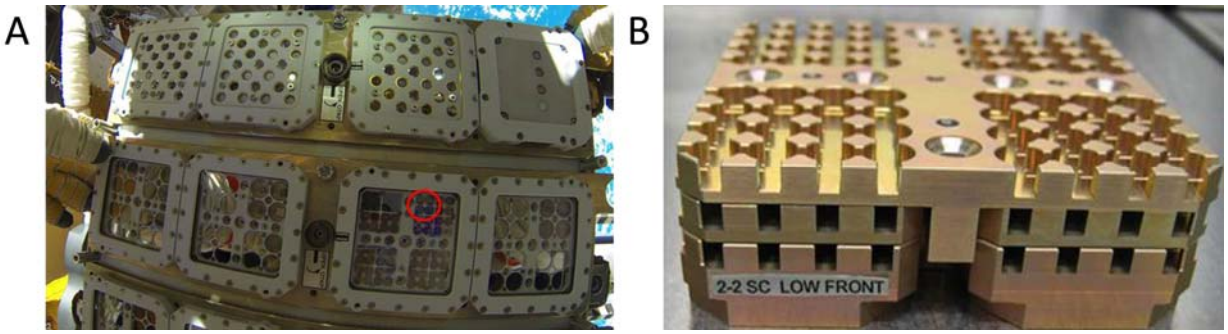

Figure S1. The view of a carrier C2 (A) and location of kombucha bio-mineral samples integrated into compartment 2 in tray 2 of the BIOMEX experiment during EVA (Extra Vehicular Activity), when astronauts were mounting the flight trays on the EXPOSE-R2 platform outboard the International Space Station. The compartment 2 has a three-level architecture (top, middle, and bottom levels) (B), where each level was hosting four kombucha pellicle samples (indicated with red circle) and maintained under a simulated Mars atmosphere (95.55 % CO_2, 2.70 % N_2, 1.60 % Ar, 0.15 % O_2, ~ 370 ppm H_2O) and a pressure of 980 Pa. The top level samples were exposed to a solar UV flux cut off by optical filters to wavelengths of > 200 nm as prevalent on the Martian surface. The middle- and bottom-located samples were UV-protected. Credit: ESA, Roscosmos.