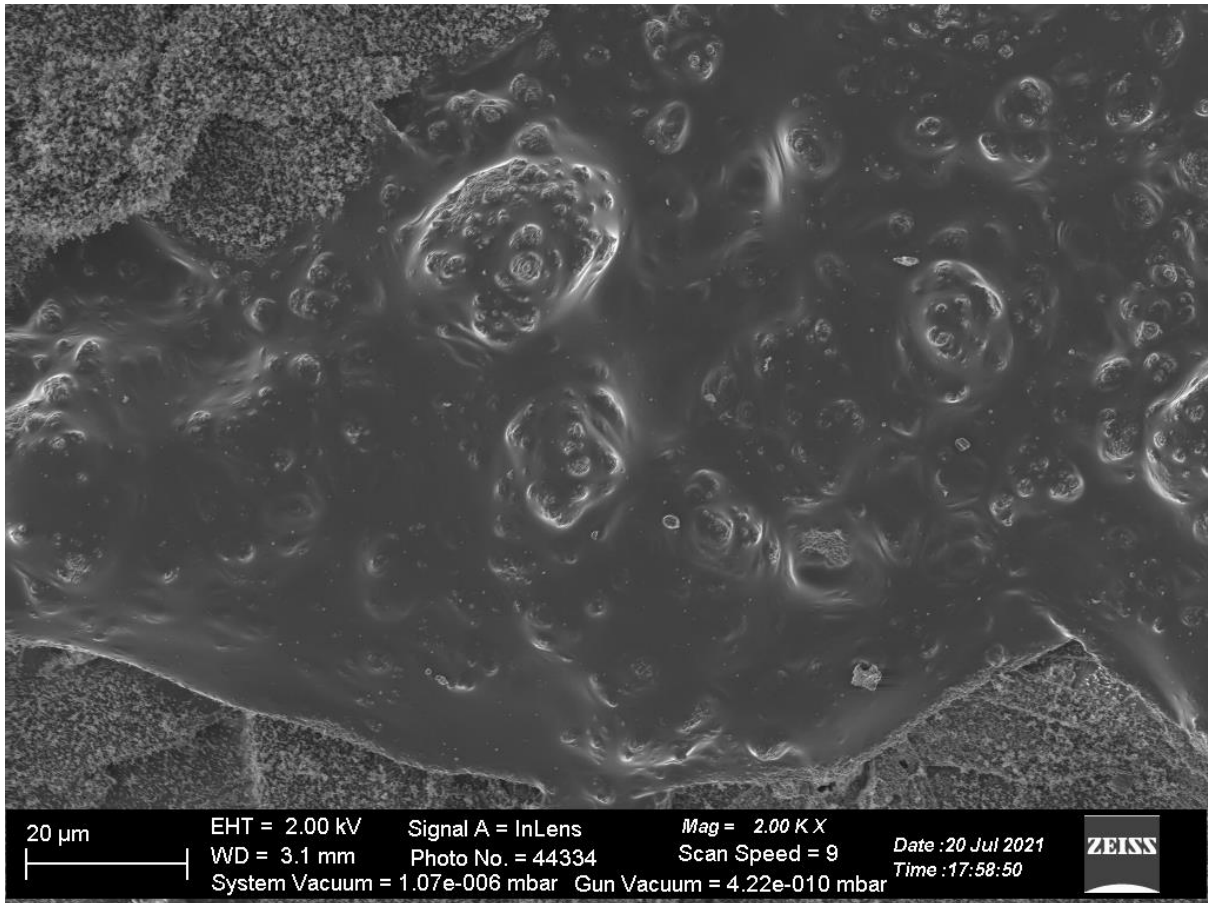




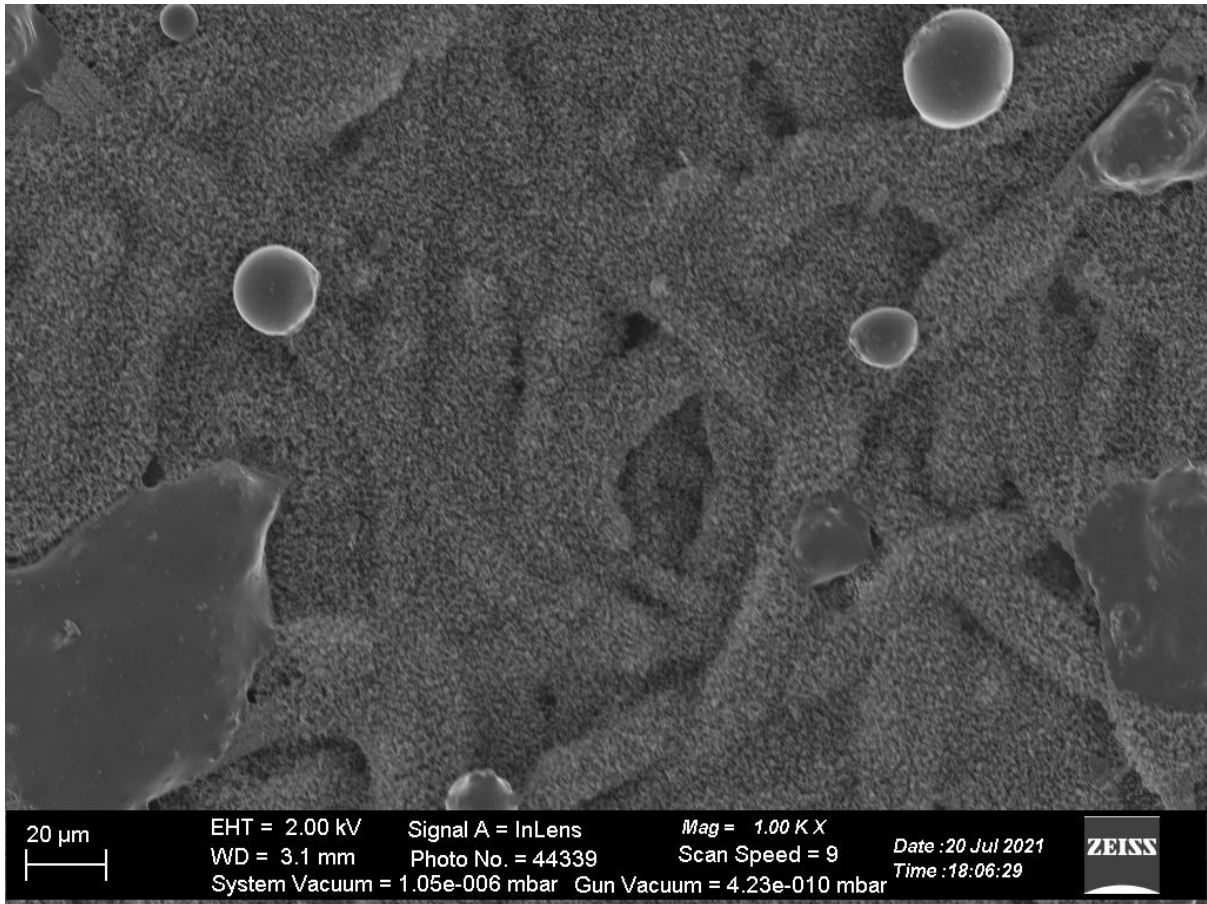


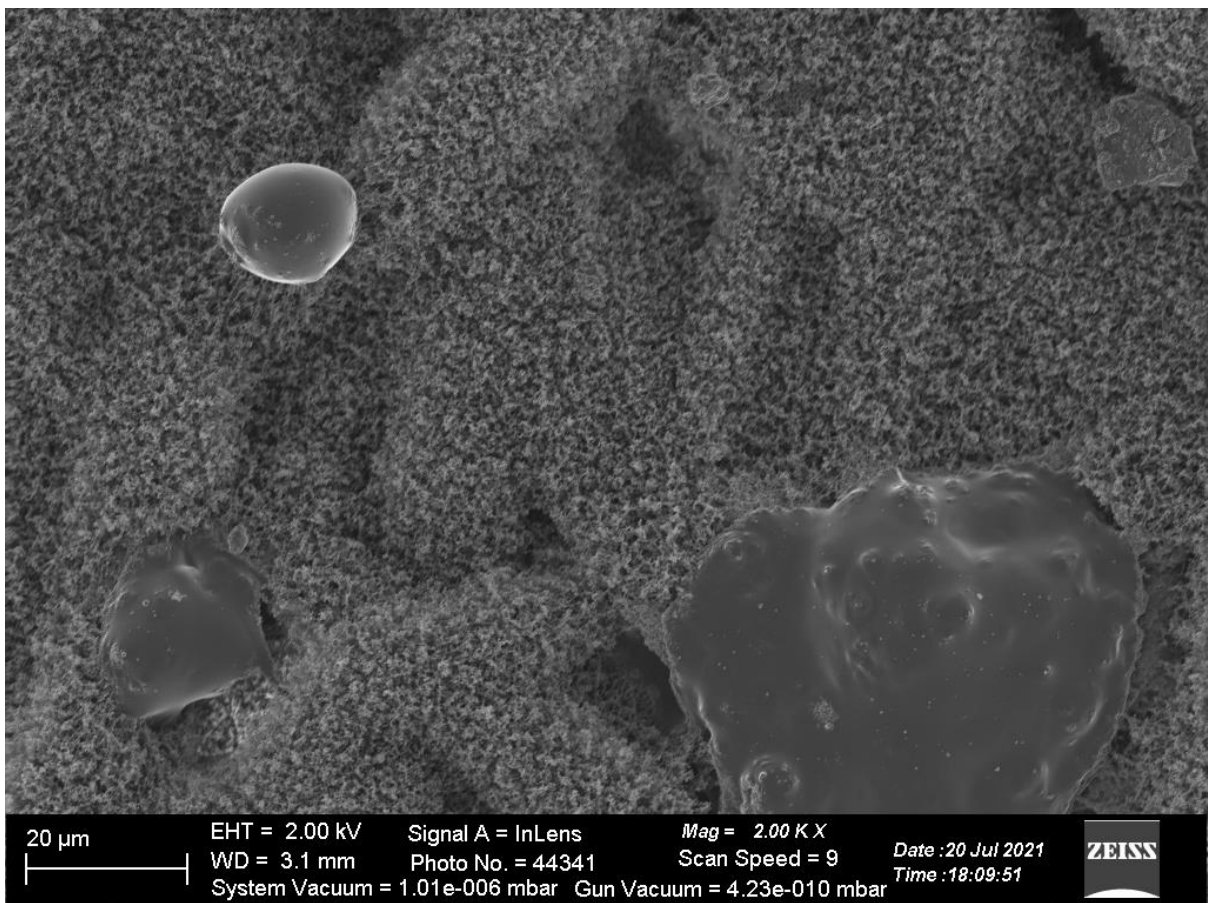
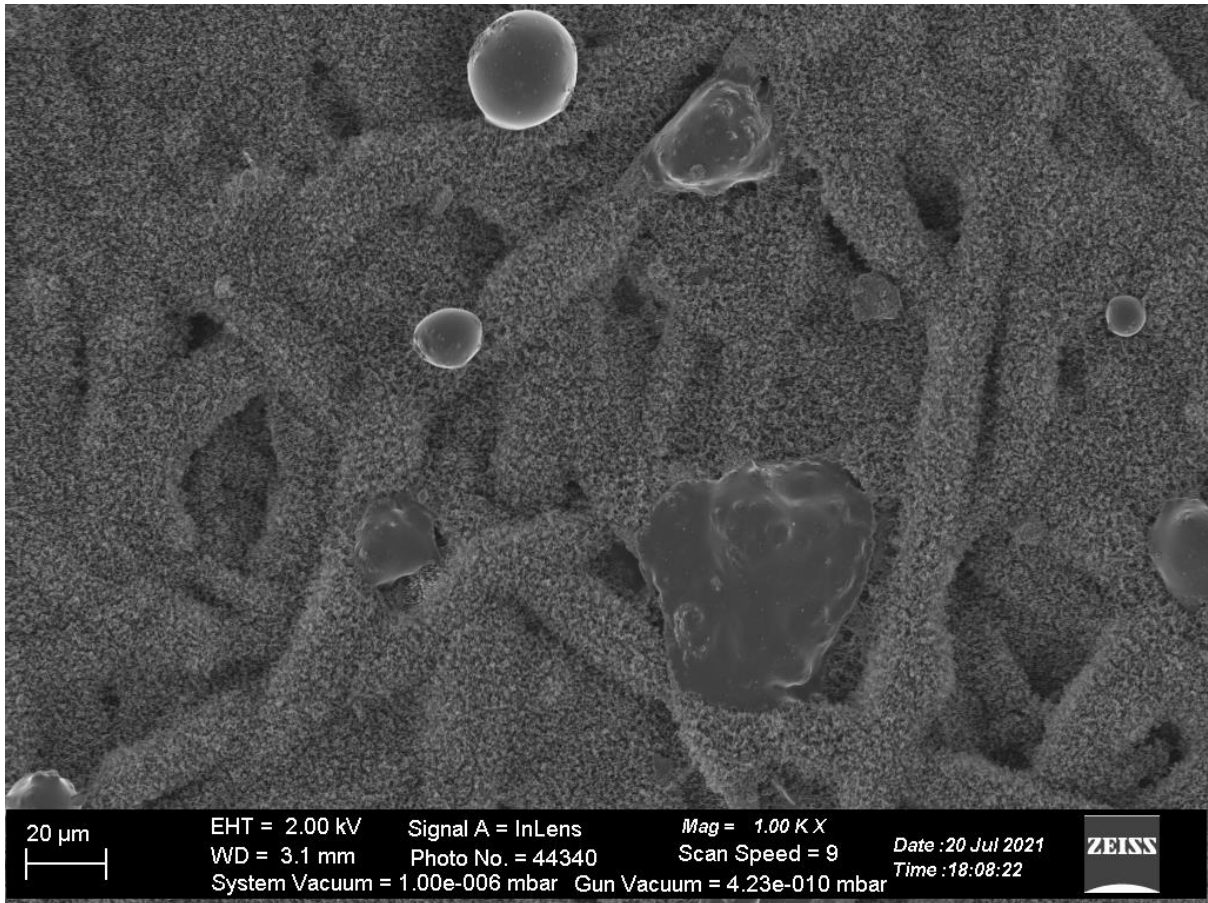
2.5. Paper Sample type 5

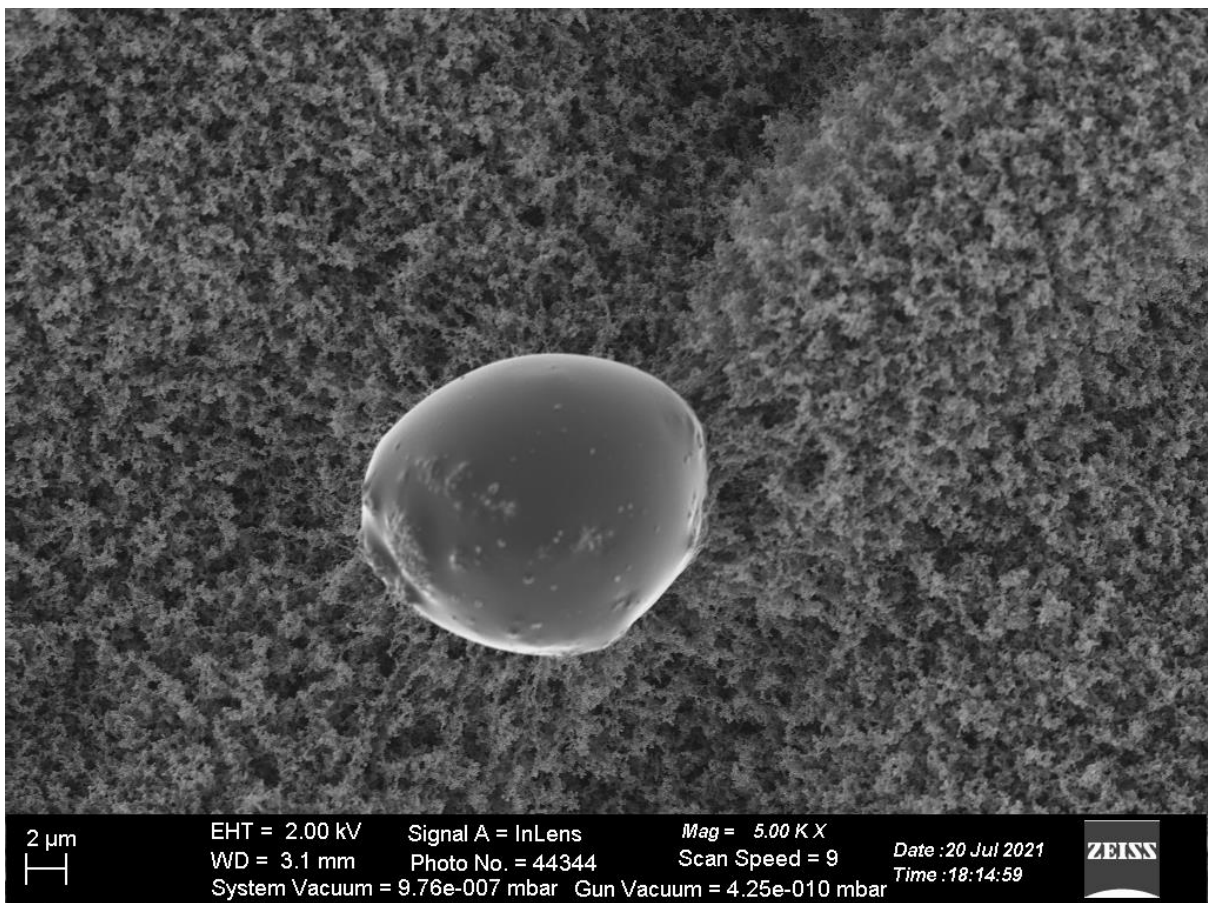
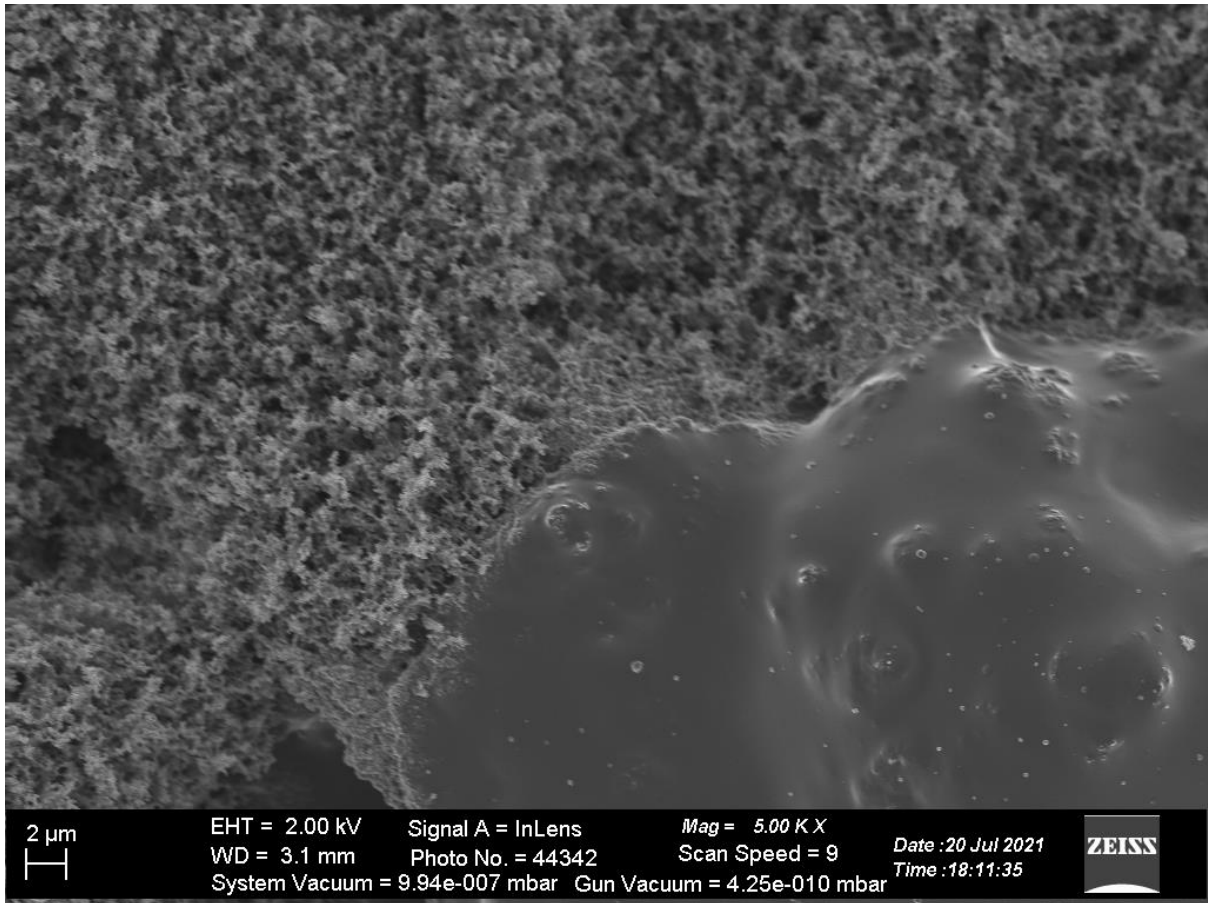


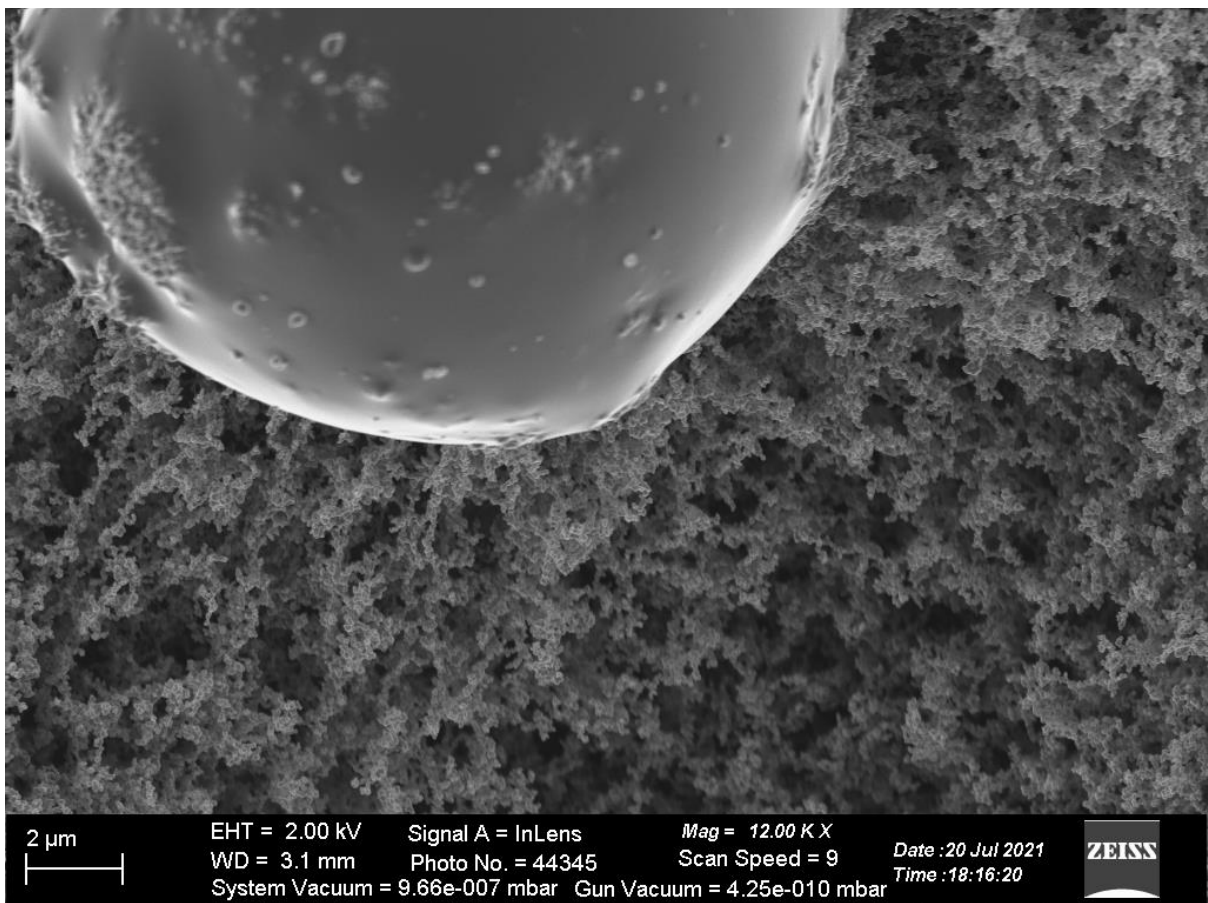
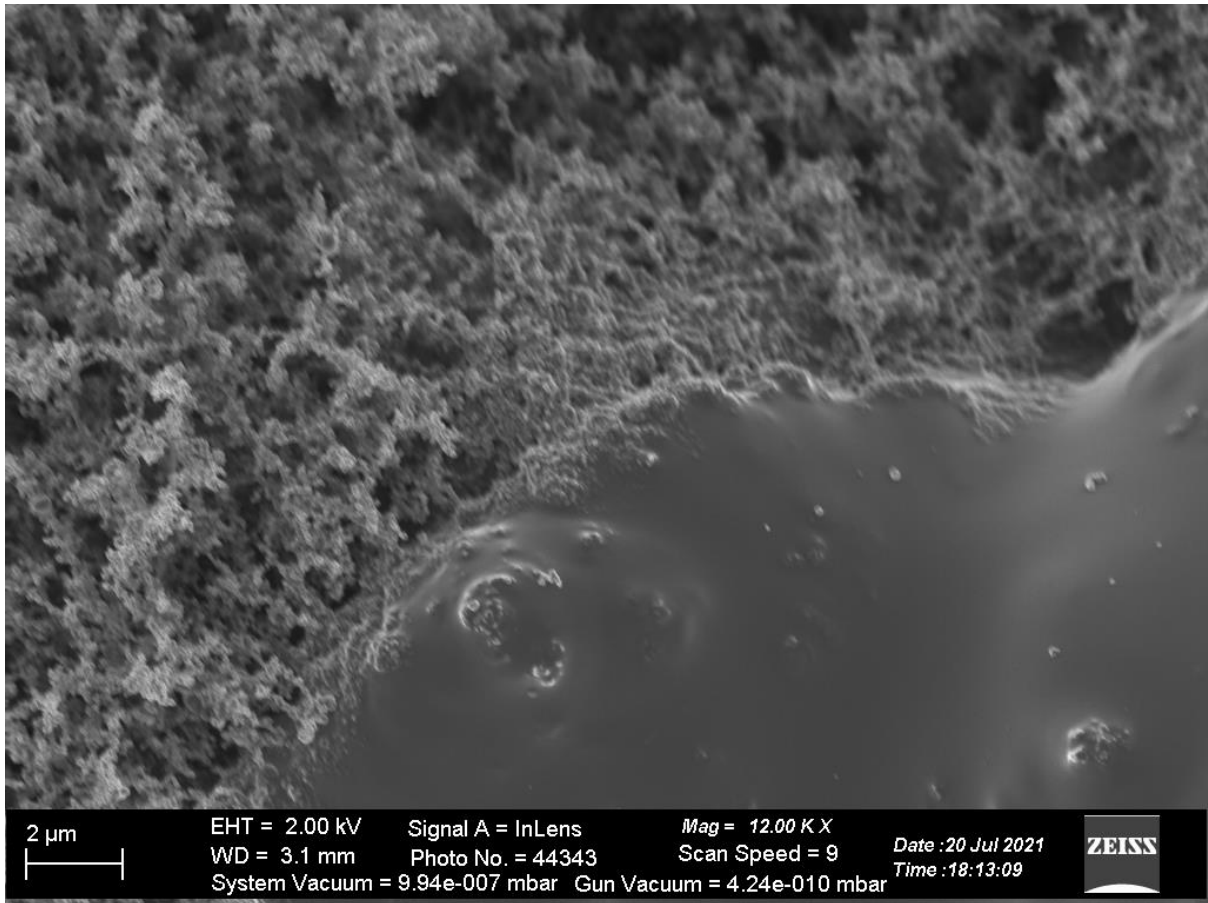


2.6. Paper Sample type 6

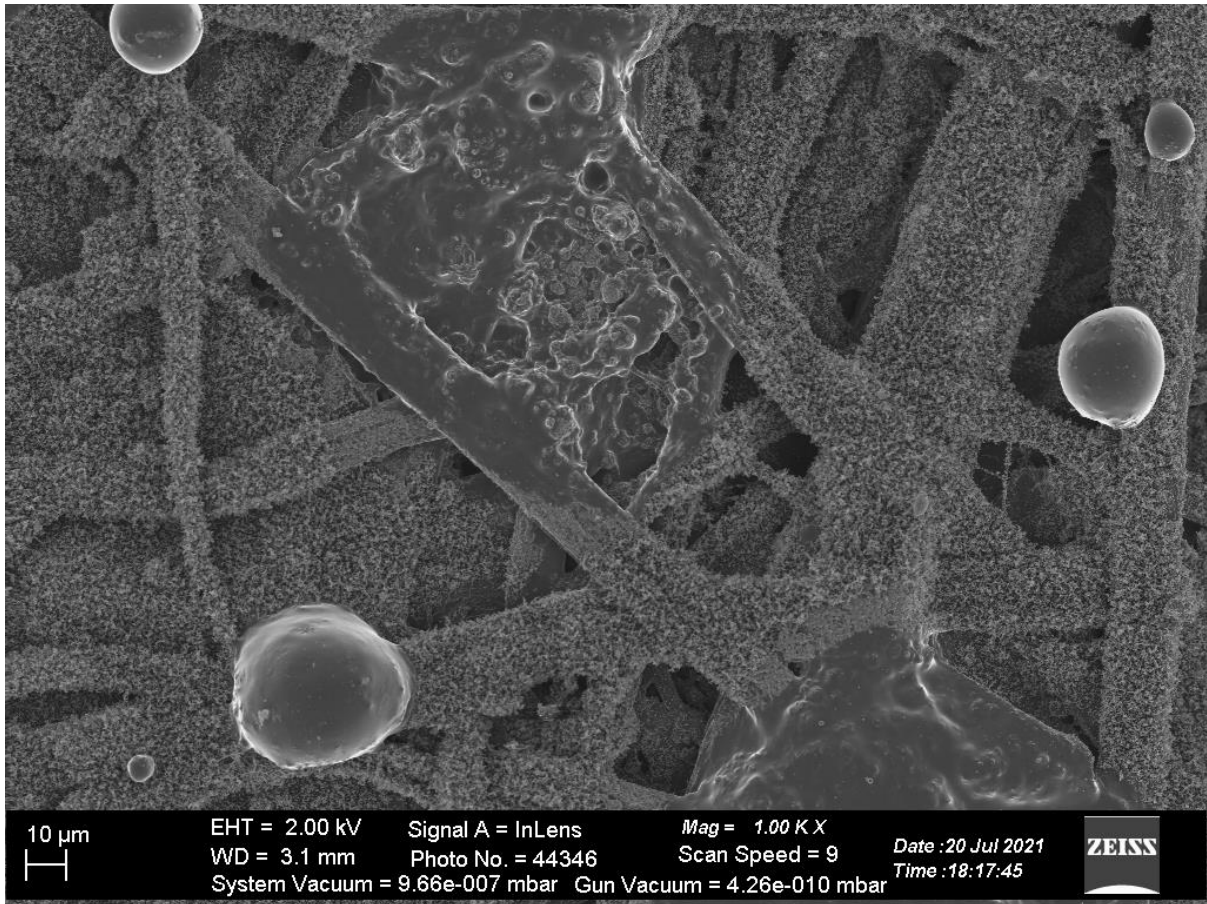


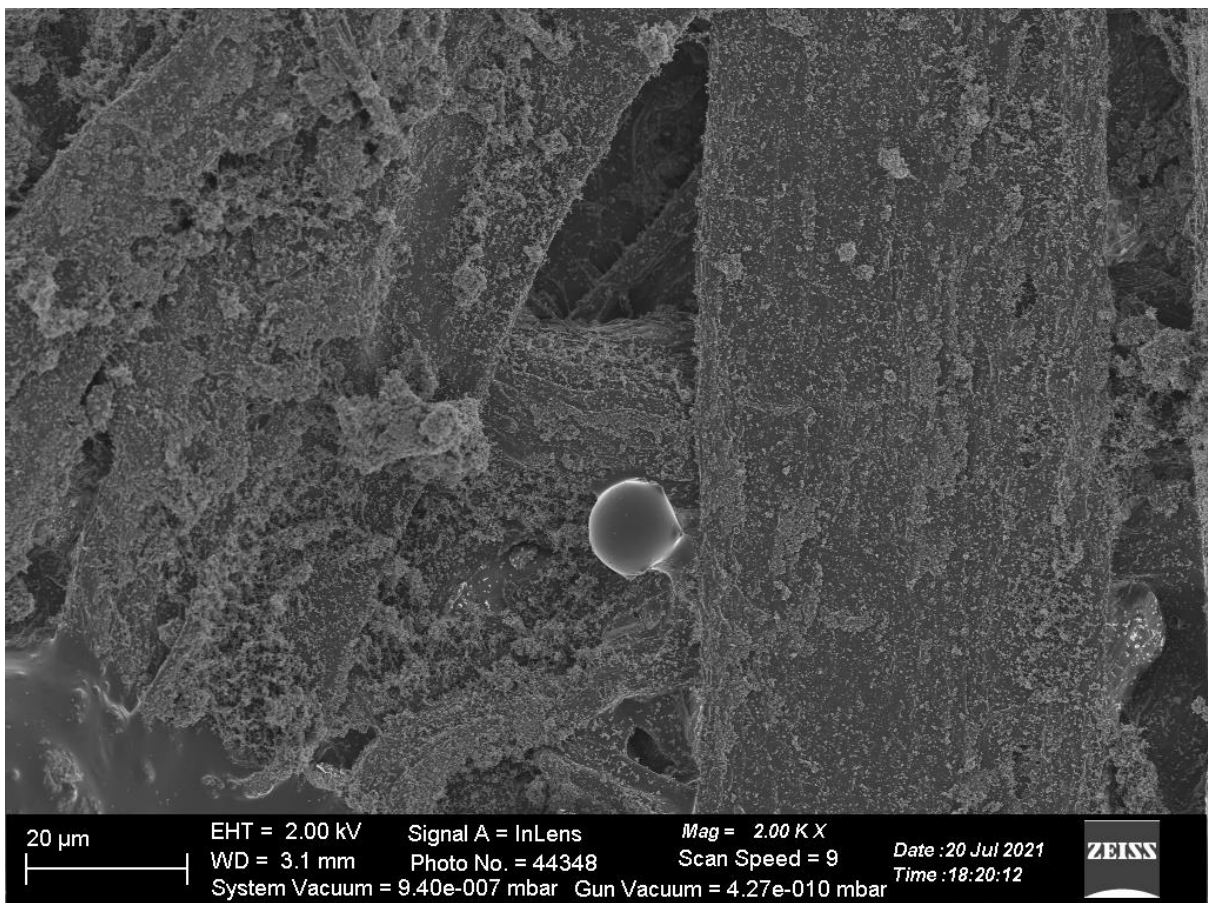
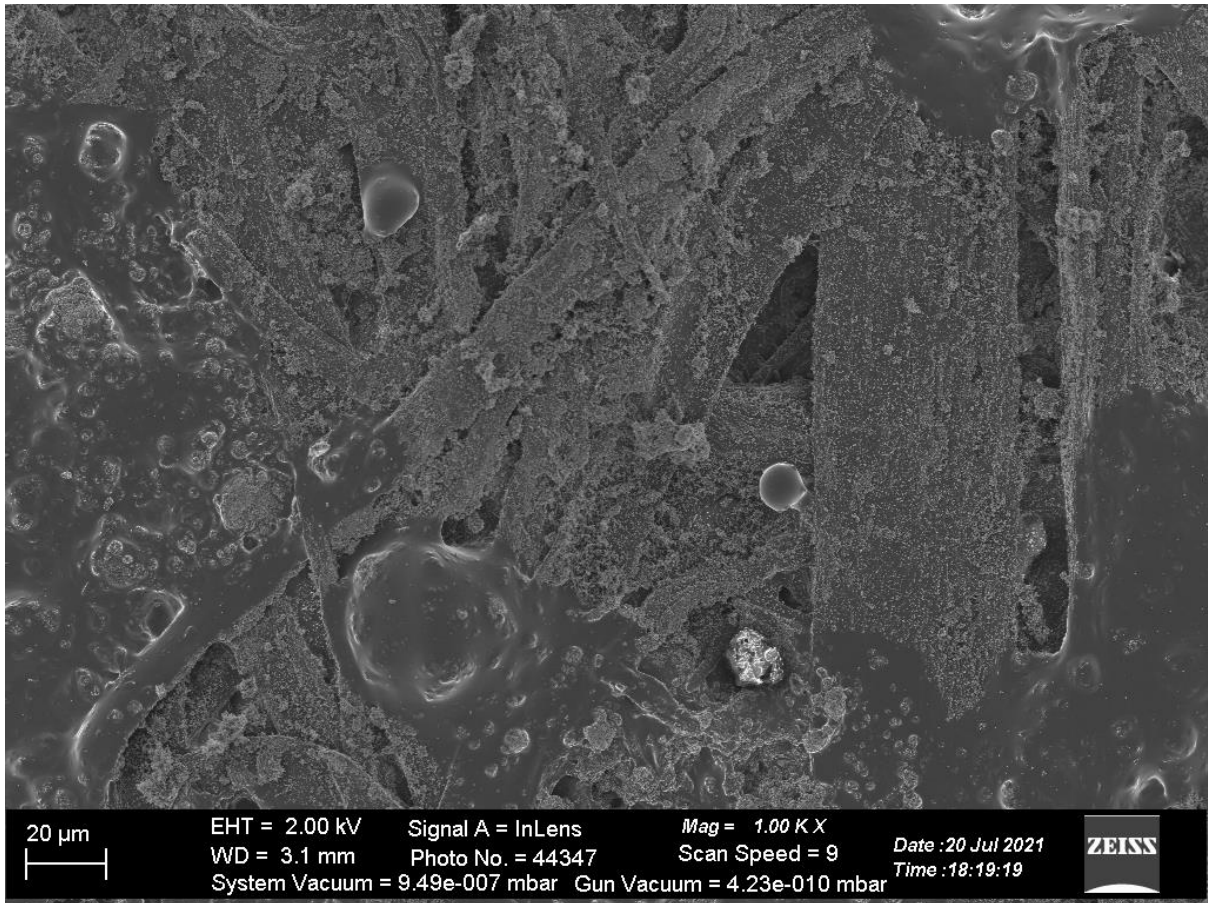


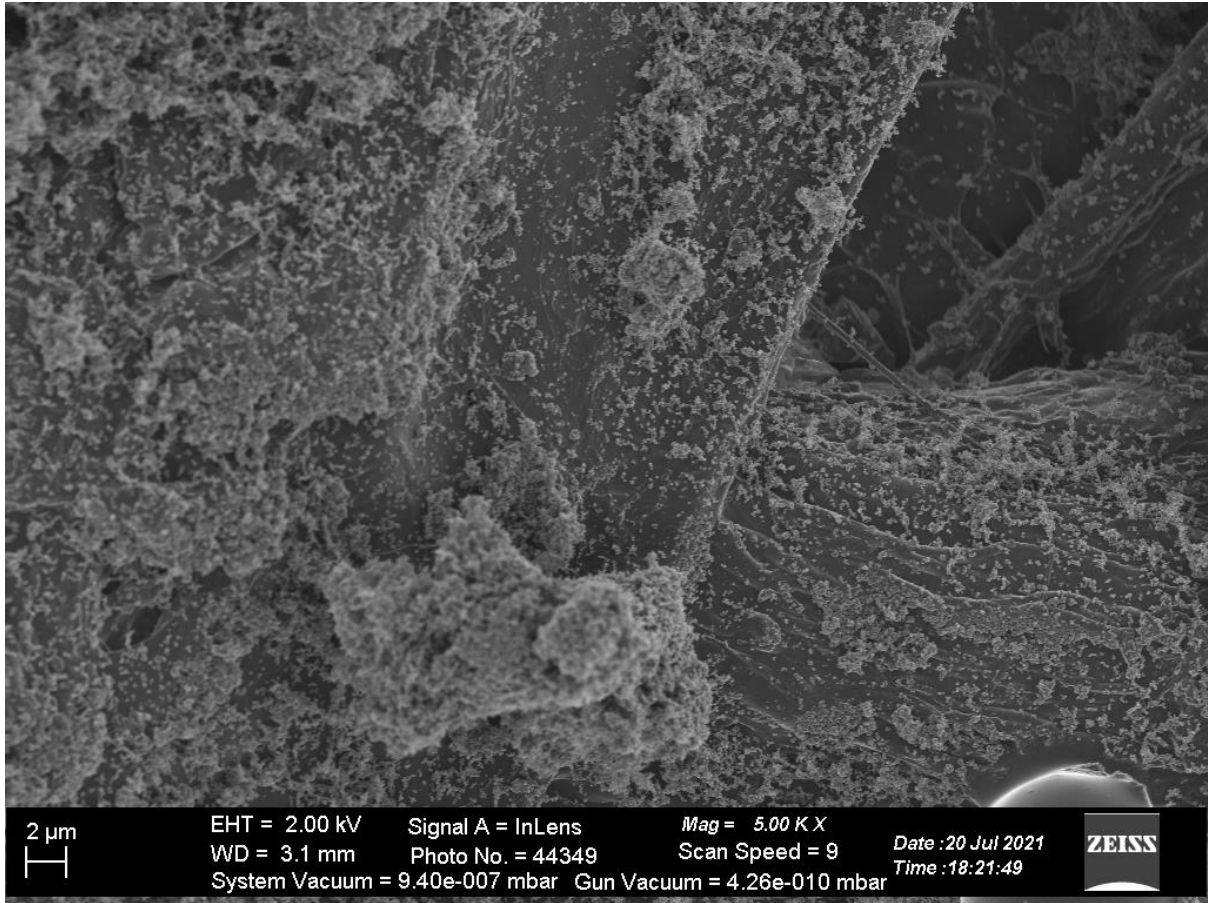




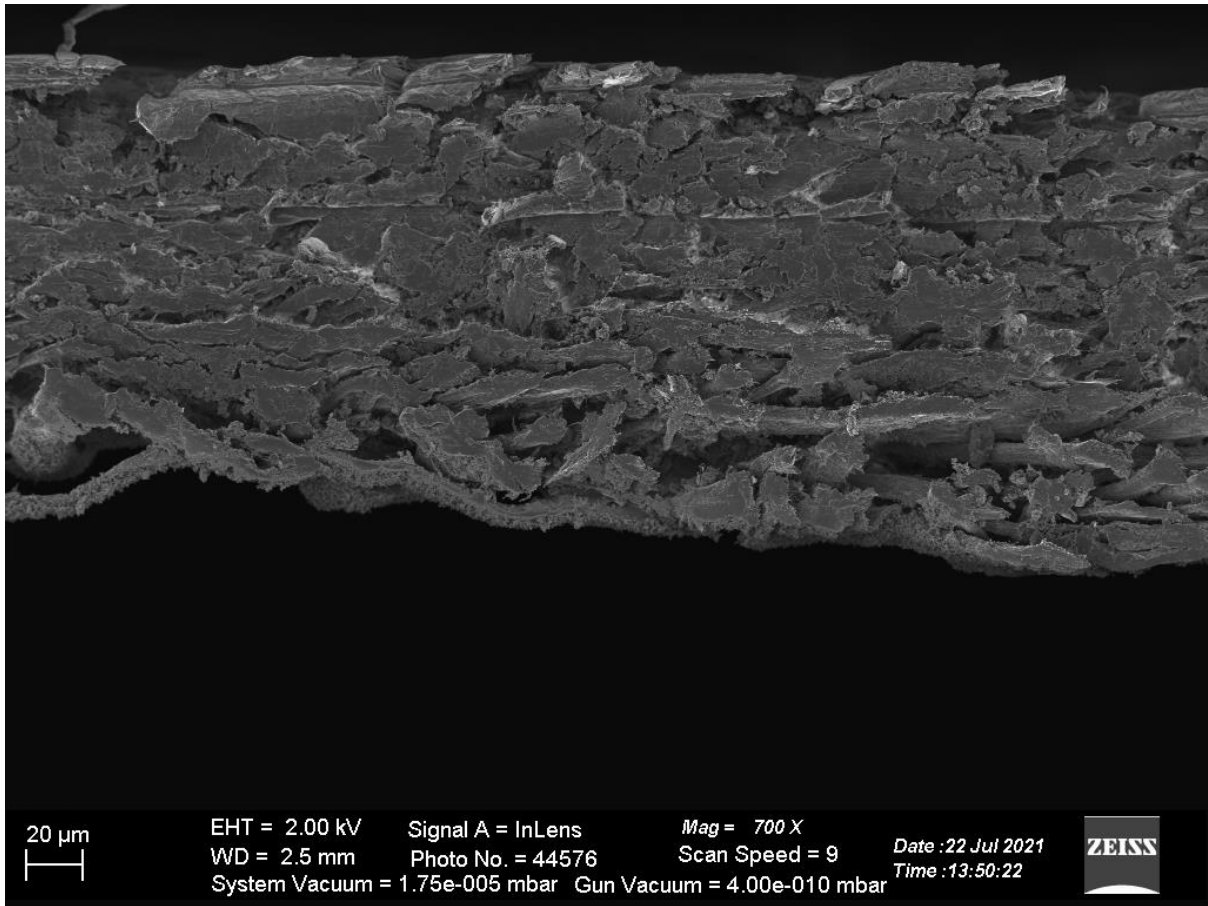
2.7. Paper Sample type 7

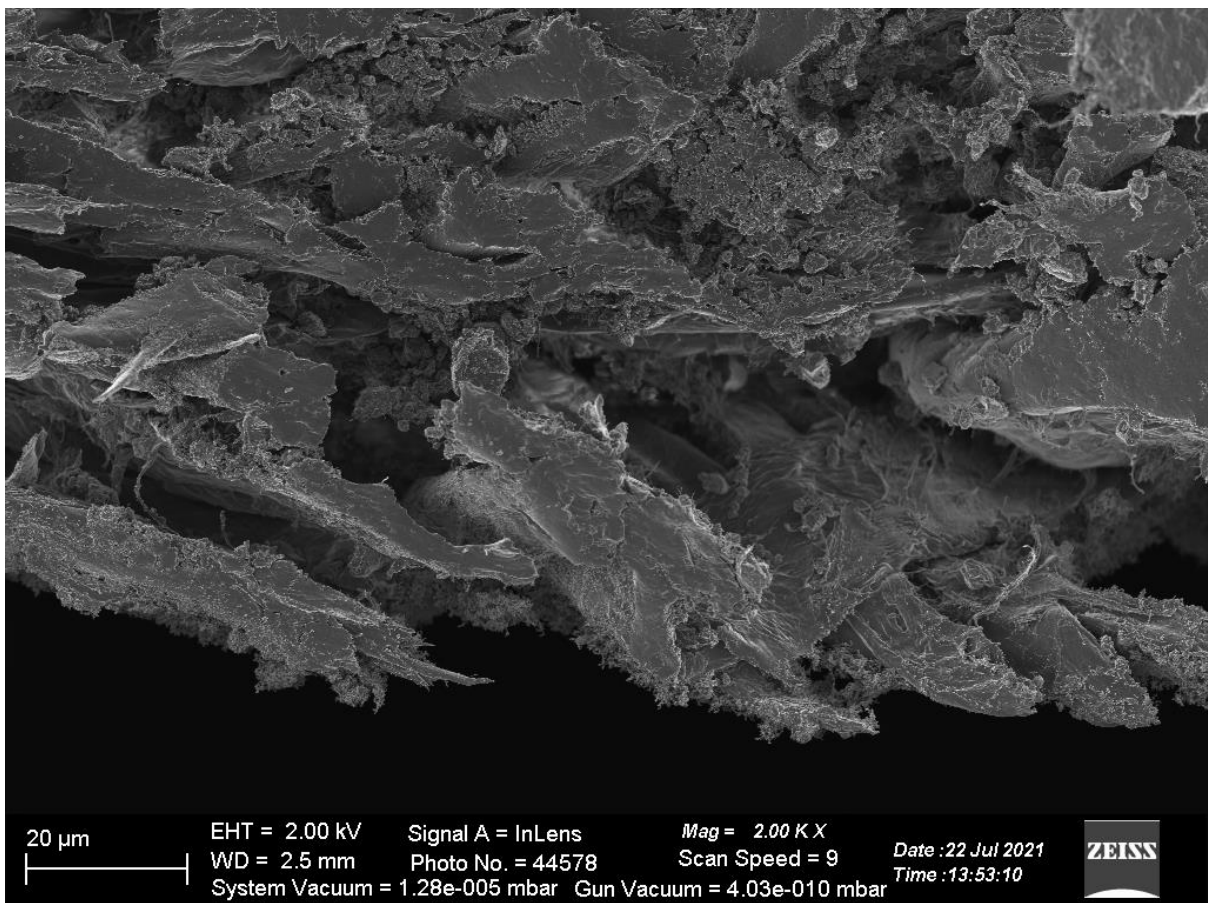
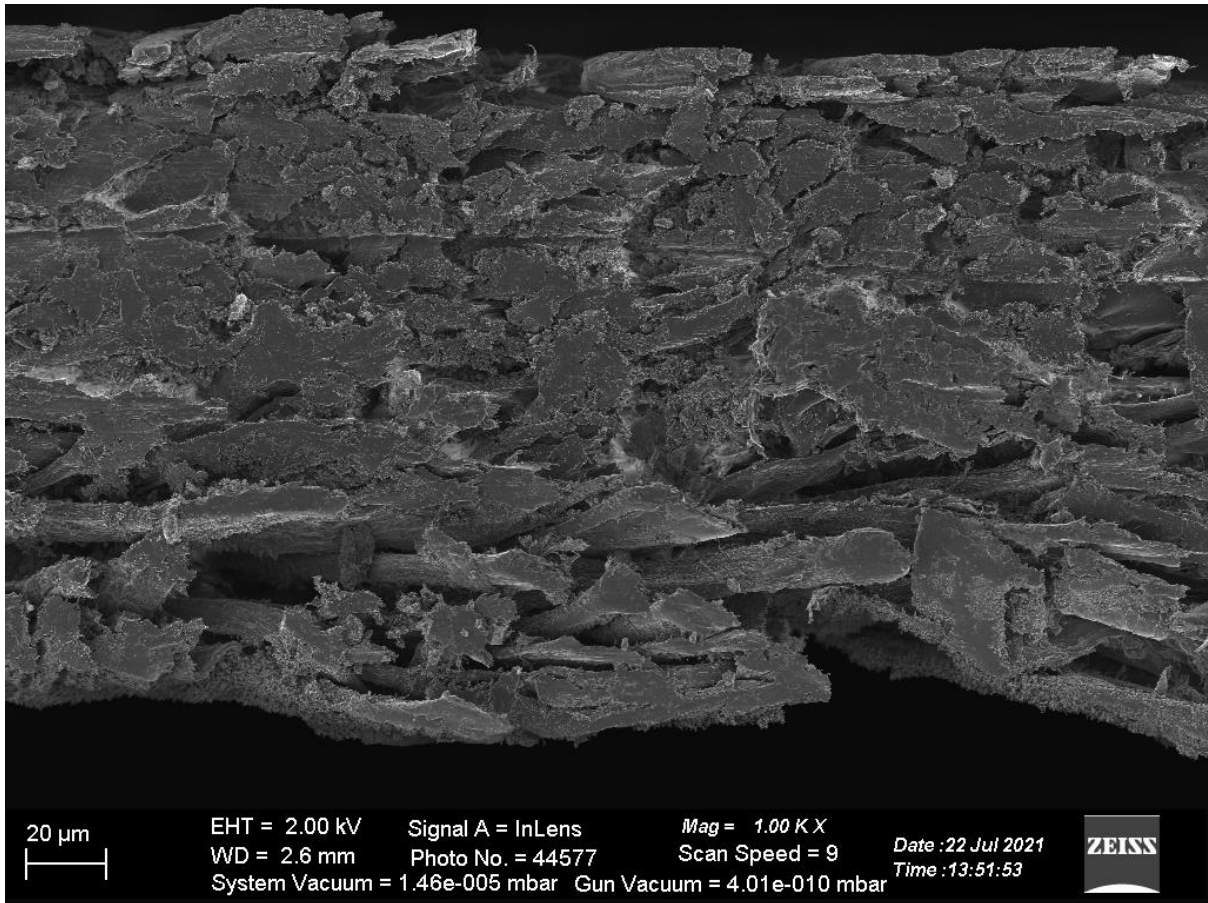


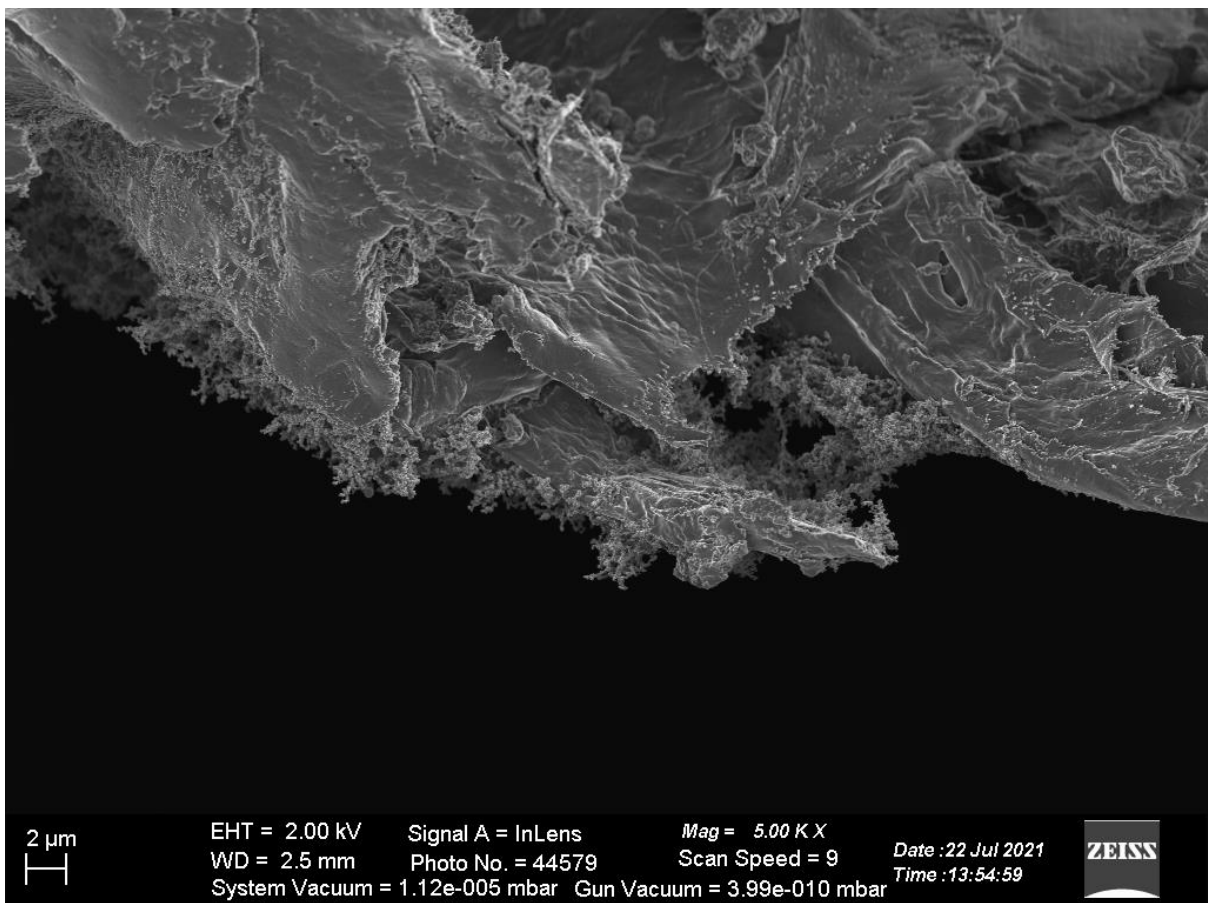
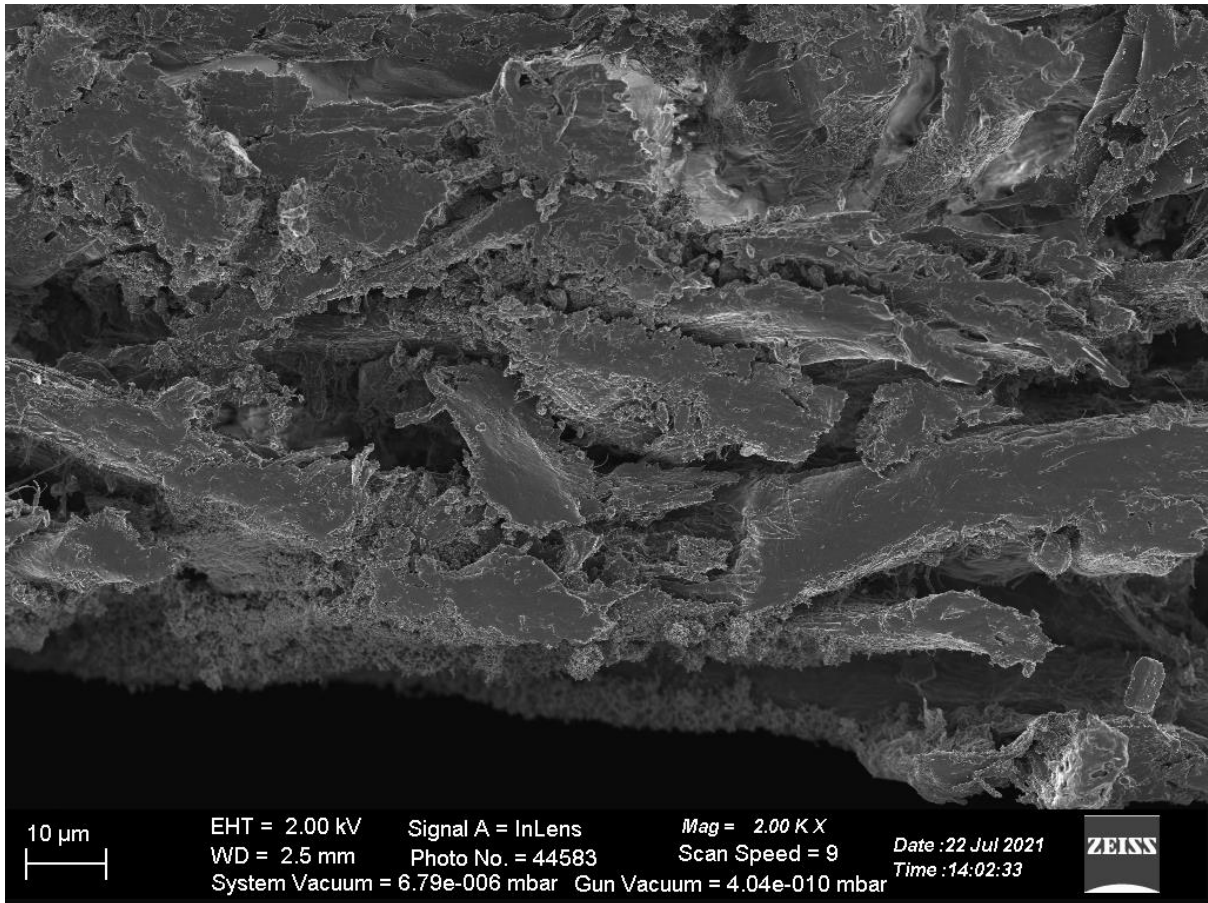


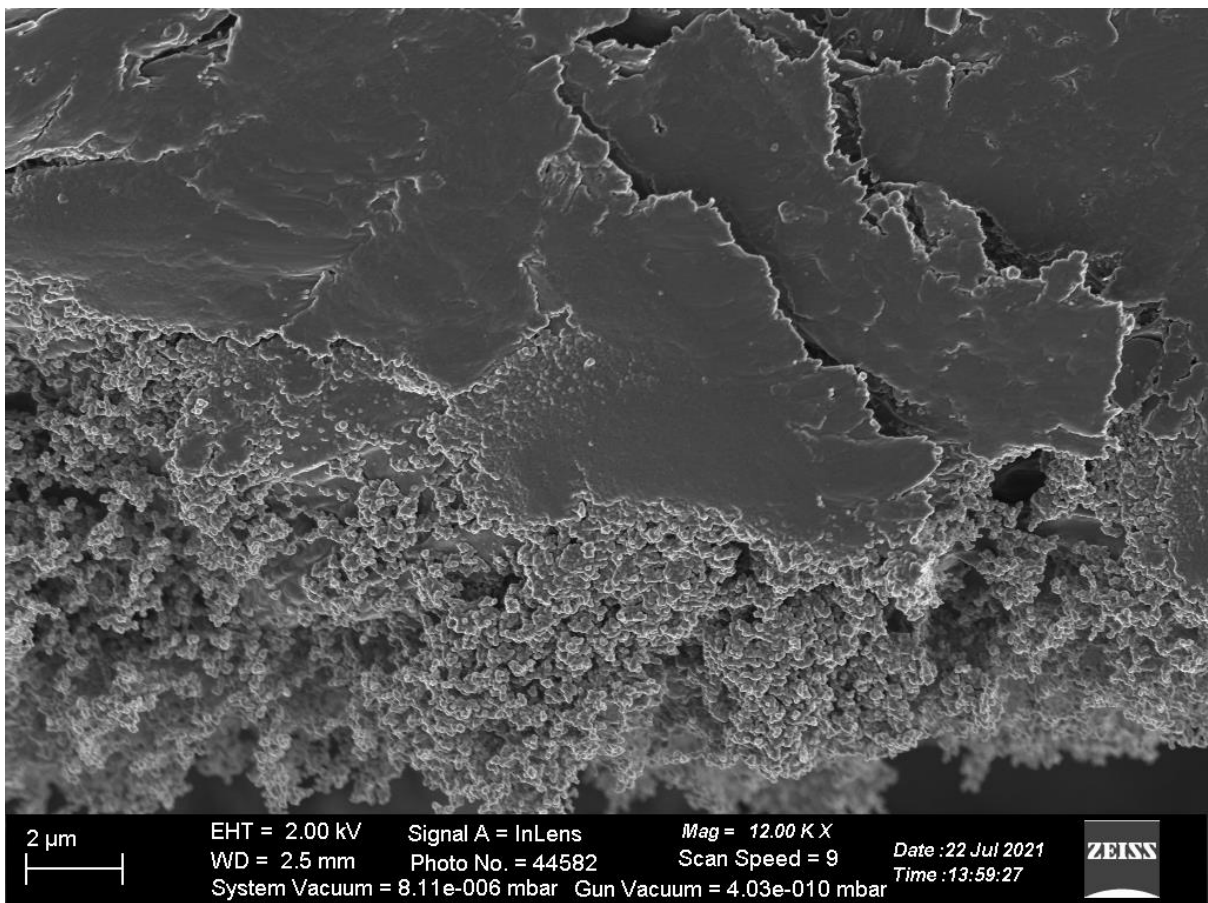
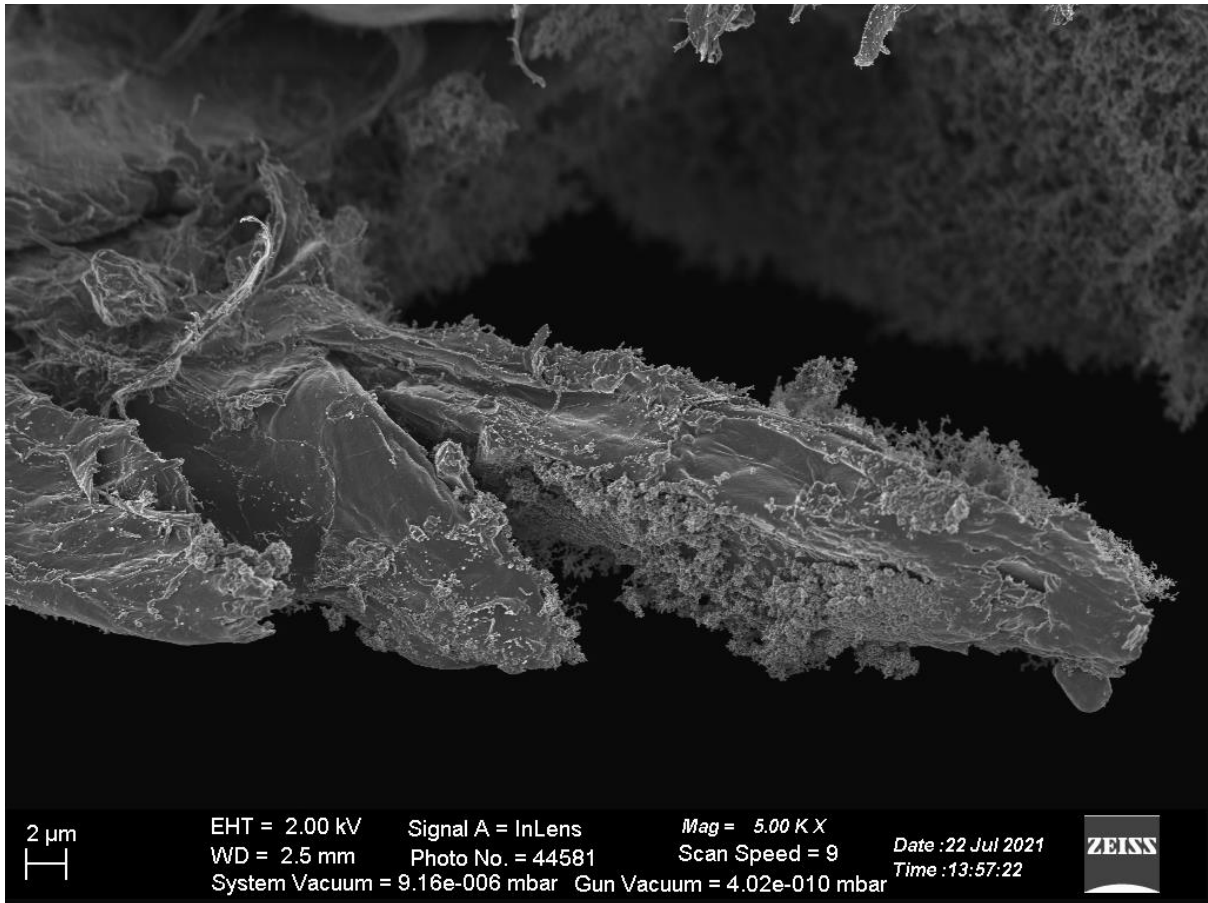


2.8. Cross Section: No fixative

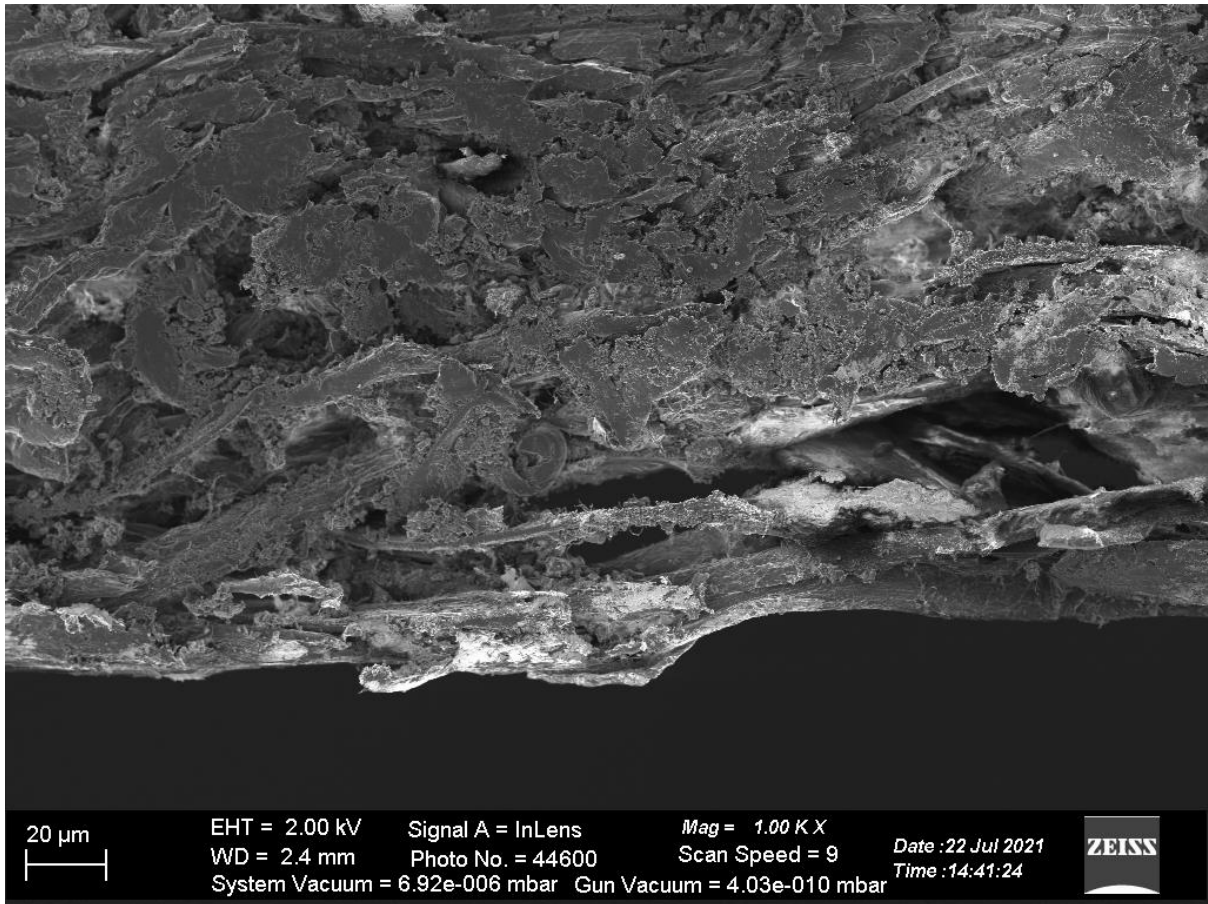


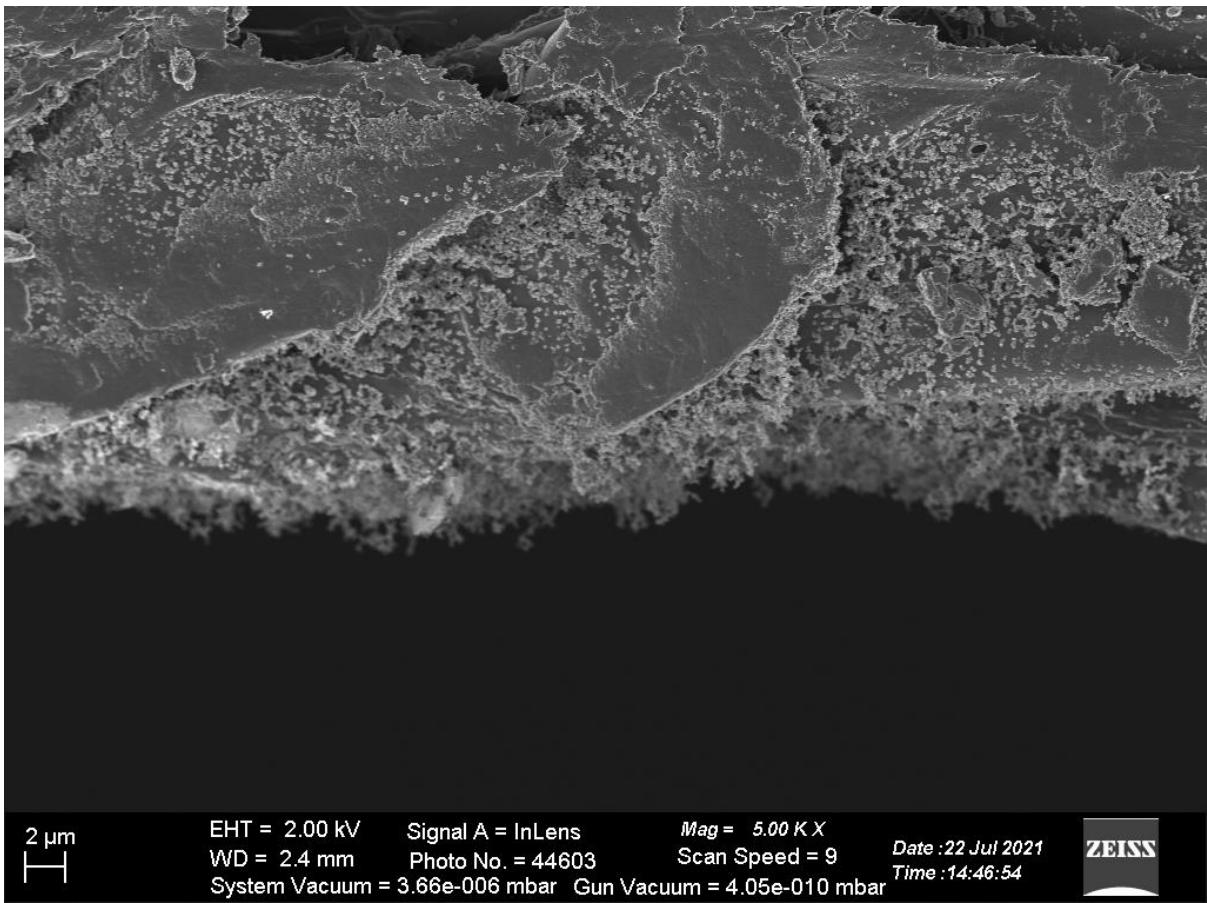
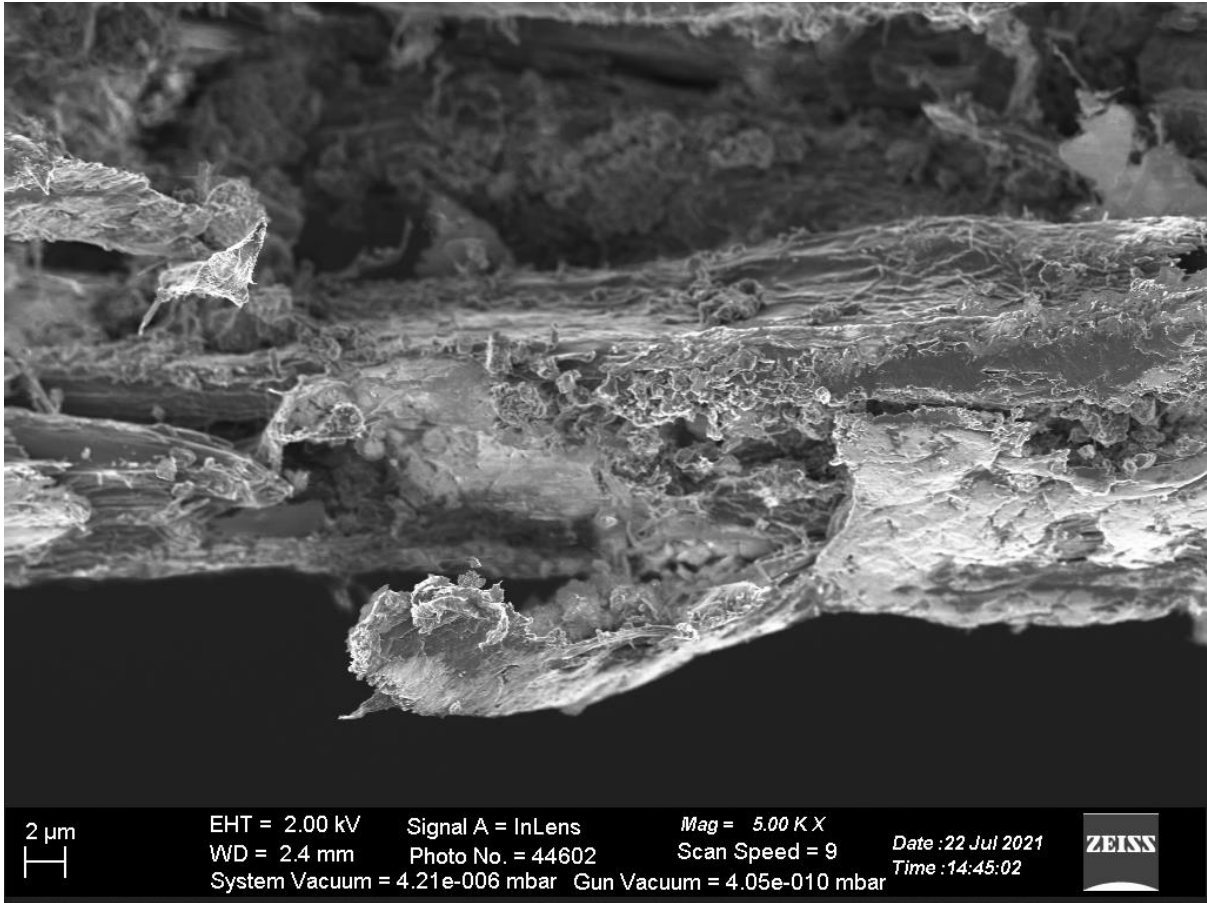


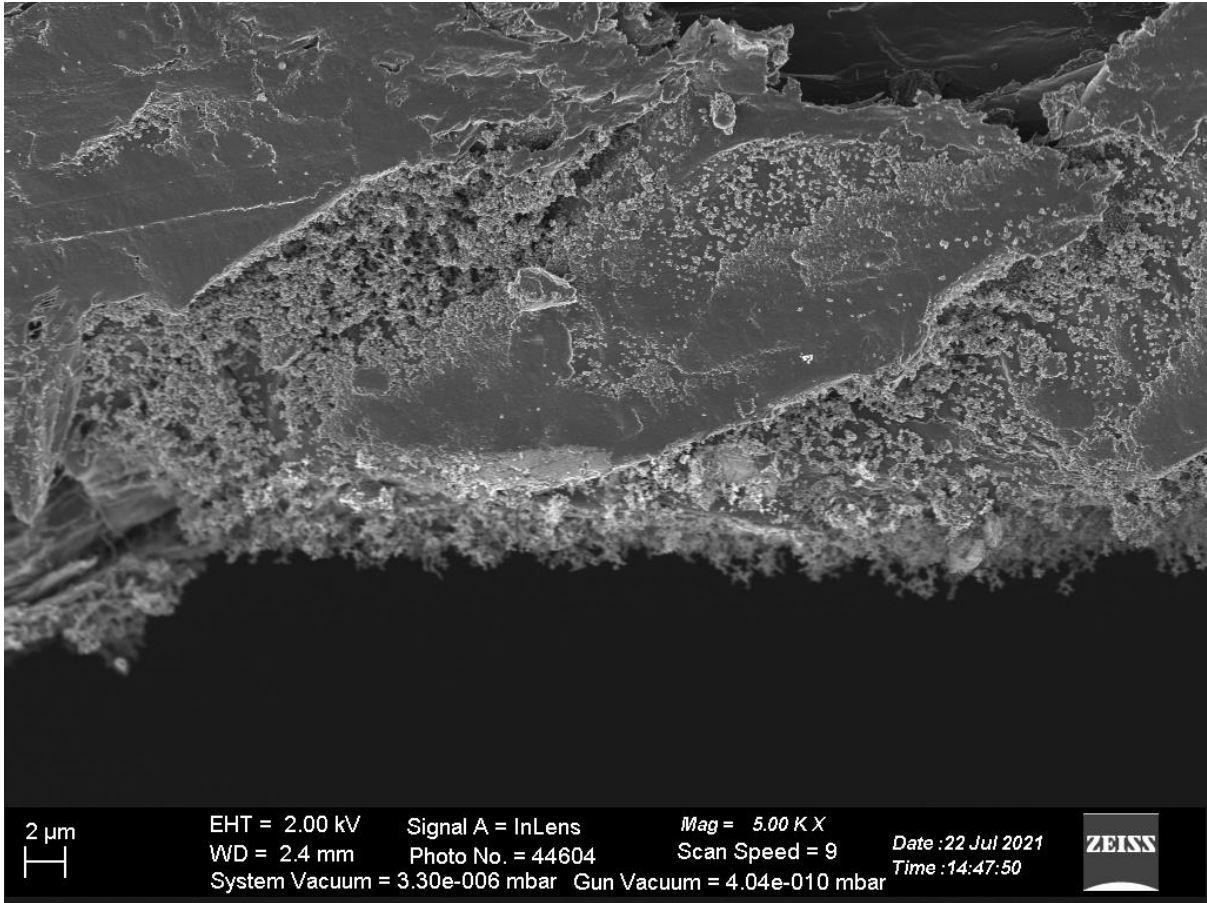




2.9. Cross section: Fixative applied

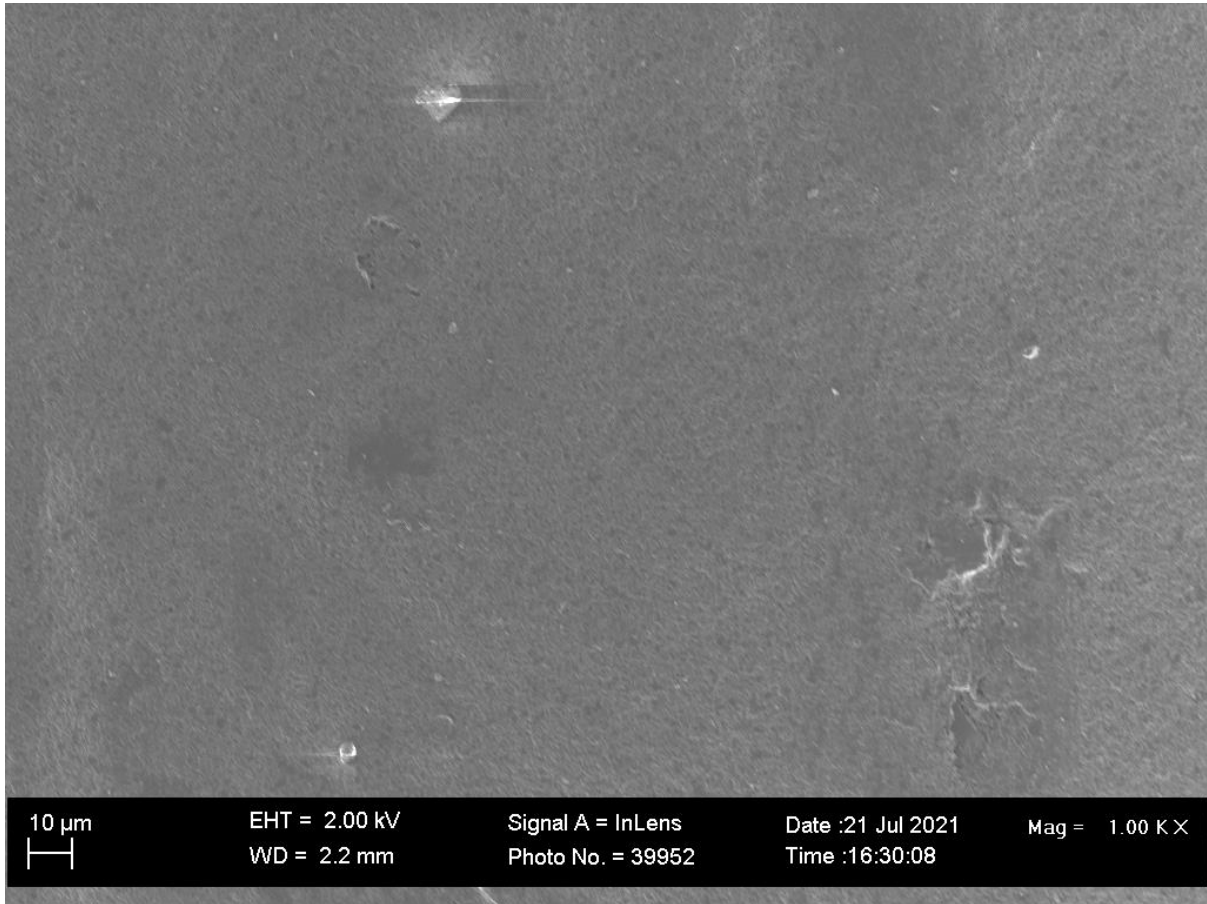


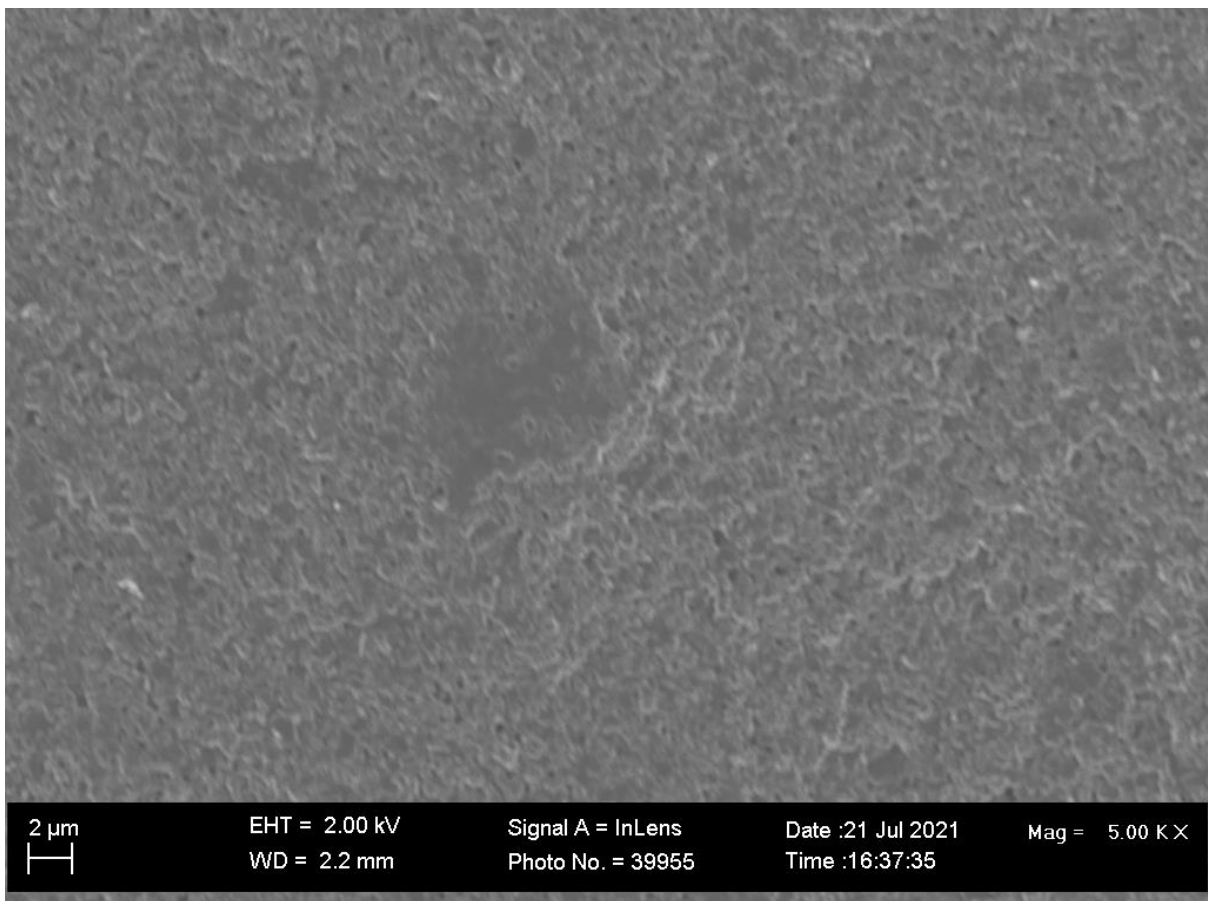
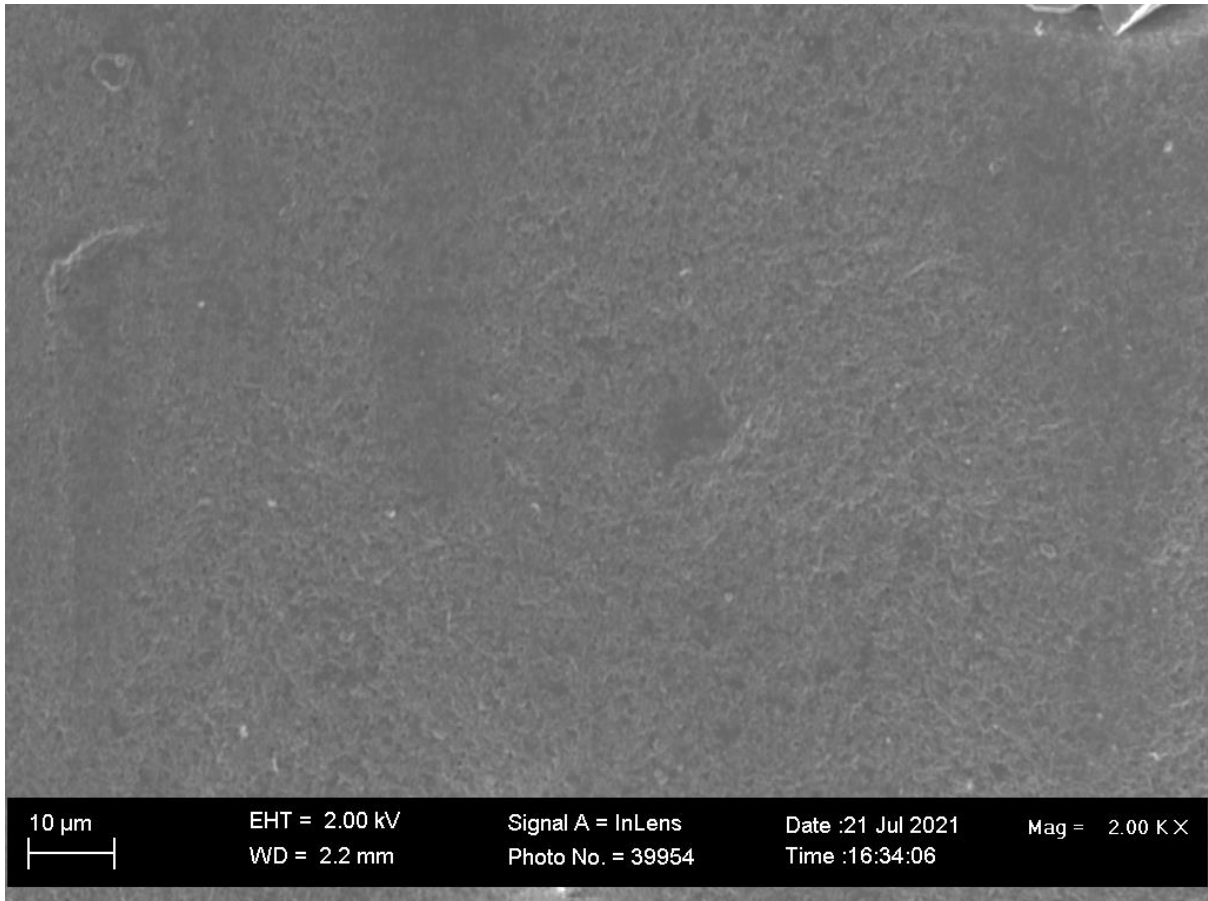




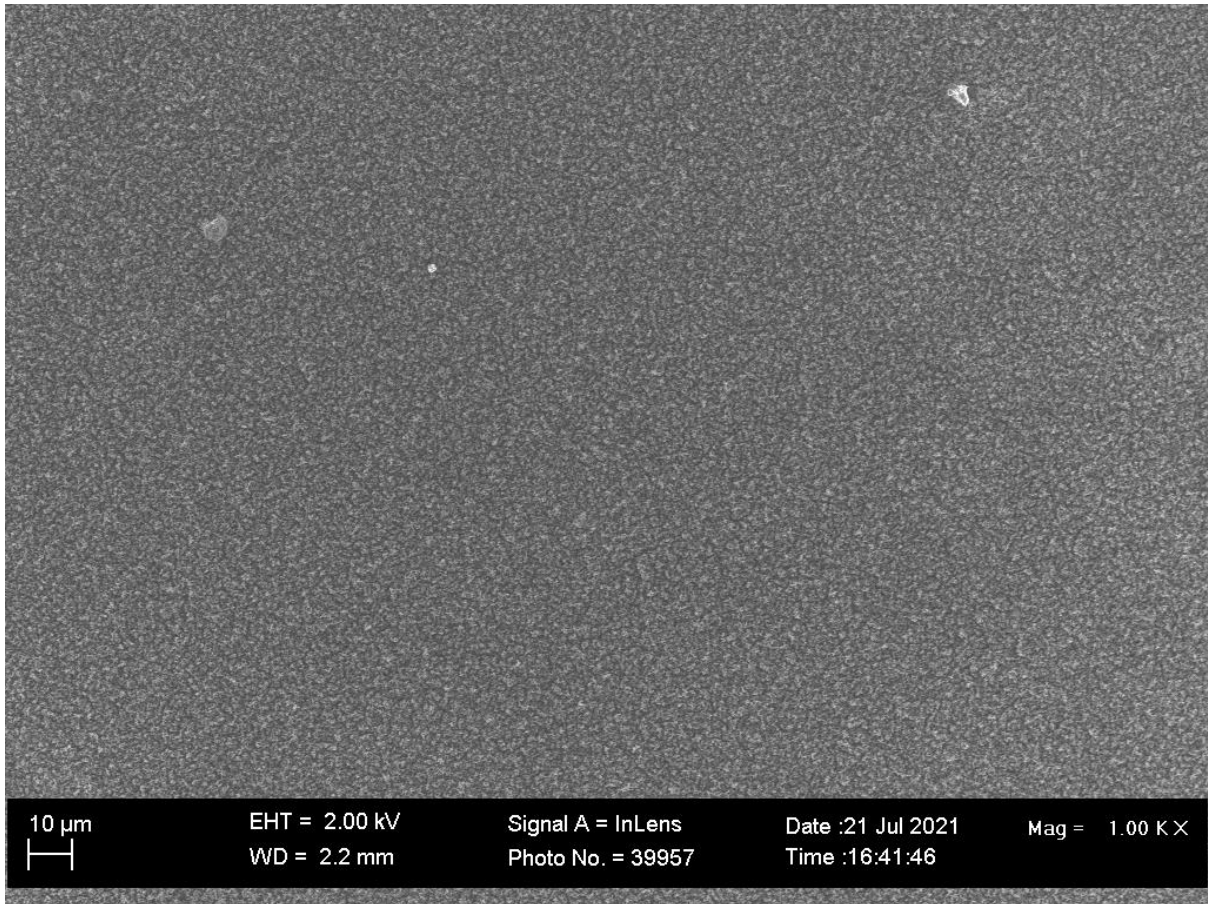
3. Triplex Paper Board

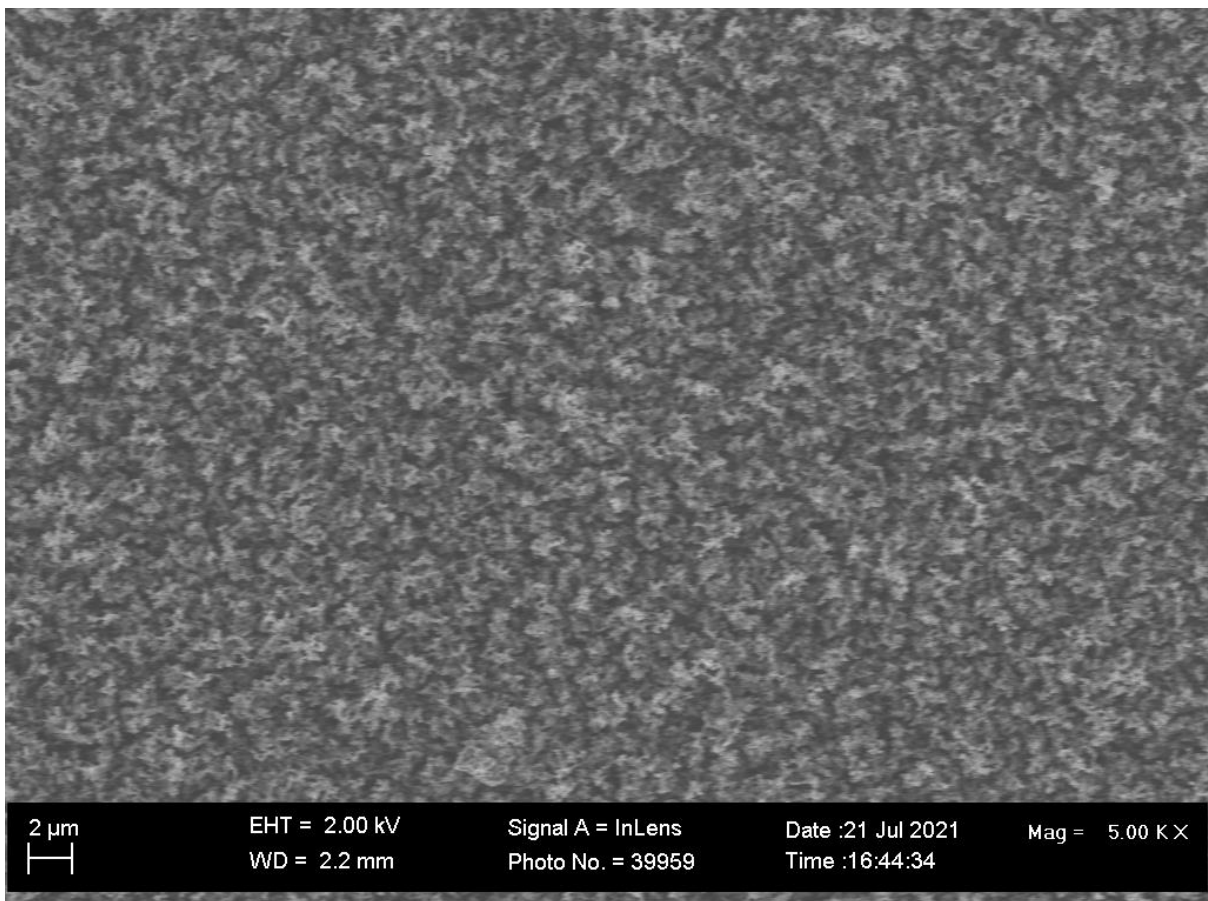
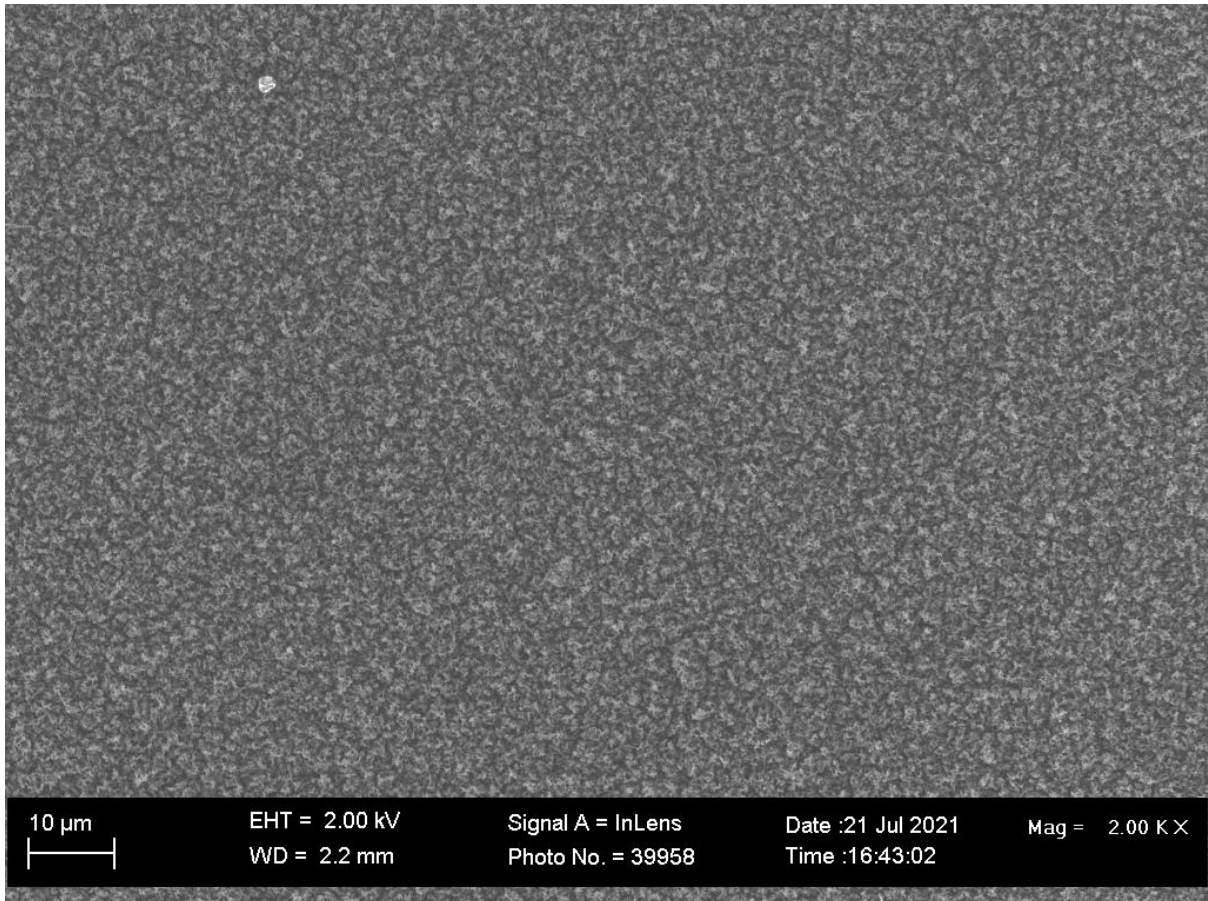
3.1. Board Sample type 1



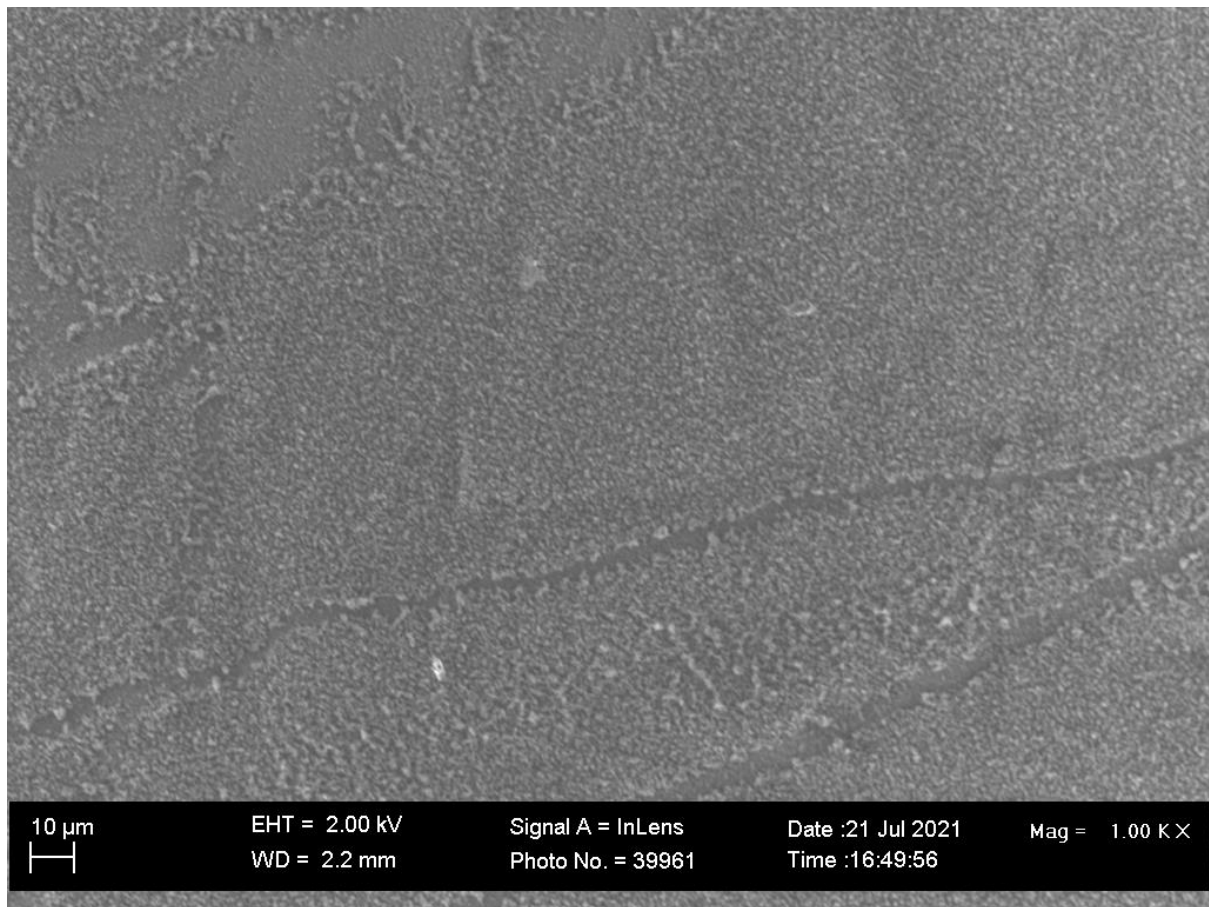


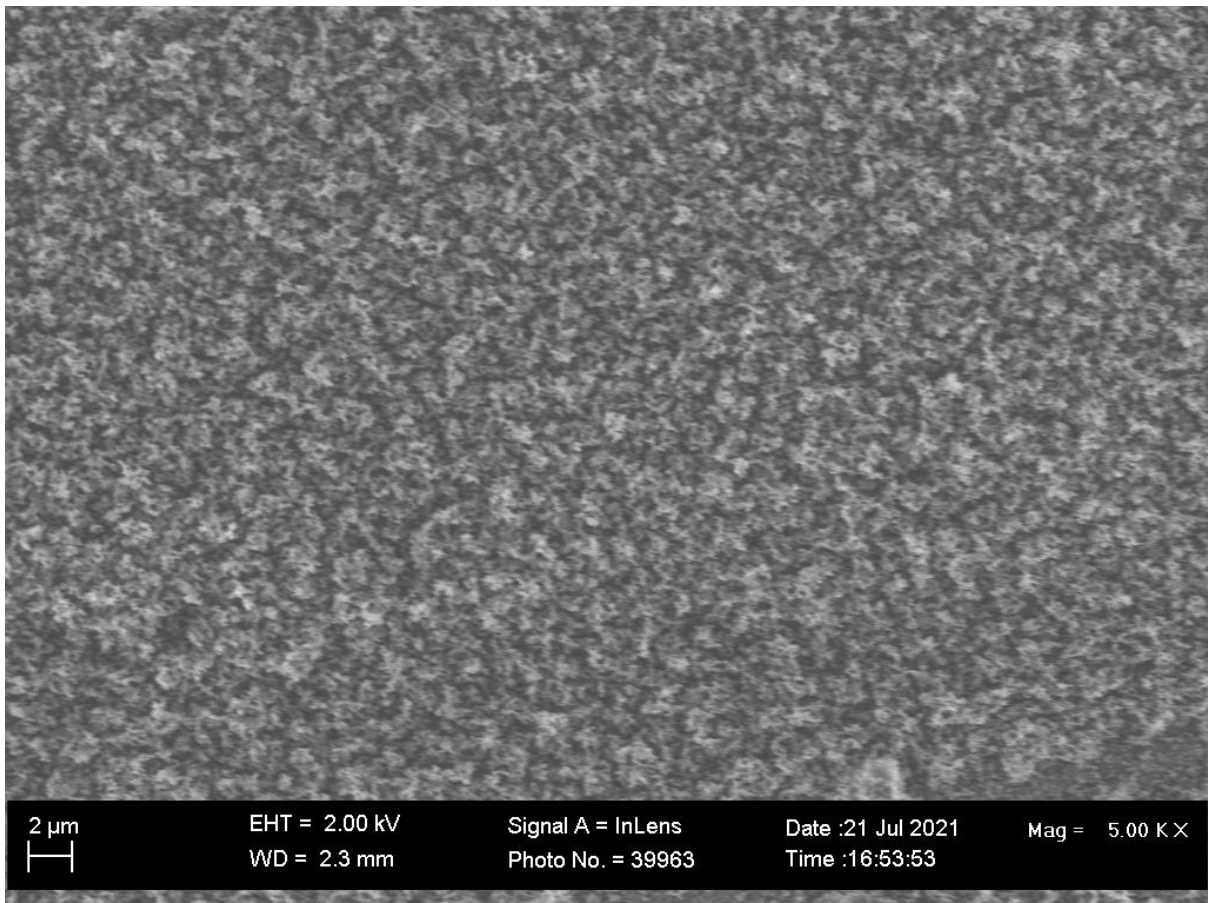
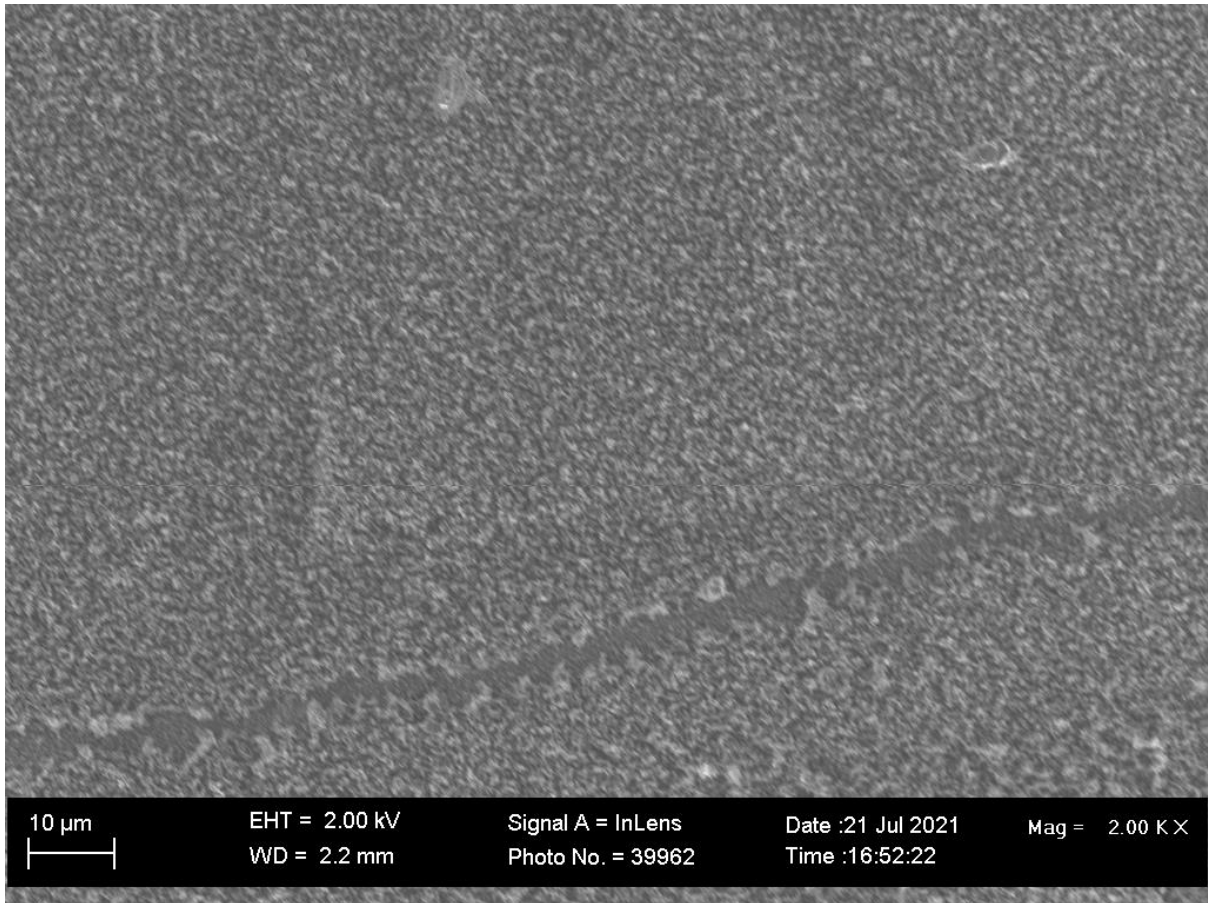
3.2. Board Sample type 2



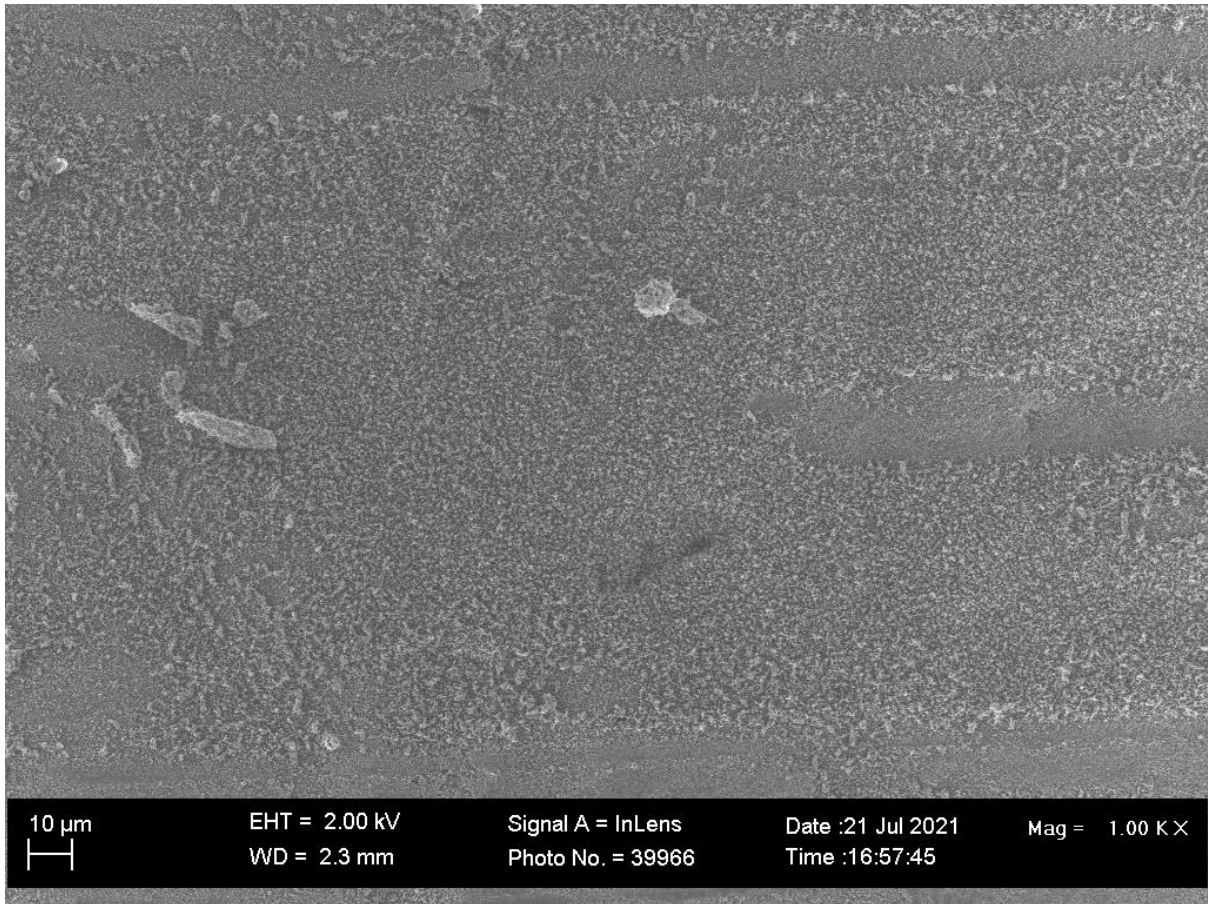


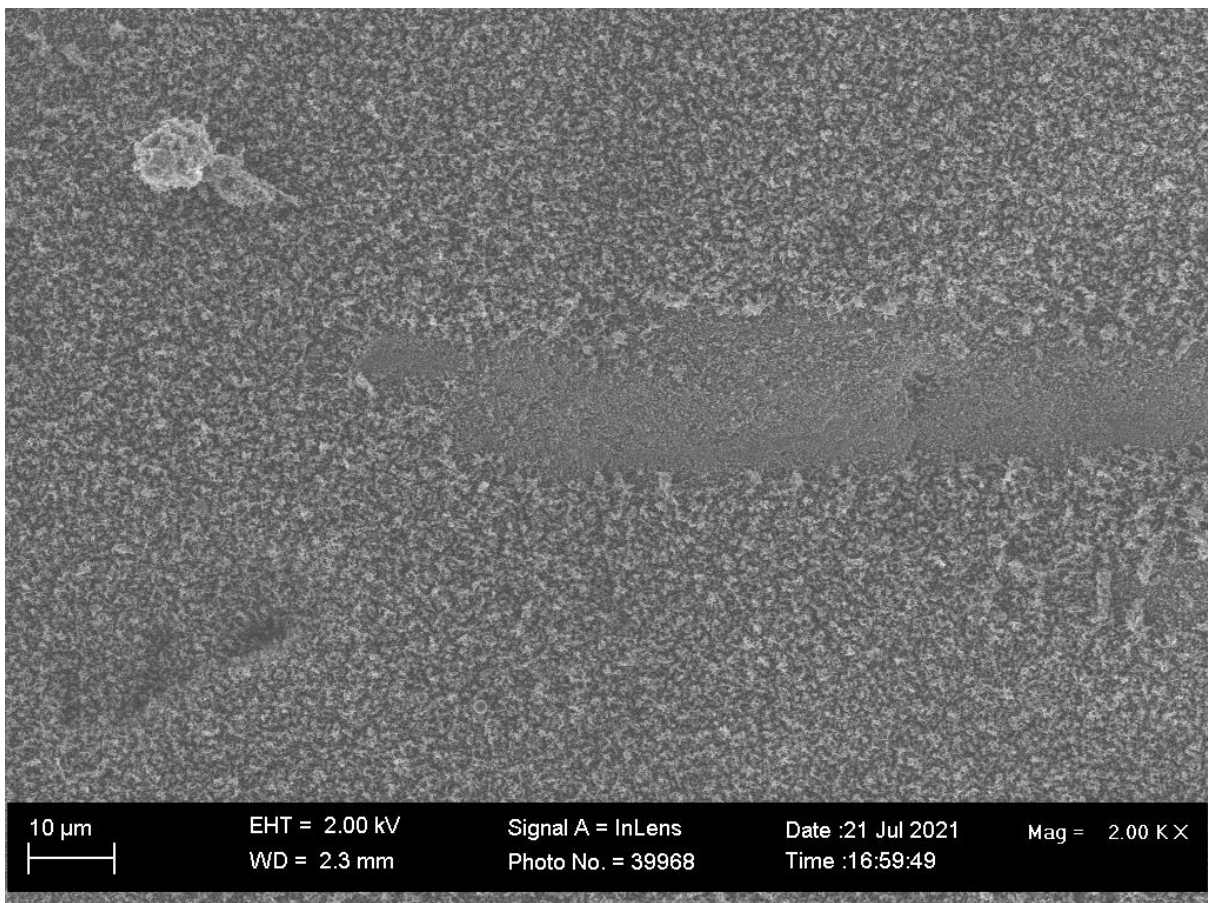
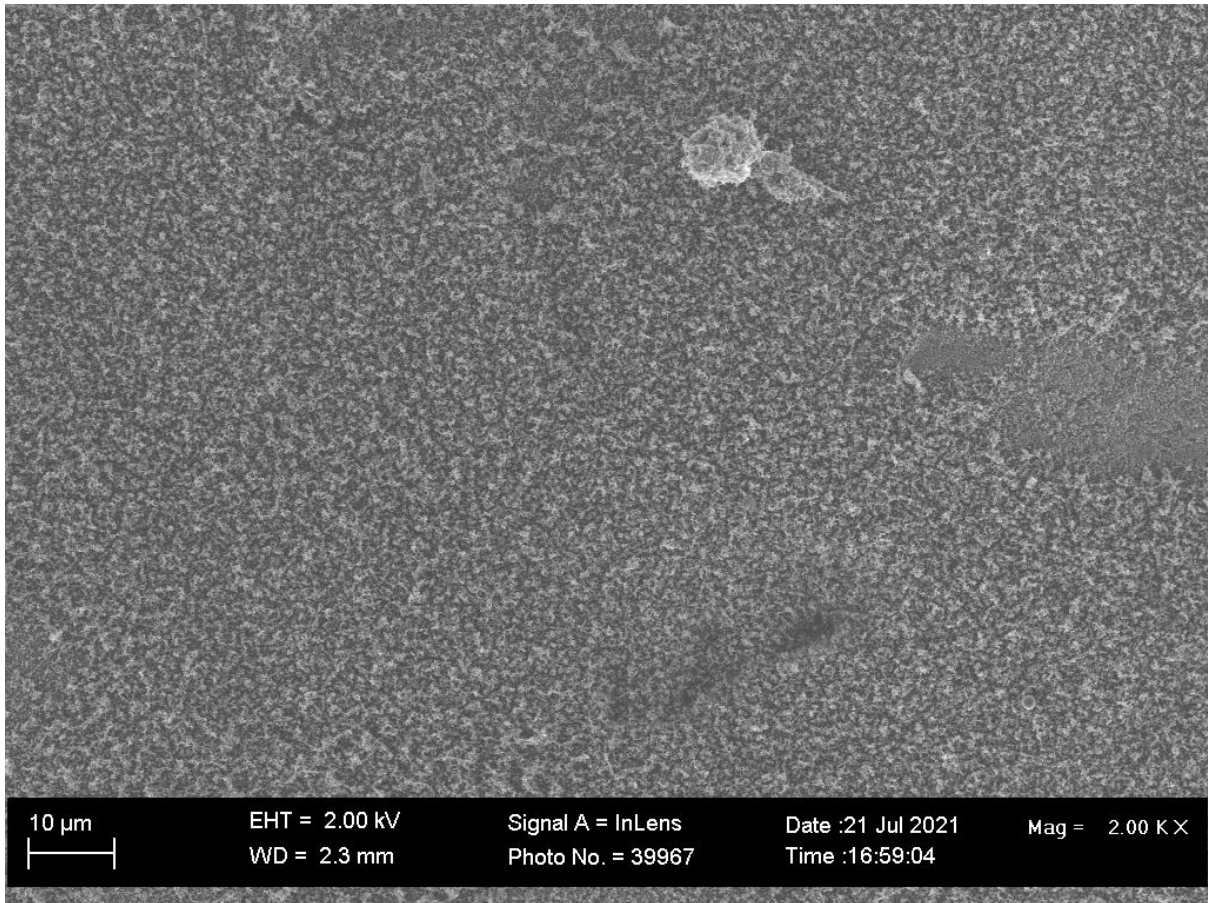
3.3. Board Sample type 3

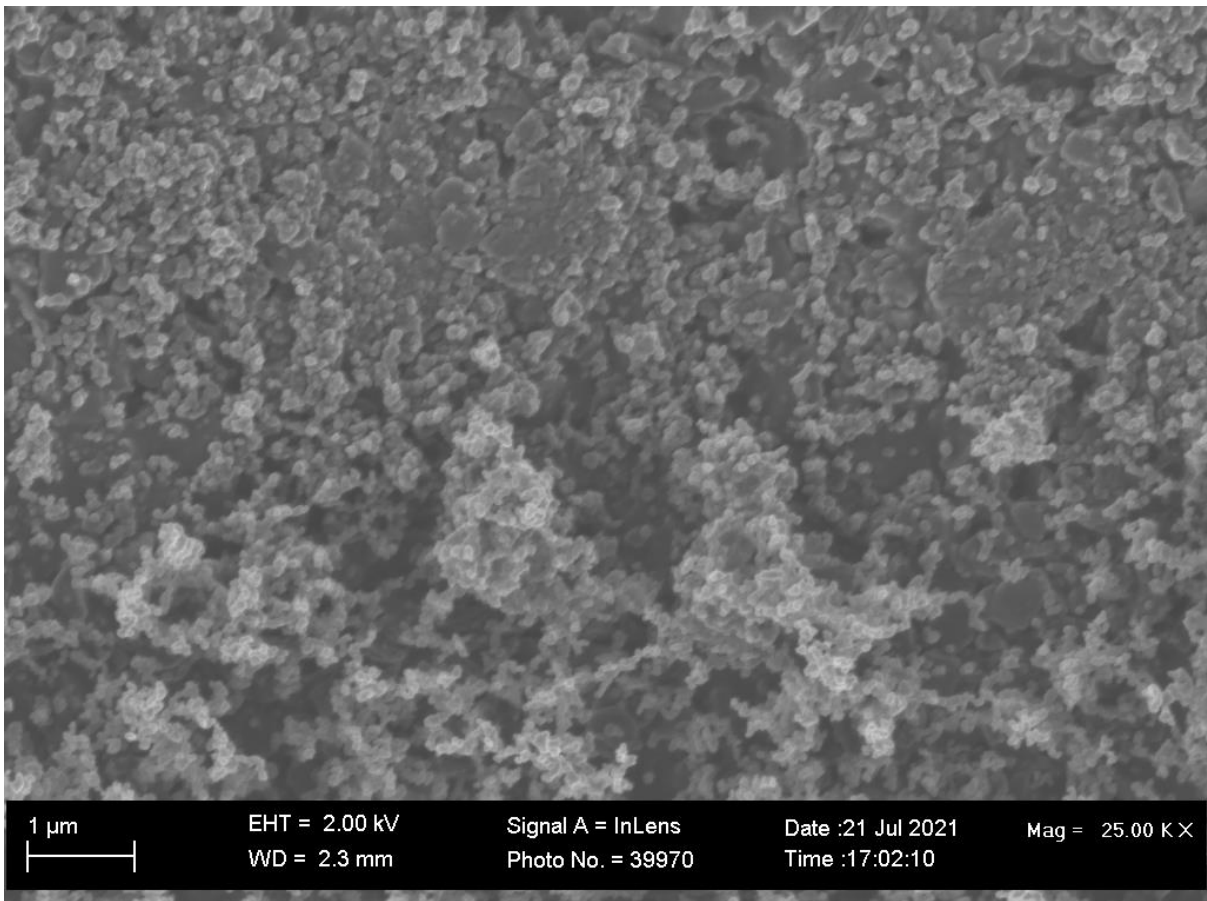
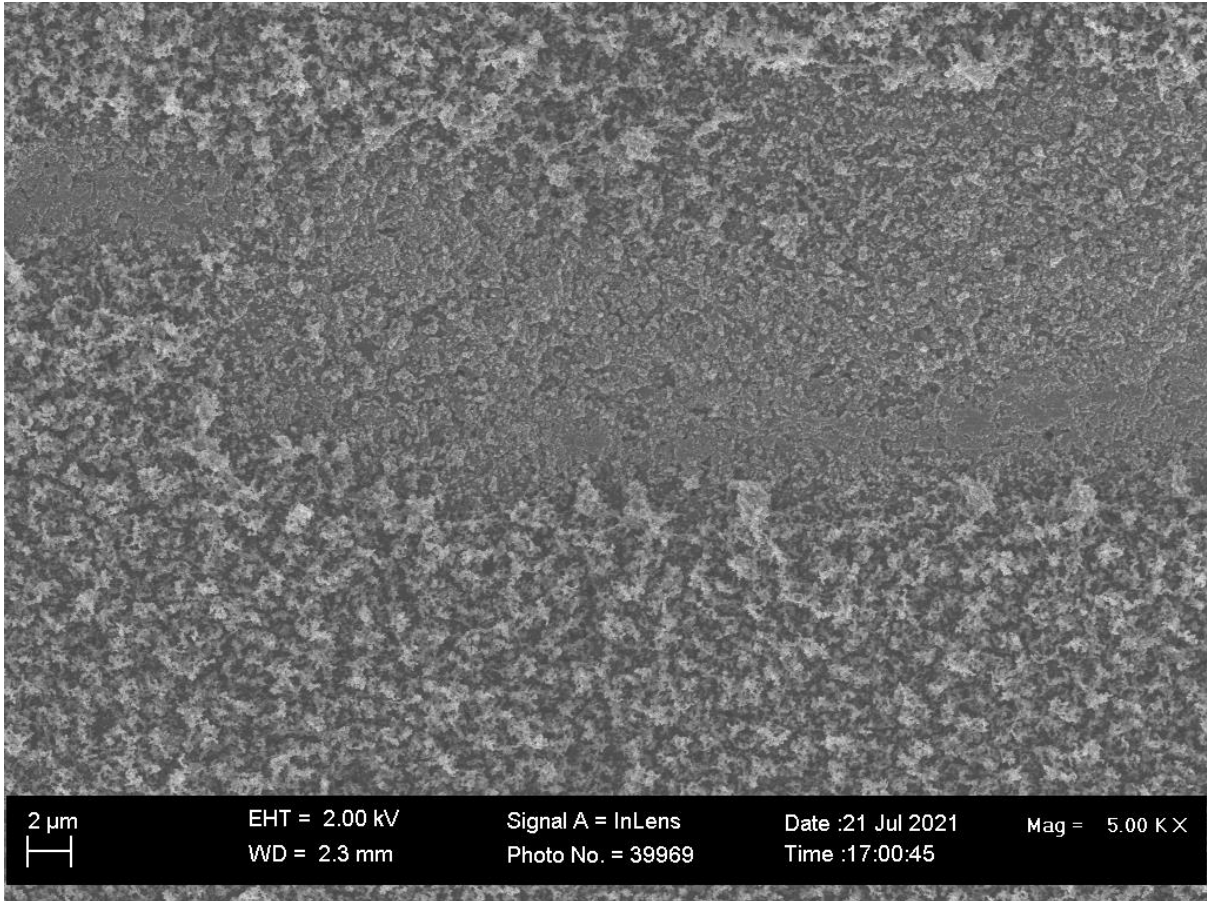




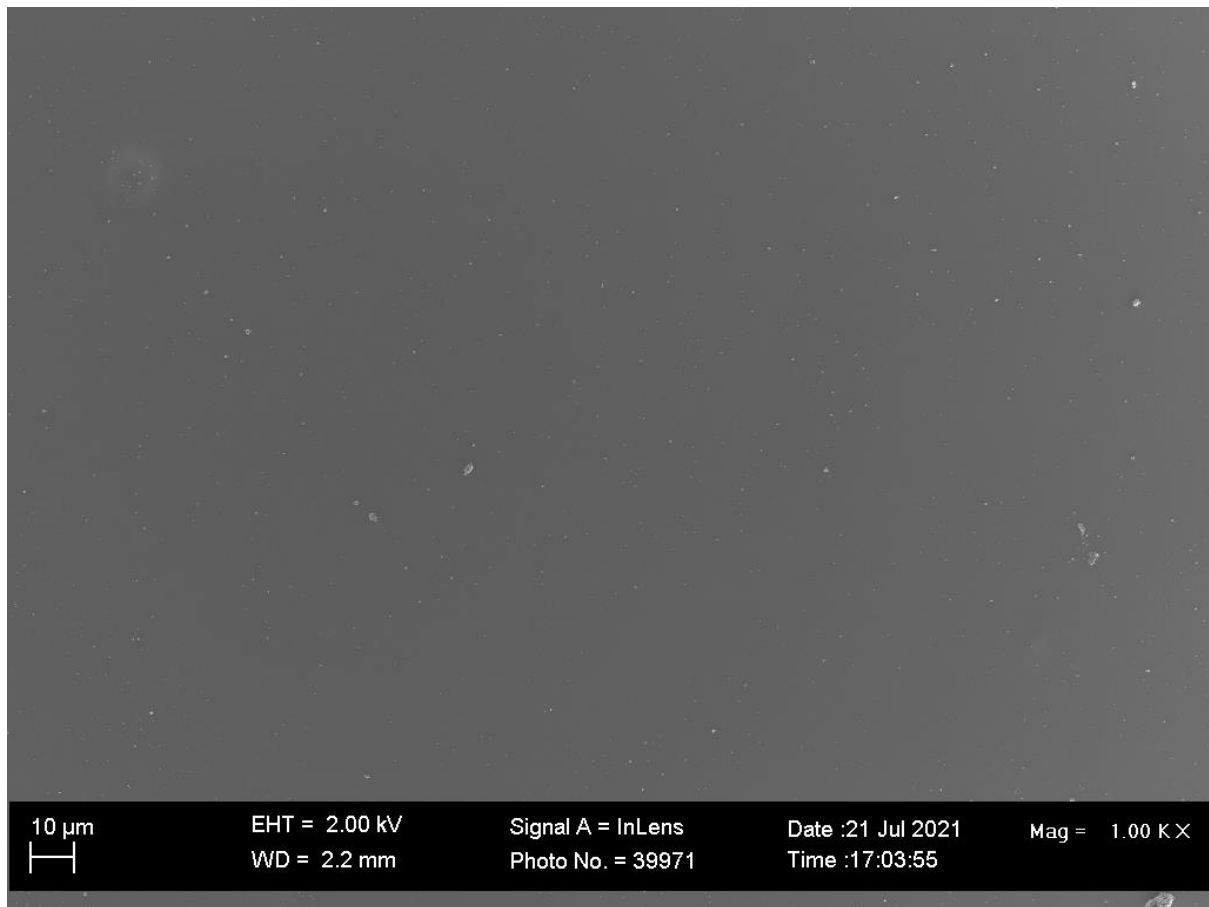
3.4. Board Sample type 4

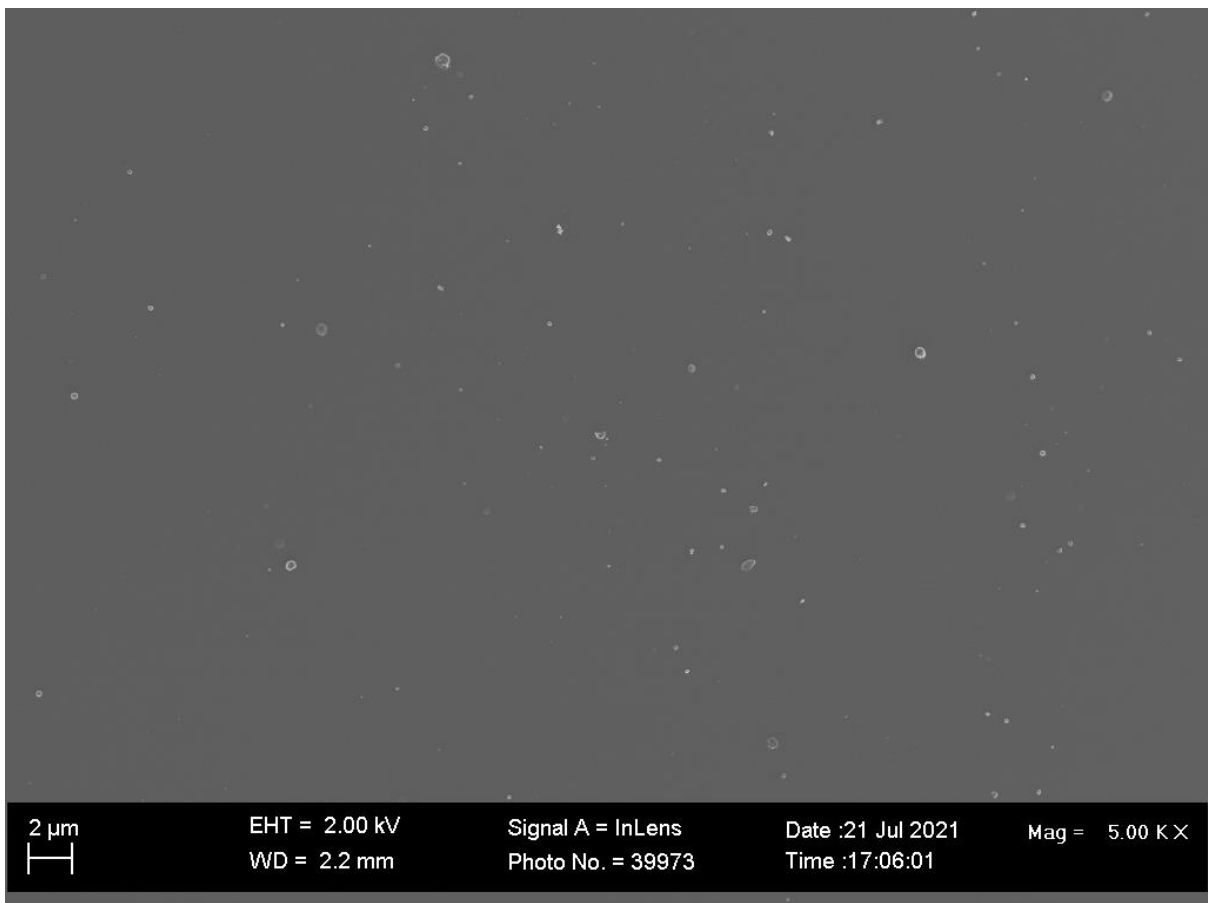


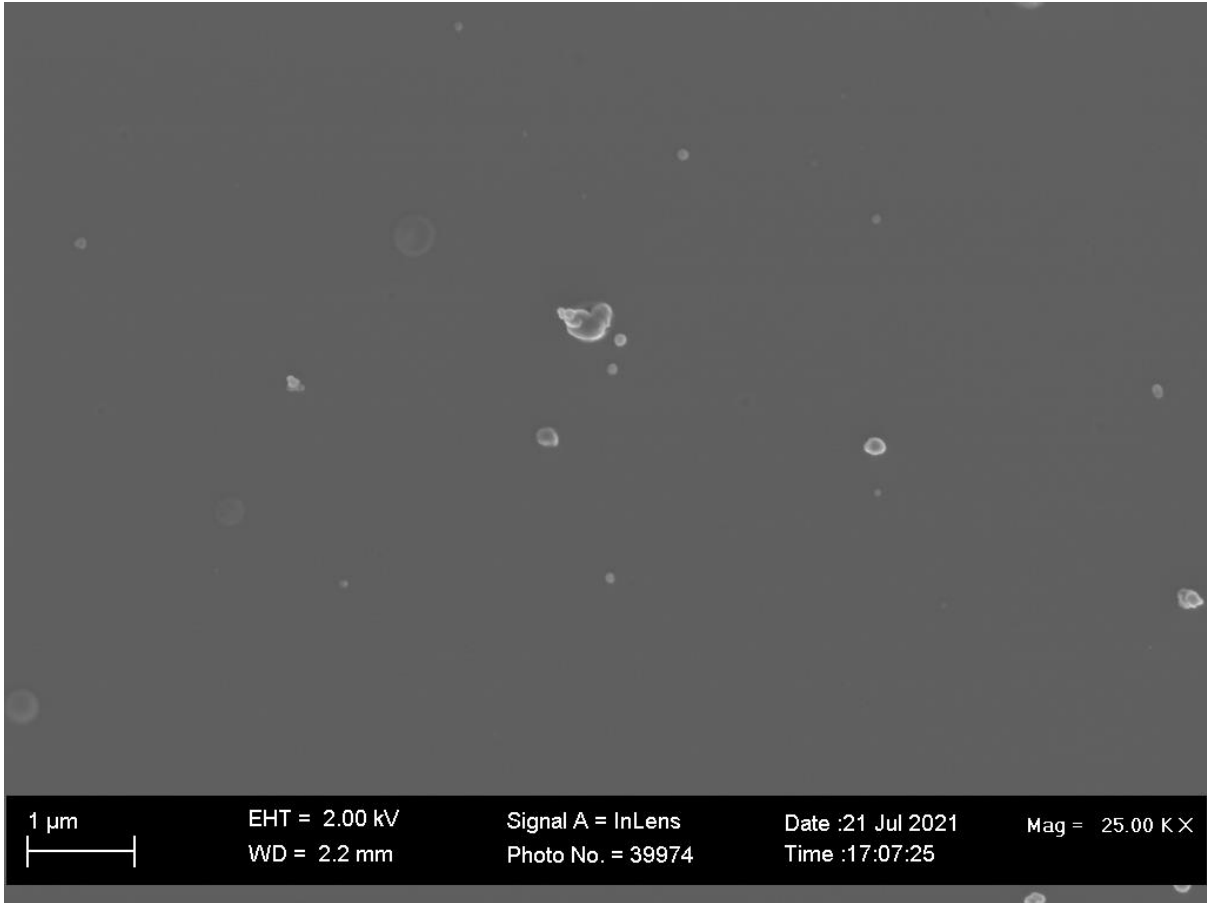




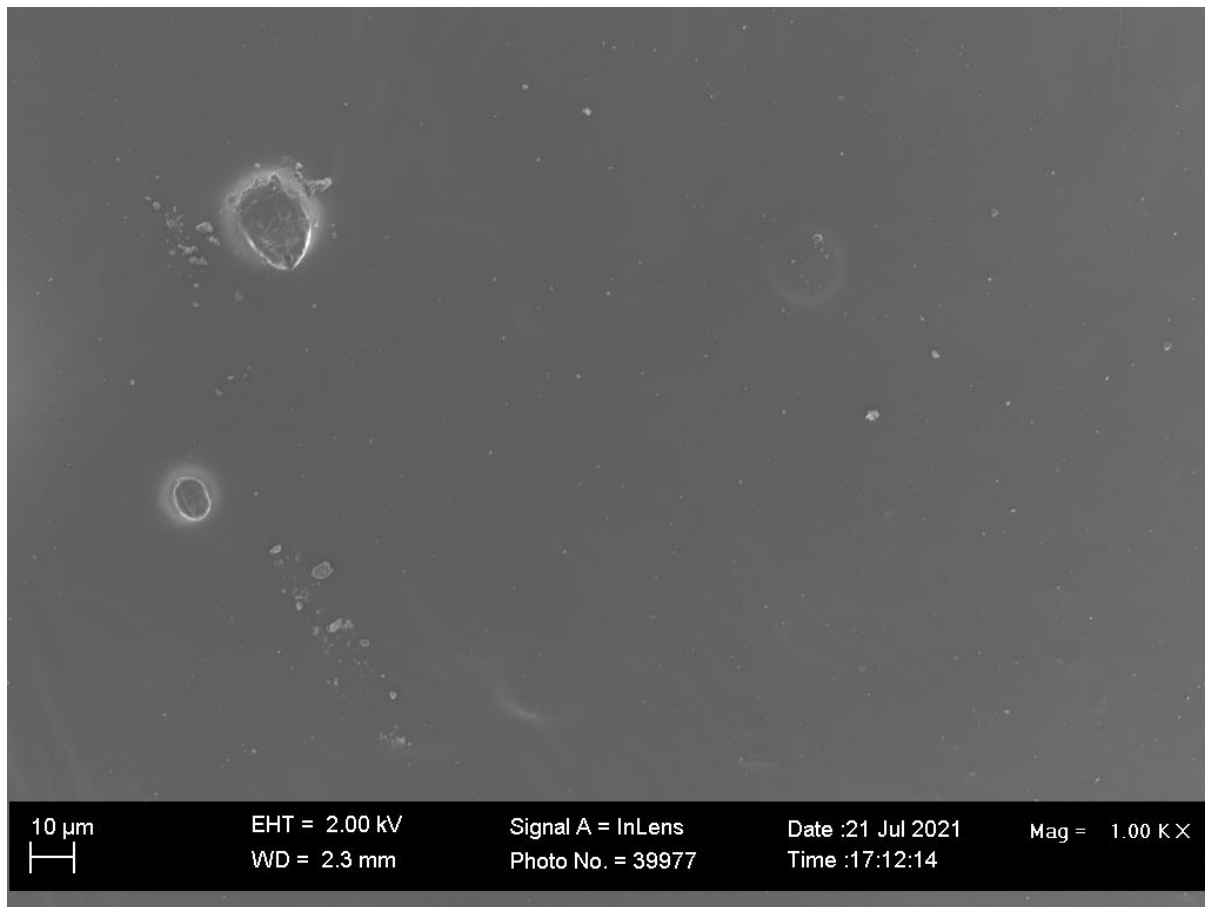
3.5. Board Sample type 5

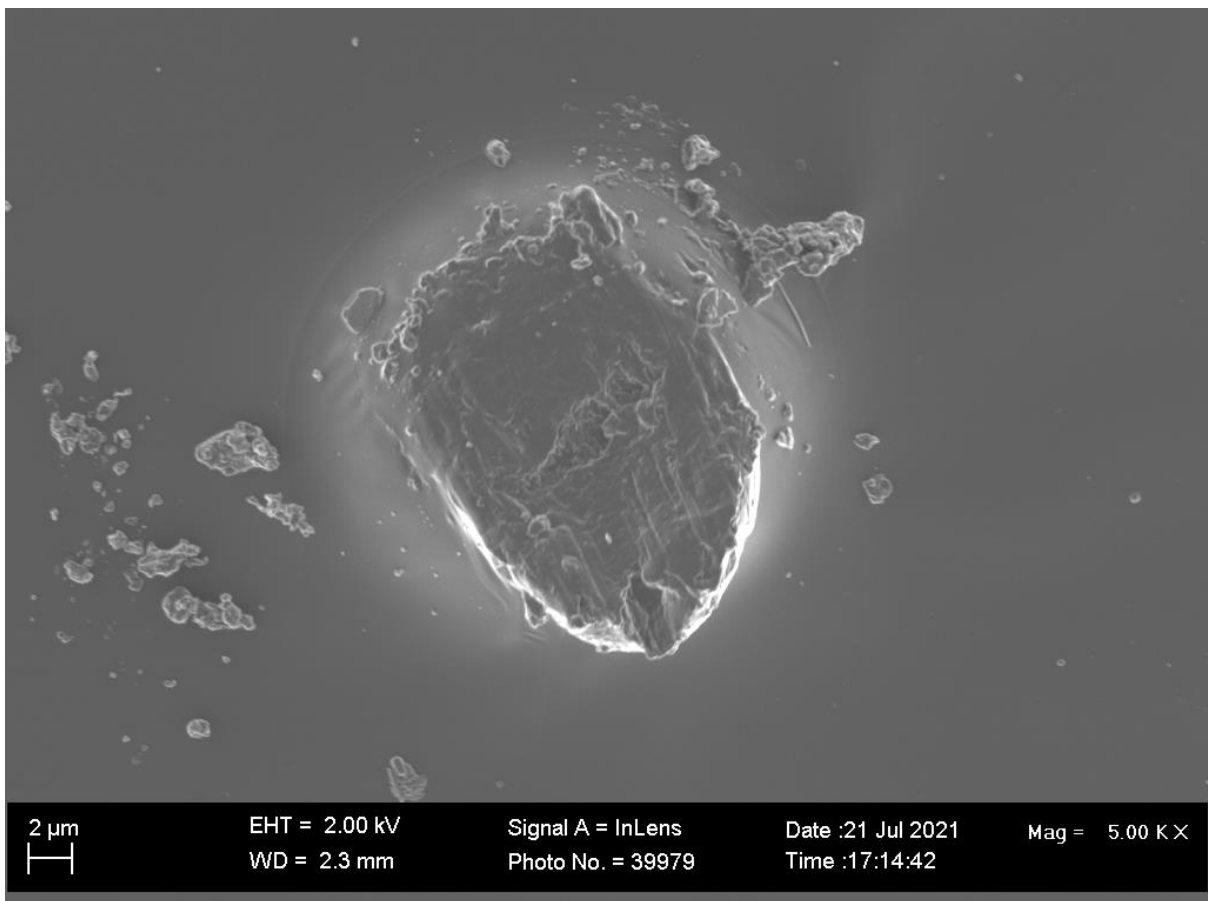
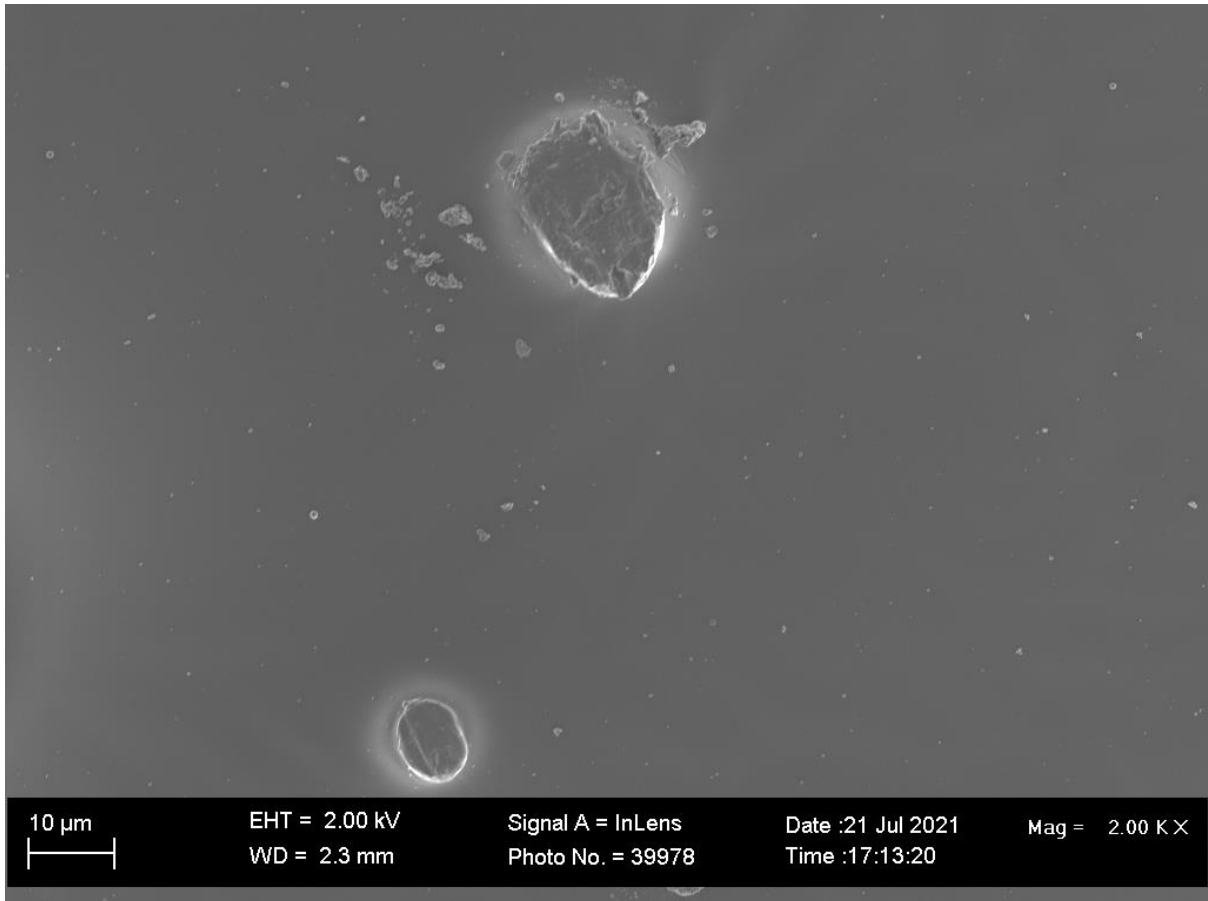


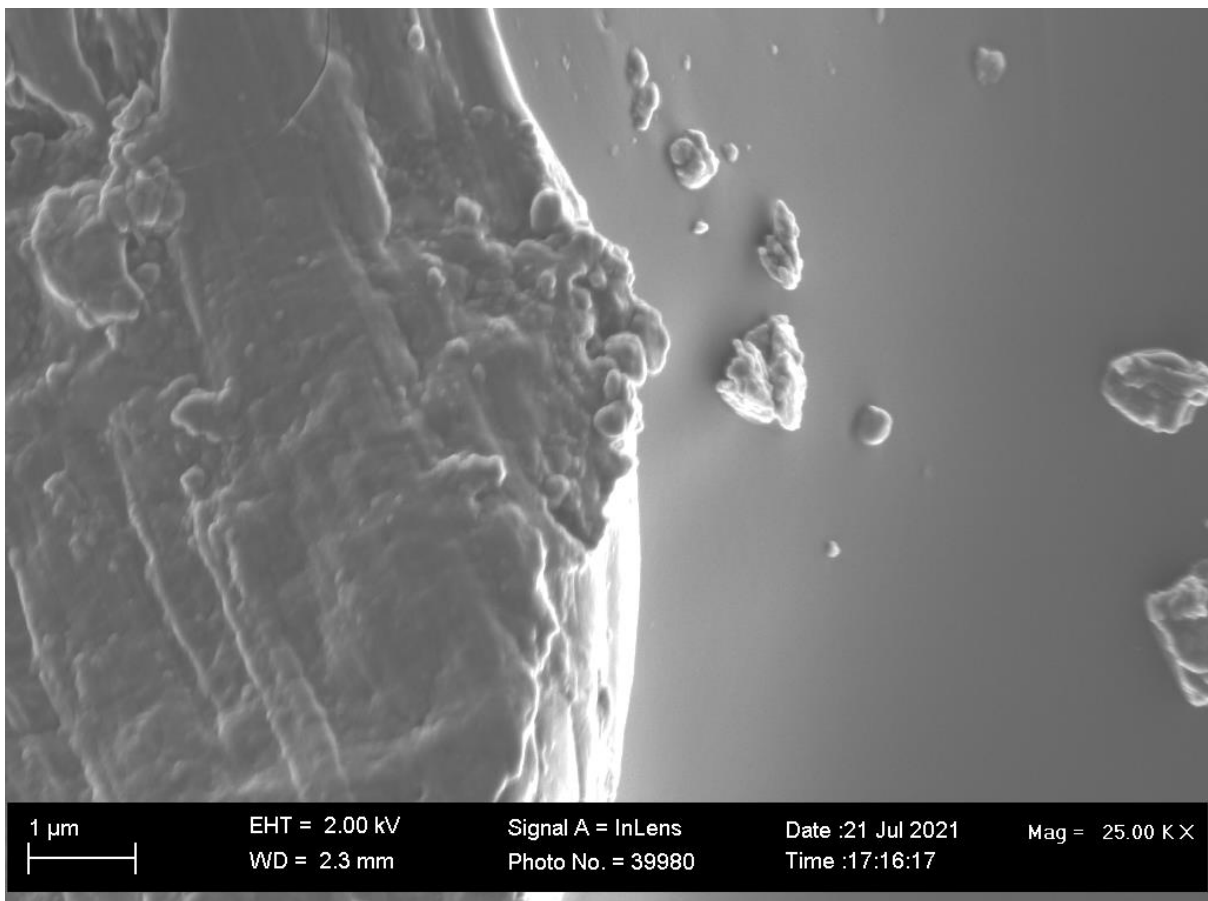


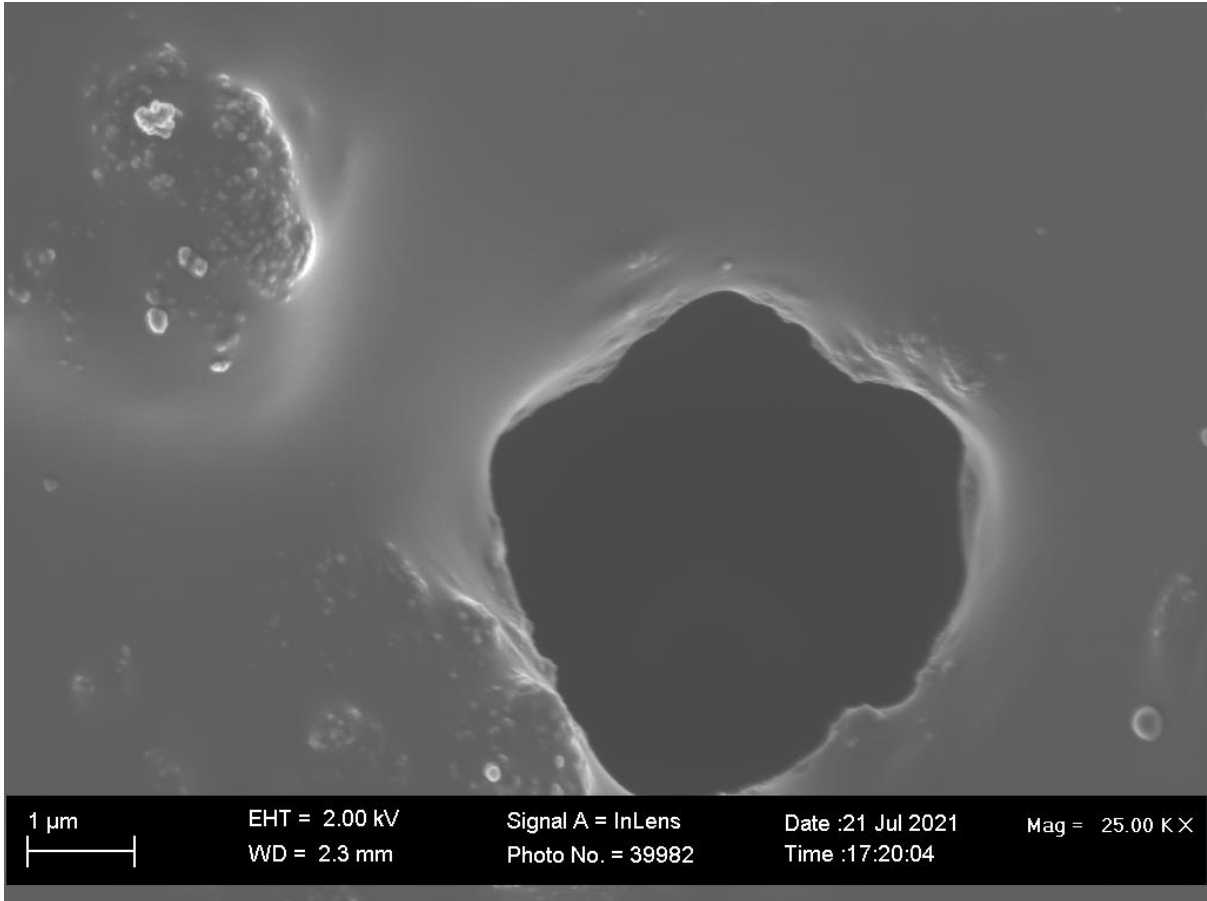


3.6. Board Sample type 6

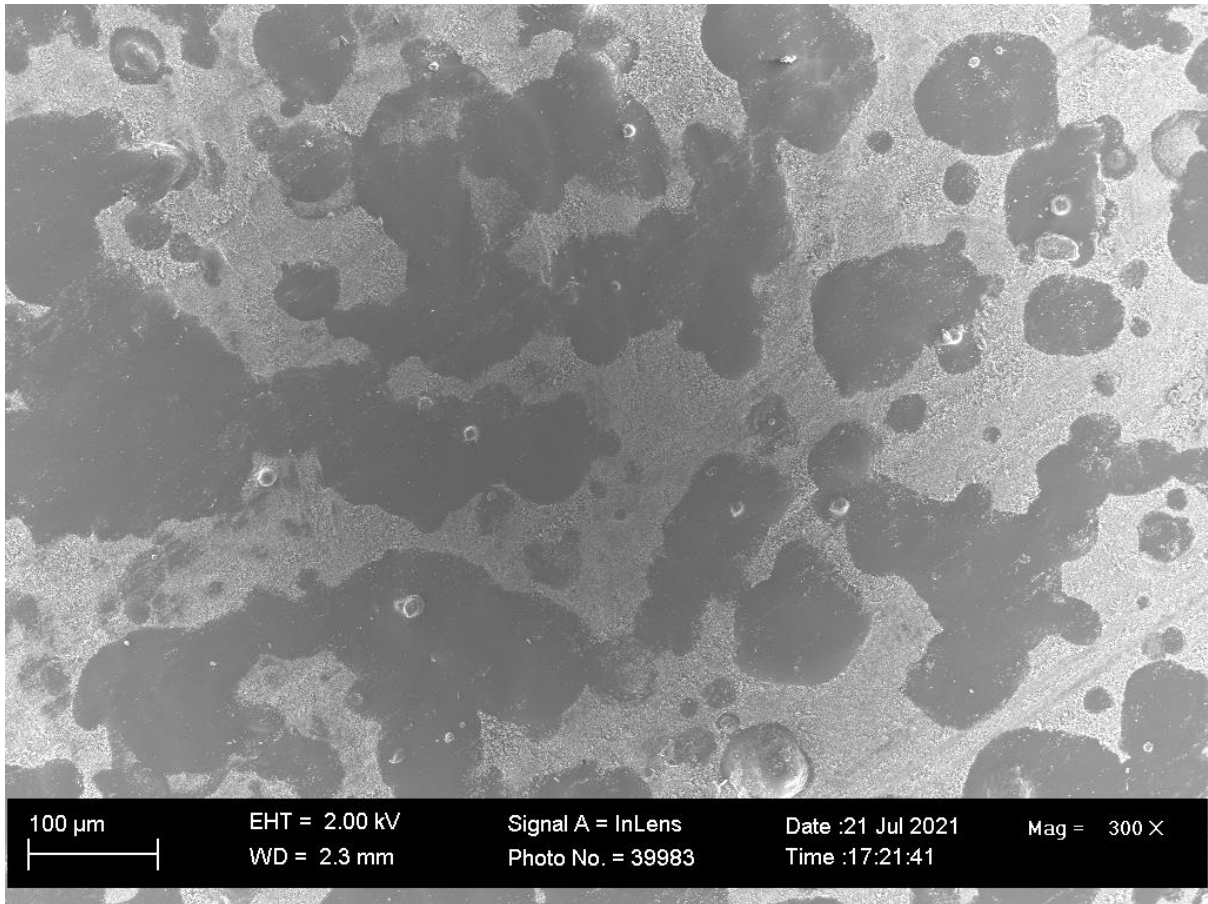


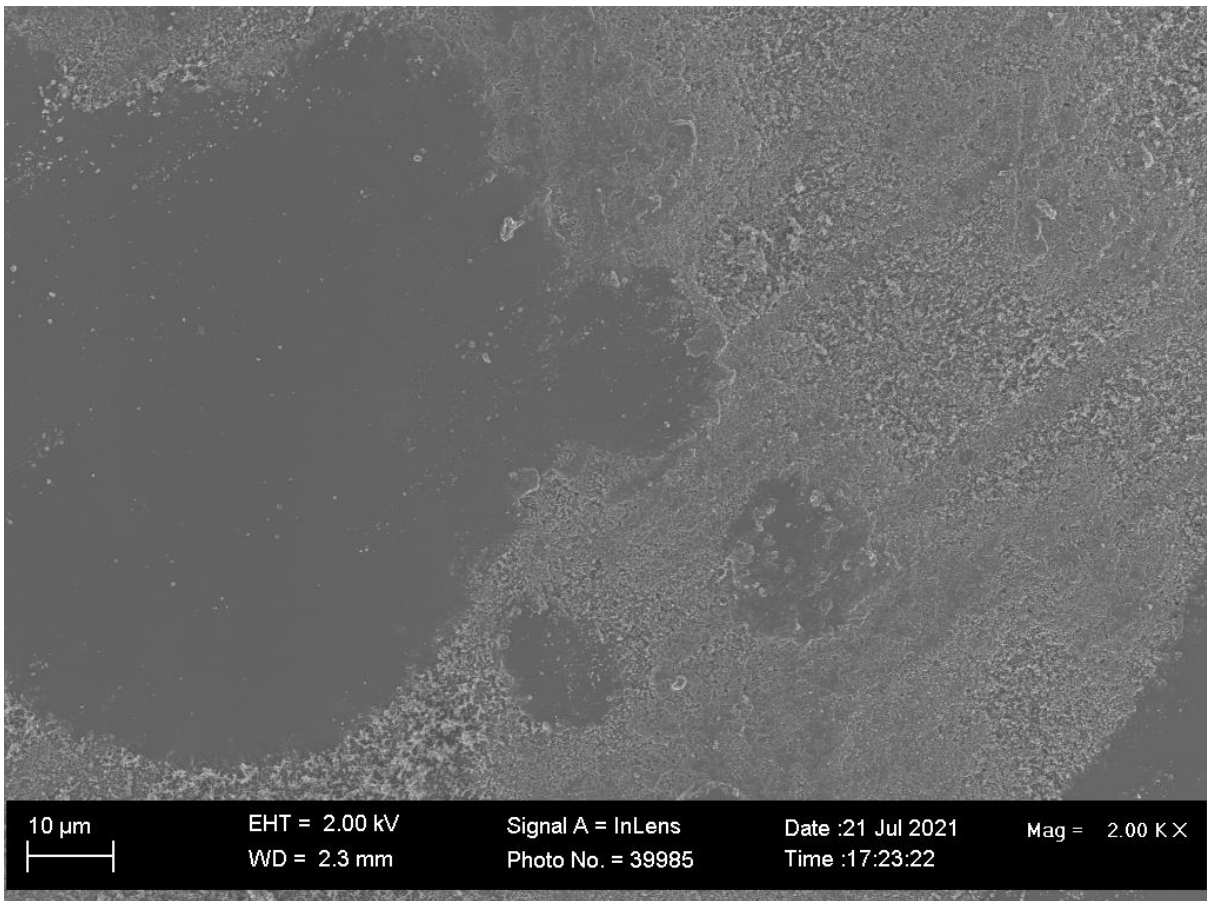
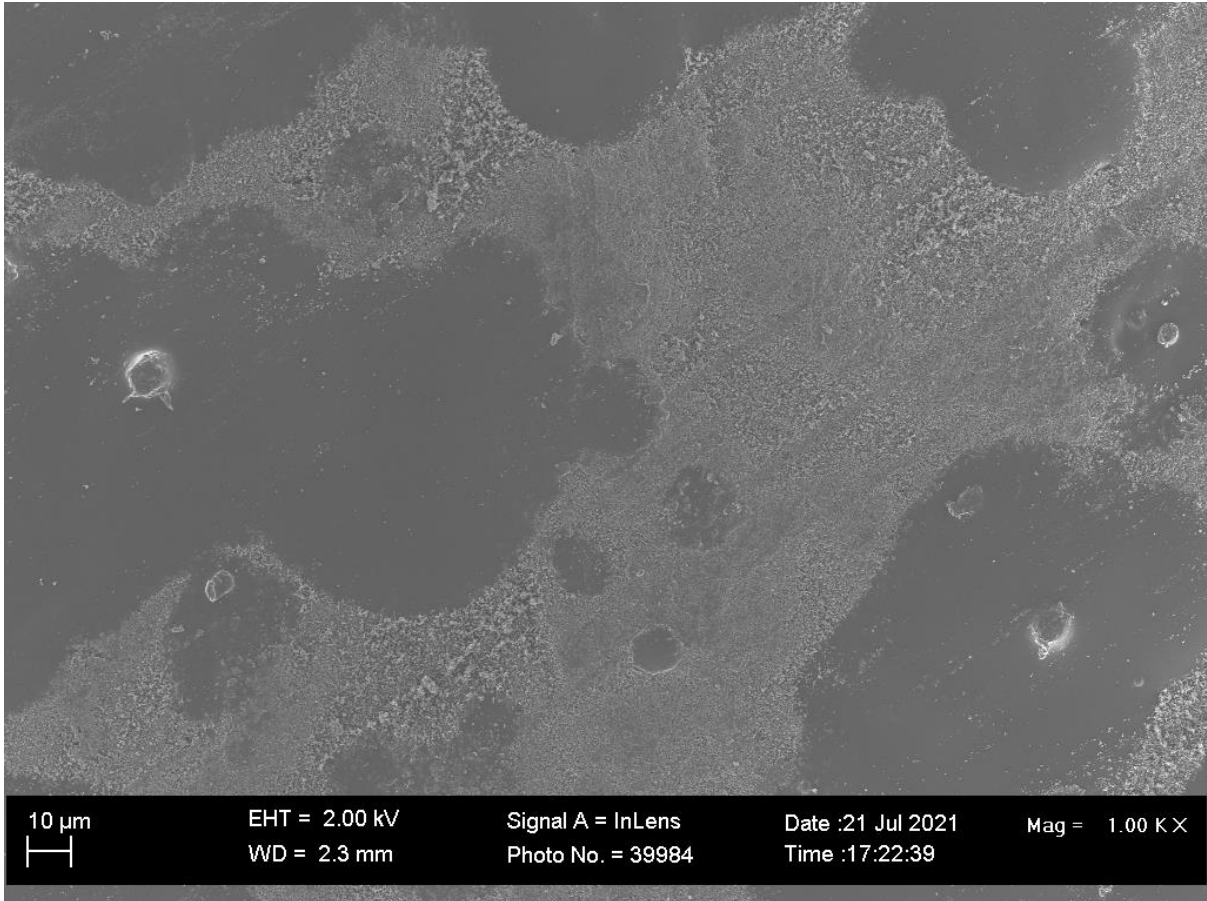


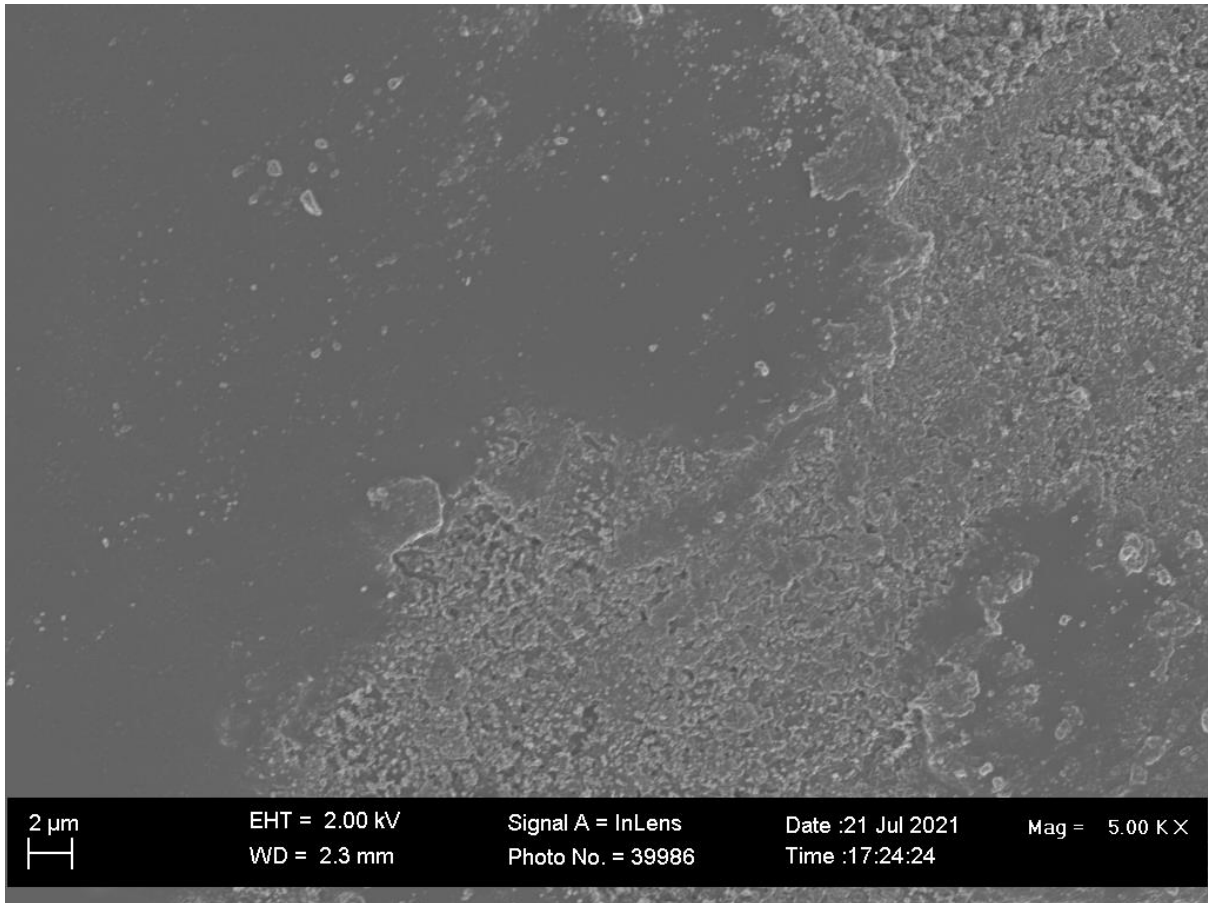




3.7. Board Sample type 7







Appendix 4: Photo Documentation Images for Diane Victor's Sample 1

4.1. Raking Light (shown from 45-degree angle)



Light from the right



Light from the left

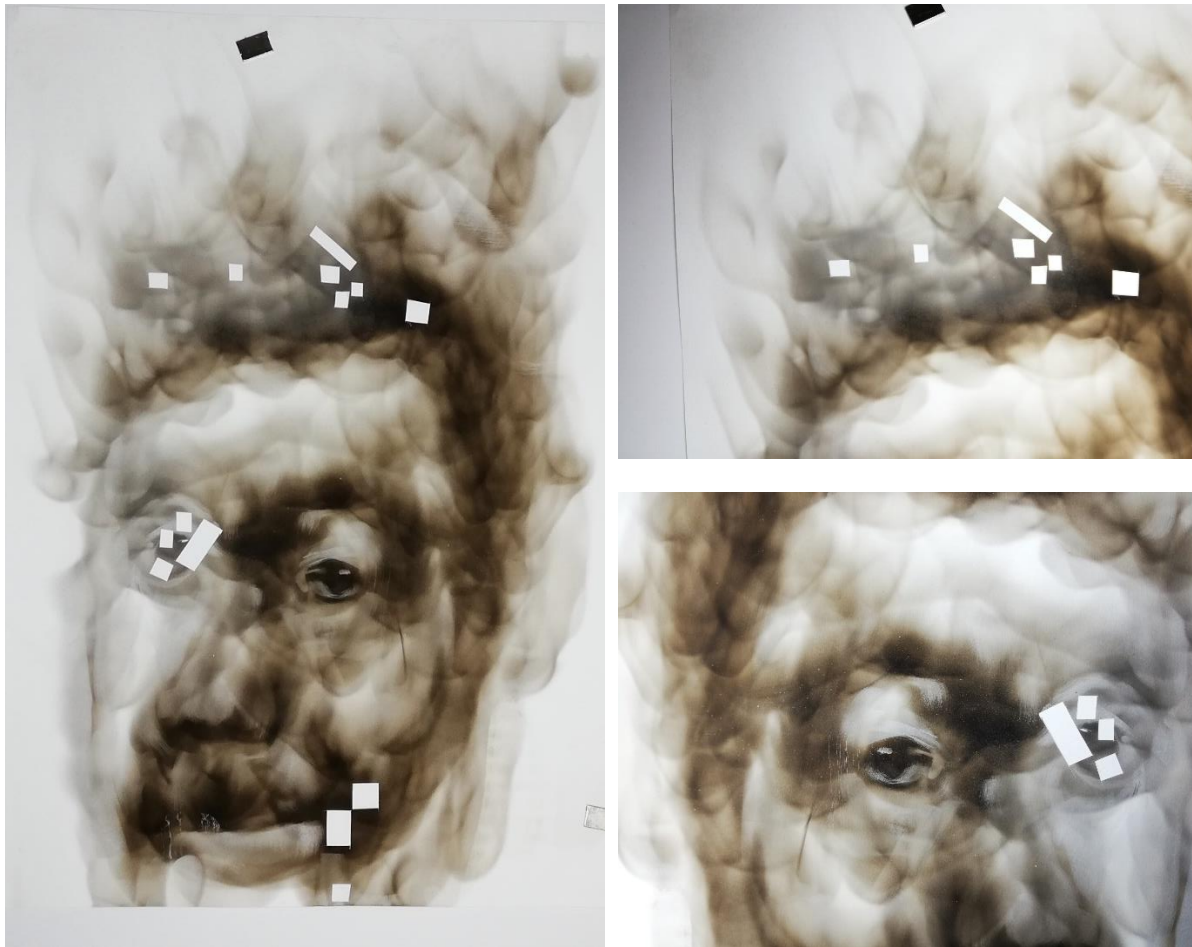


Light from the bottom



Light from the top

4.2. Specular Light (shown from 90-degree angle)

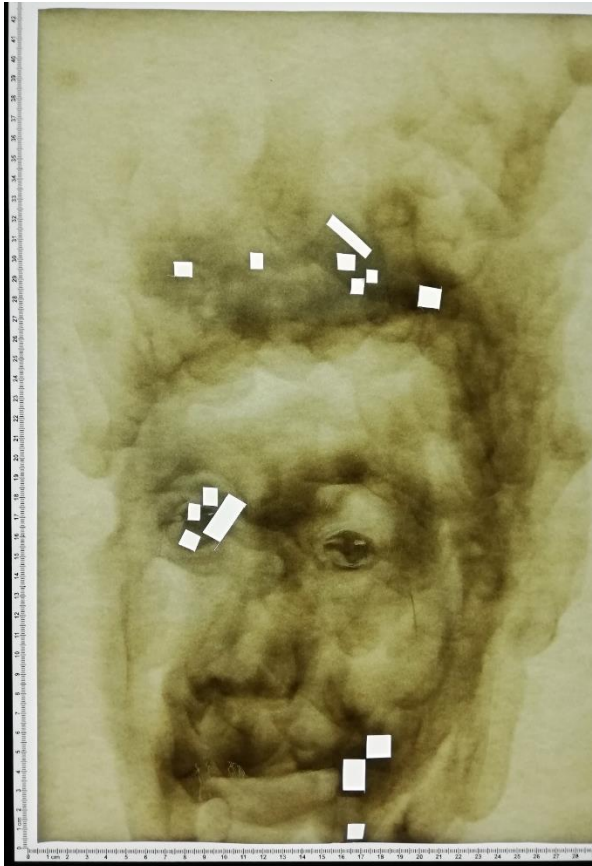


Left: general view of sample 1, right: close-up of the forehead (top) and the top of face (bottom)

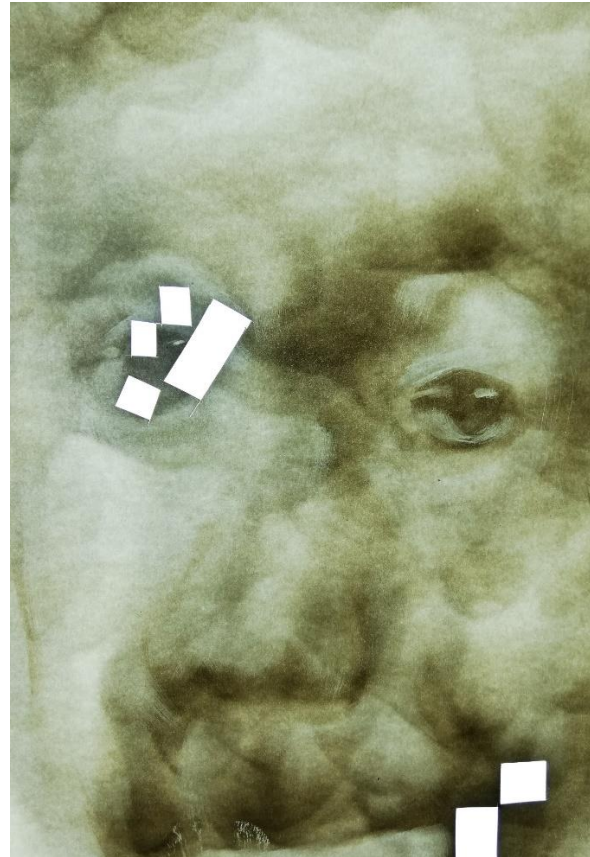


Close-up of the right eye (dust particles visible)

4.3. Transmitted Light



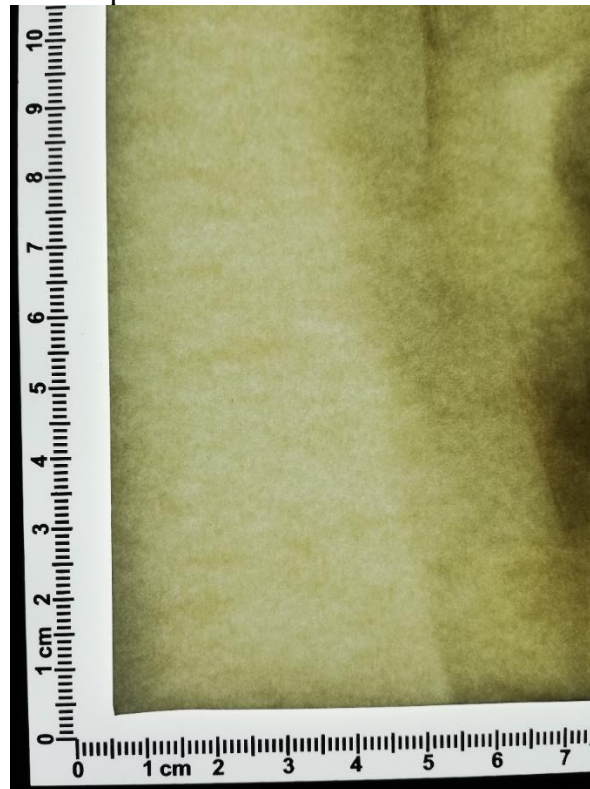
General view of sample 1



Close-up of the facial features



Close-up of the right ear

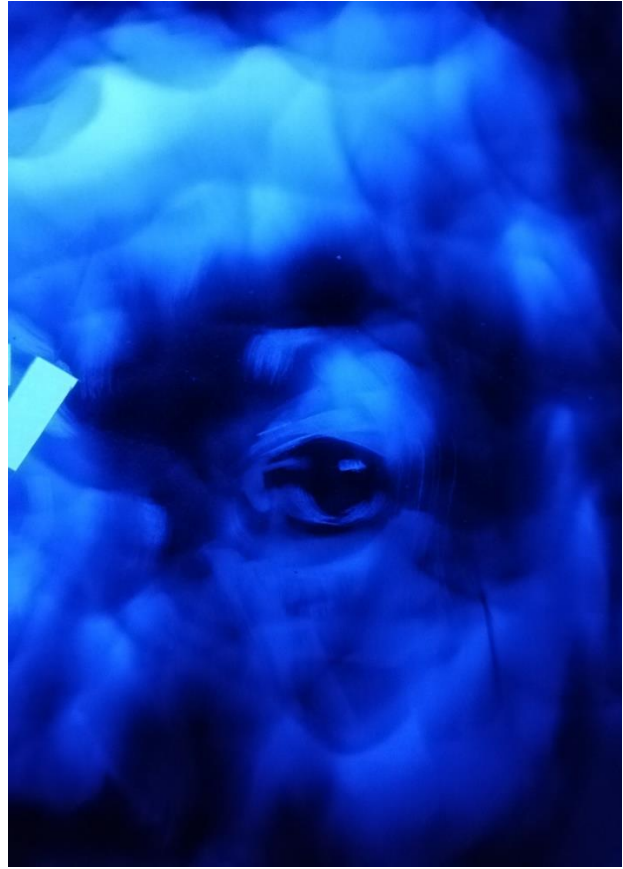


Close-up of the bottom left-hand corner

4.4. UV Light



General view of sample 1



Close-up of the right eye



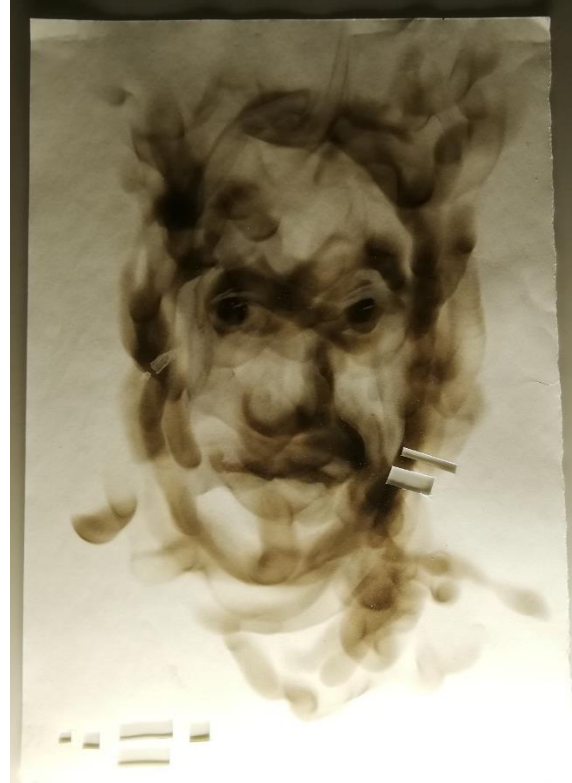
Close of the nose and mouth

Appendix 5: Photo Documentation Images for Diane Victor's Sample 2

5.1. Raking Light



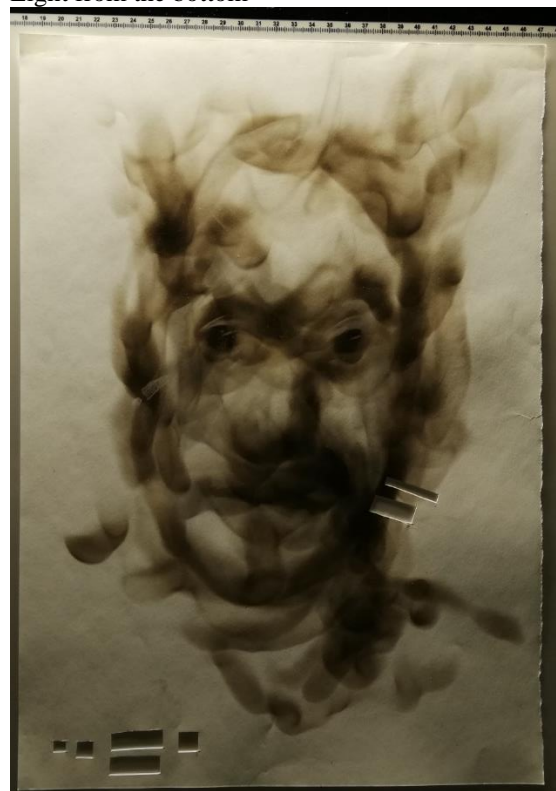
Light from the left



Light from the bottom

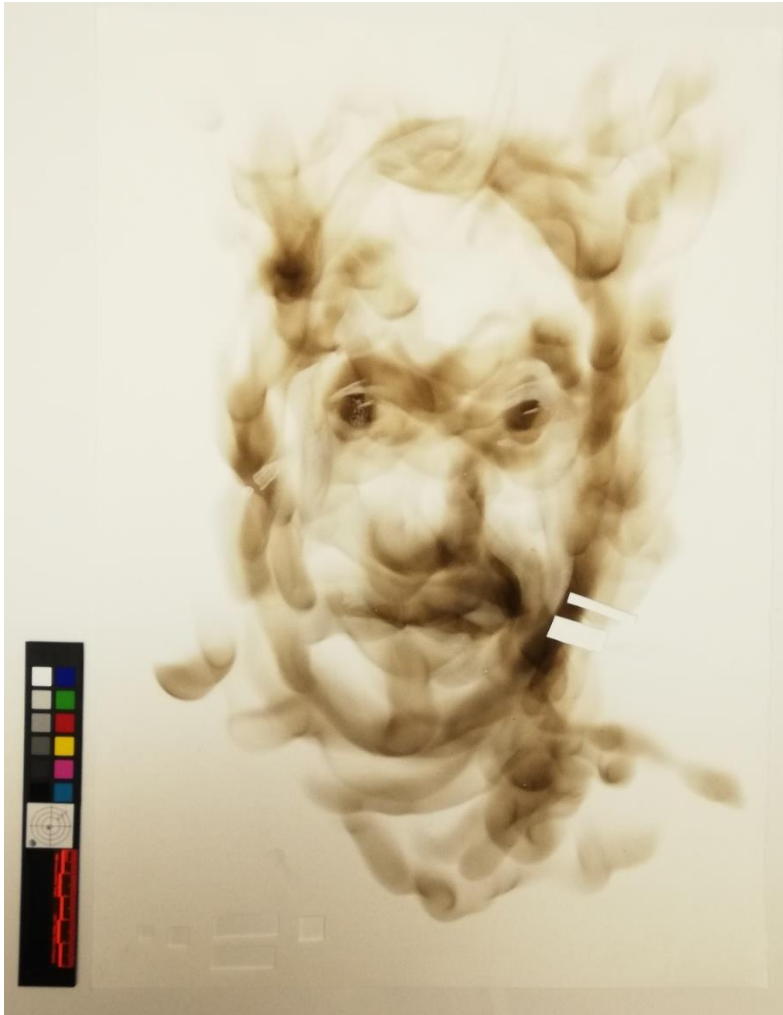


Light from the right



Light from the top

5.2. *Specular Light*



General view of sample 2

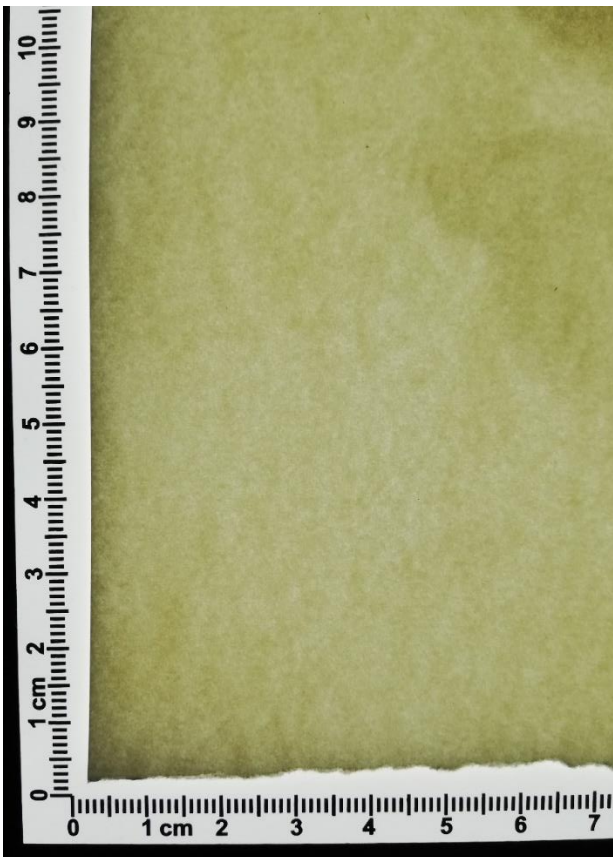


Close-up of the left eye

5.3. Transmitted Light



General view of sample 2

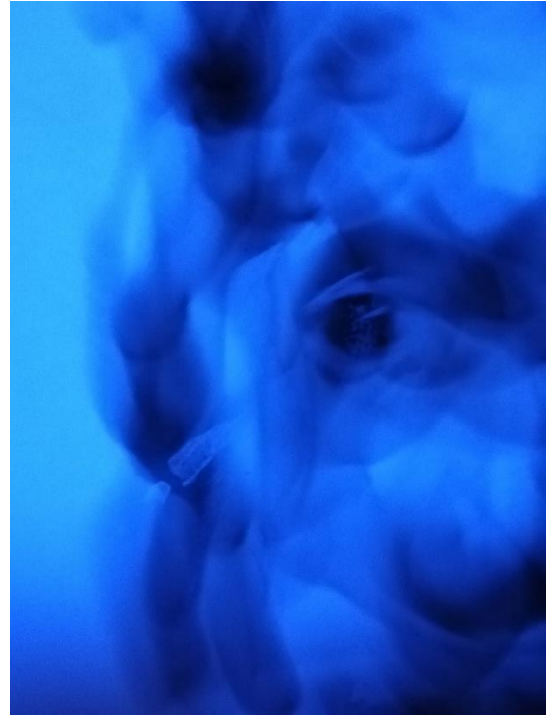


Close-up of bottom left-hand corner

5.4. UV Light



General view of sample 2



Close-up of the left eye



Close-up of a scratch