## **Description of Additional Supplementary Files**

File name: Supplementary Data 1

**Description:** The source data behind the graphs in the paper

File name: Supplementary Data 2

Description: The Python and R code which are used in the paper figures

File name: Supplementary Movie 1

**Description:** Onboard habitation of mouse habitat unit (MHU)-1, MHU-4, and MHU-5 mice at the midpoint of the mission (day 16) (10 s). Top panel: MHU-1 mice subjected to microgravity; second panel from the top: MHU4\_PG mice; third panel from the top: MHU-5\_PG mice; bottom panel: MHU-1 mice subjected to 1 g artificial gravity.