## **Supporting information**

Magnetic hexadecylamine-graphene quantum dots-silver nanoparticle nanocomposite as adsorbents for the removal of phenanthrene and bacteria from aqueous solution

Gugu Kubheka<sup>1\*</sup>, Adedapo O. Adeola<sup>1</sup>, Ronald Ngulube, Nolwazi Nombona<sup>1</sup>,

Patricia B. C. Forbes<sup>1,</sup>

<sup>1</sup>Department of Chemistry, Faculty of Natural and Agricultural Sciences, University of Pretoria, Lynnwood Road, Hatfield, Pretoria 0002, South Africa.

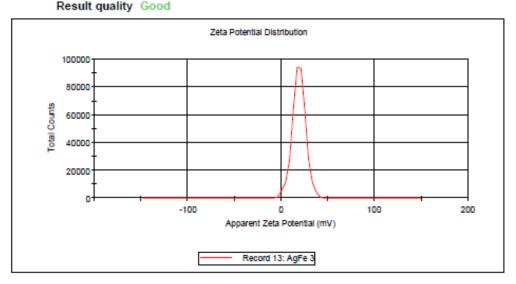
Results Mean (mV) St Dev (mV) Area (%) 100.0 8.02 Zeta Potential (mV): 28.8 Peak 1: 28.8 Zeta Deviation (mV): 8.02 0.0 0.00 Peak 2: 0.00 Conductivity (mS/cm): 0.0214 0.0 0.00 Peak 3: 0.00 Result quality Good Zeta Potential Distribution 300000 200000 **Fotal Counts** 100000 -100 100 200 0 Apparent Zeta Potential (mV) Record 14: GQDs 1

\*Correspondence: gugukhathide@gmail.com

Figure S1. Zeta potential curve of C<sub>16</sub>SNGQDs

Neouno	R	es	ul	ts		
--------	---	----	----	----	--	--

			Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV):	19.1	Peak 1:	19.1	100.0	7.10
Zeta Deviation (mV):	7.10	Peak 2:	0.00	0.0	0.00
Conductivity (mS/cm):	0.0225	Peak 3:	0.00	0.0	0.00
Descrift succession	Cond				



## Figure S2. Zeta potential curve of AgNPs@Fe<sub>3</sub>O<sub>4</sub>

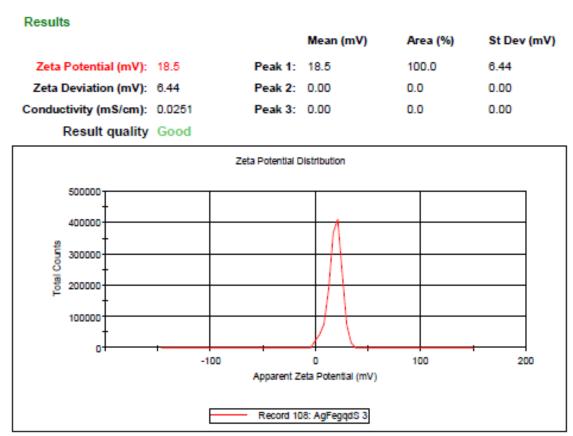


Figure S3. Zeta potential curve of AgNPs@Fe<sub>3</sub>O<sub>4</sub>-C<sub>16</sub>SNGQDs

## Results

			Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV):	-10.5	Peak 1:	-10.5	100.0	5.04
Zeta Deviation (mV):	5.04	Peak 2:	0.00	0.0	0.00
Conductivity (mS/cm):	0.0382	Peak 3:	0.00	0.0	0.00
Deput quality	Cood				

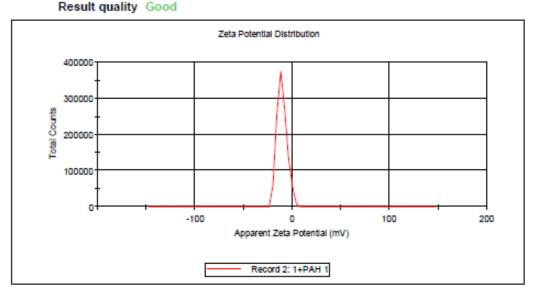


Figure S4. Zeta potential curve of AgNPs@Fe<sub>3</sub>O<sub>4</sub>-Phanentrene complex

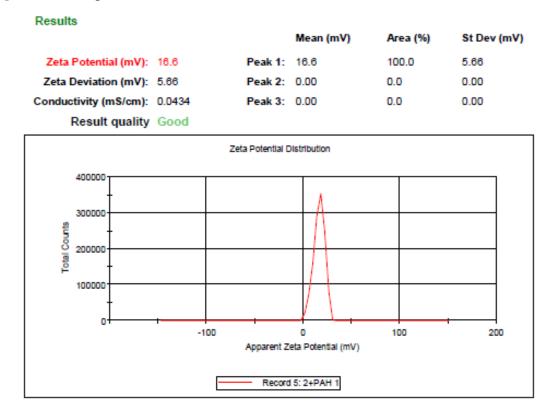


Figure S5. Zeta potential curve of AgNPs@Fe<sub>3</sub>O<sub>4</sub>-C<sub>16</sub>SNGQDs-Phanentrene complex