

***In Situ* Raman Spectroscopy of Uranyl Peroxide Nanoscale Cage Clusters Under Hydrothermal Conditions**

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Electronic Supplementary Information

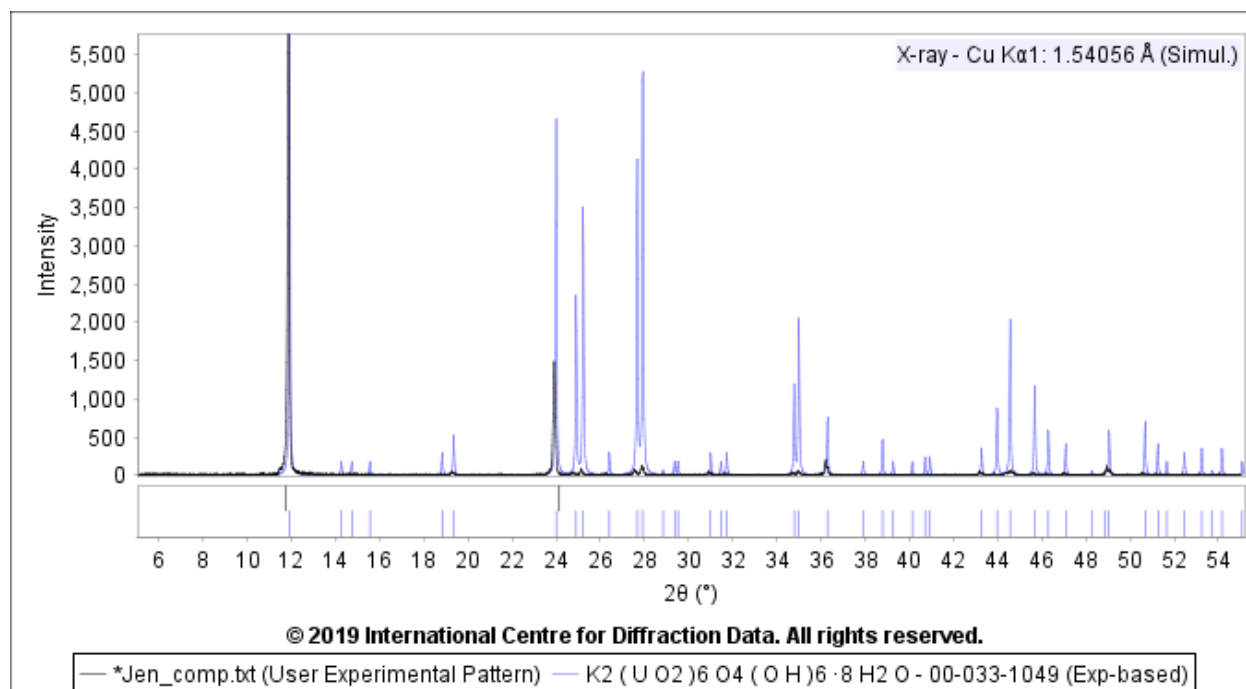


Fig. S1 PXRD pattern of synthetic compregnacite compared to ICDD database PDF # 00-033-1049 $\text{K}_2[(\text{UO}_2)_6\text{O}_4(\text{OH})_6(\text{H}_2\text{O})_8]$.

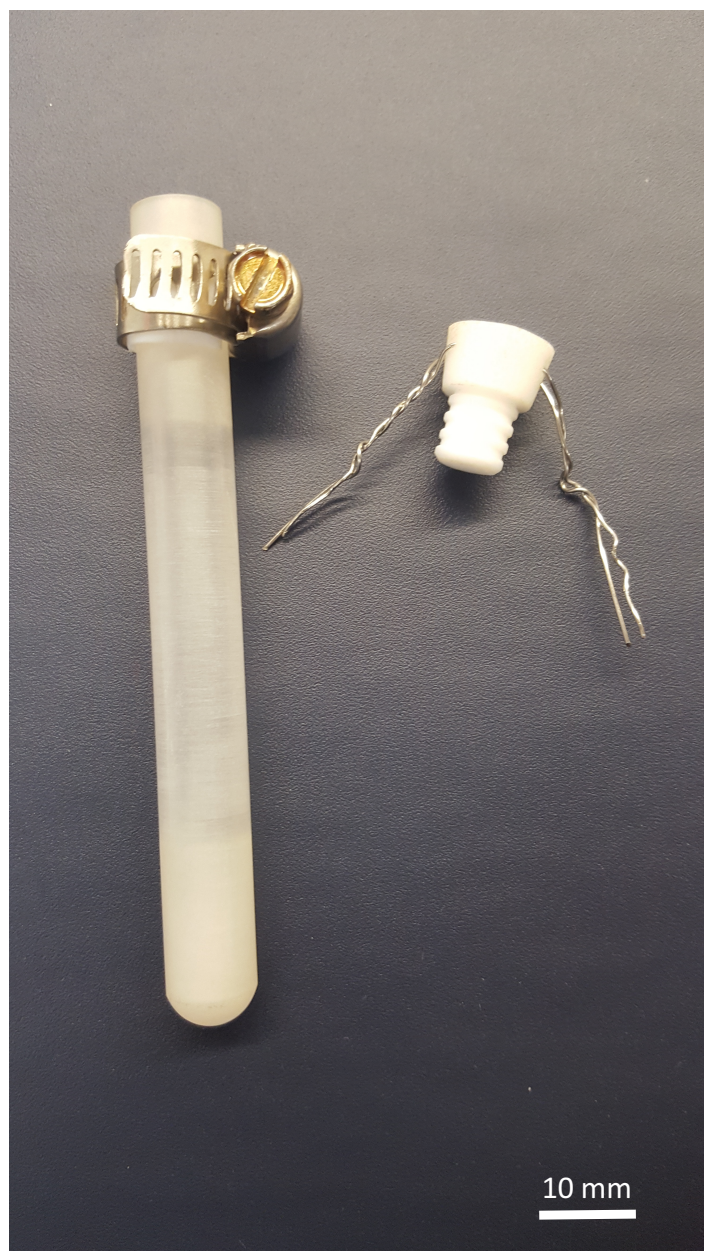


Fig. S2 Custom made sapphire tube and Teflon stopper with wire closure created by Rayotek Scientific, Inc.

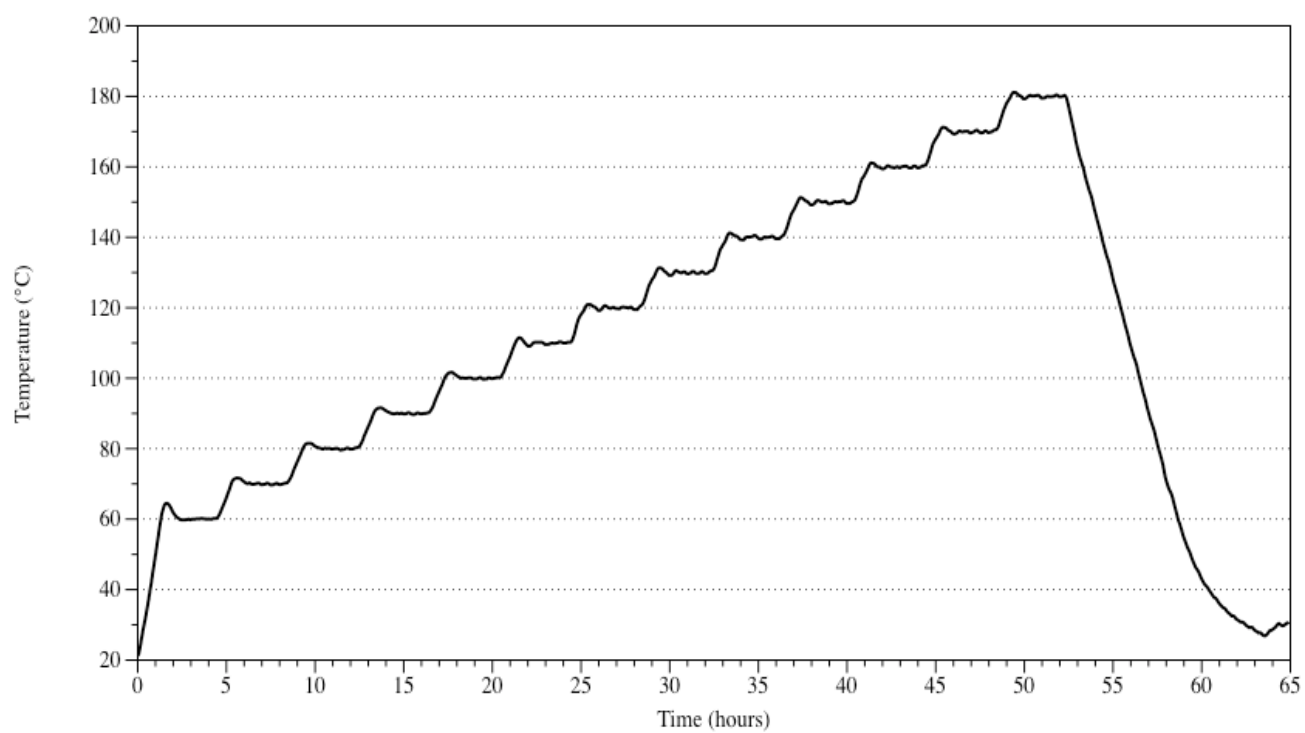


Fig. S3 Measured thermograph of the heating cycle used for *in situ* Raman experiments.

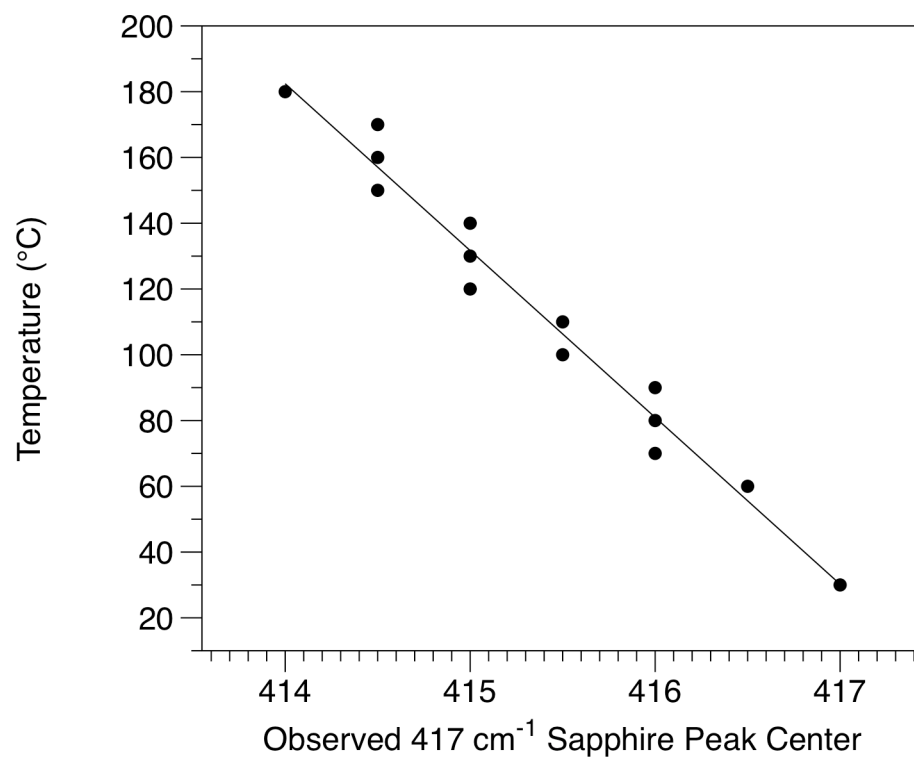


Fig. S4 Observed Raman shifting of the most intense sapphire peak verses temperature.

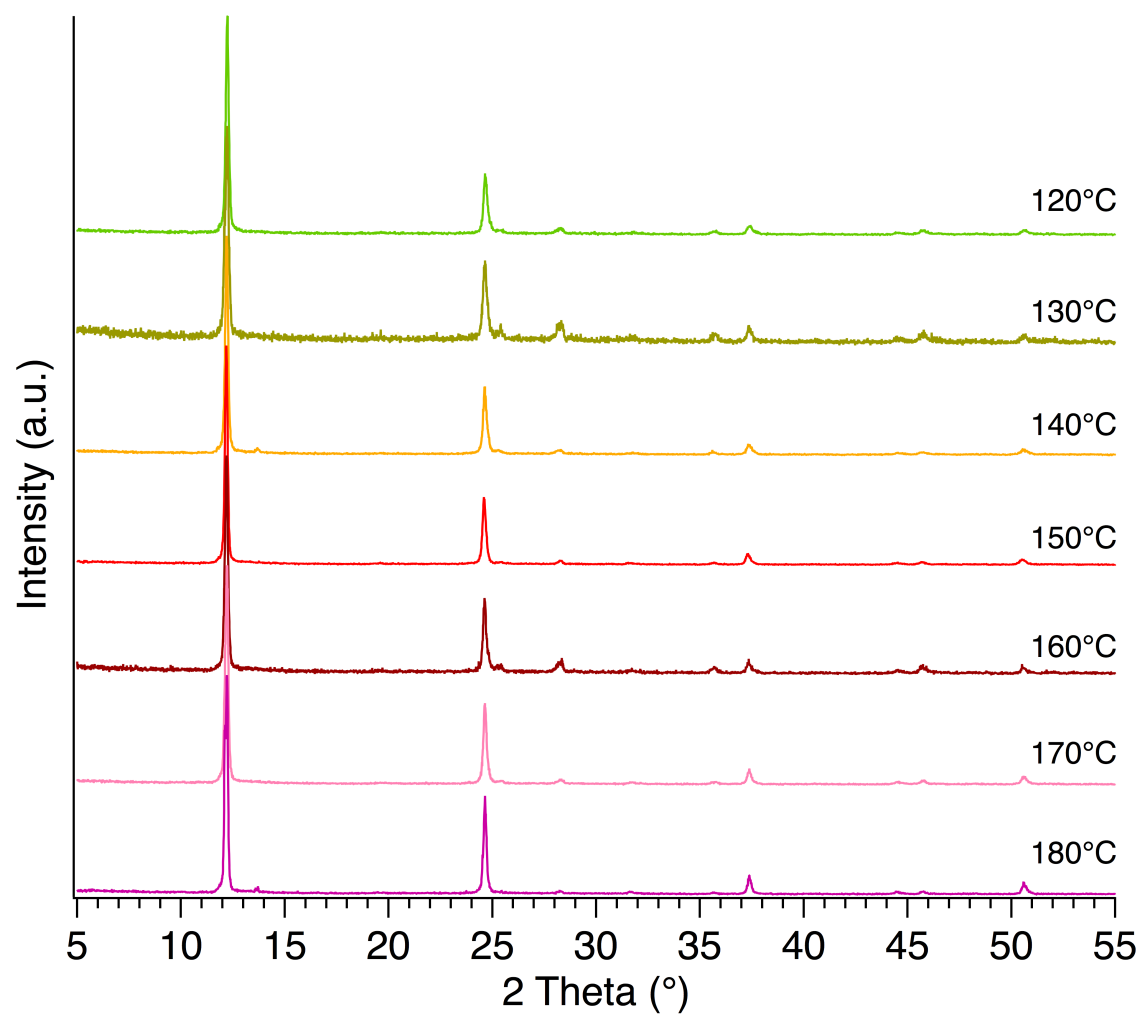


Fig. S5 PXRD Patterns of solids resulting from heating U_{60} solutions between 120°C and 180°C.

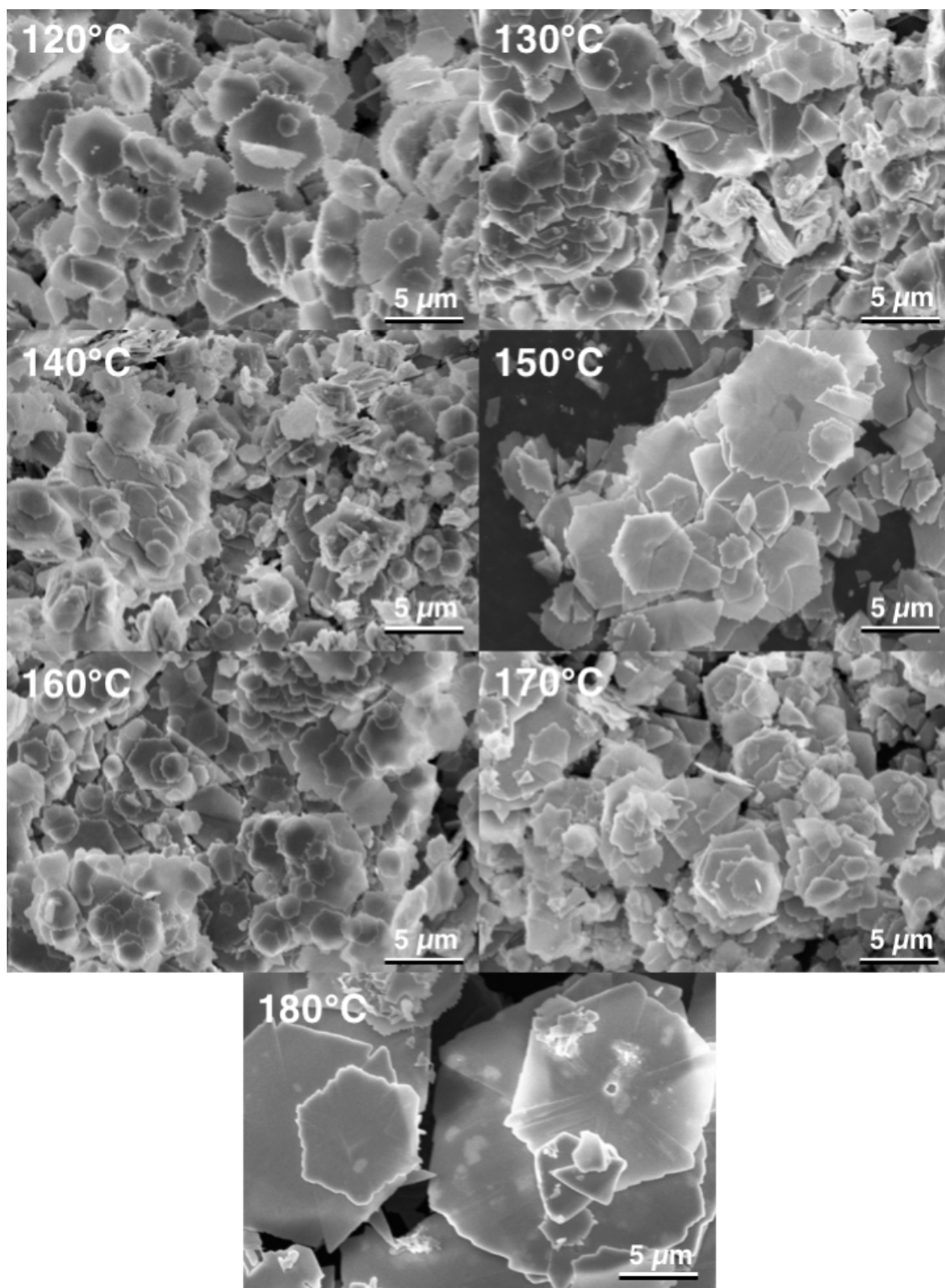


Fig. S6 SEM images of solids resulting from heating U_{60} solutions between 120°C and 180°C.

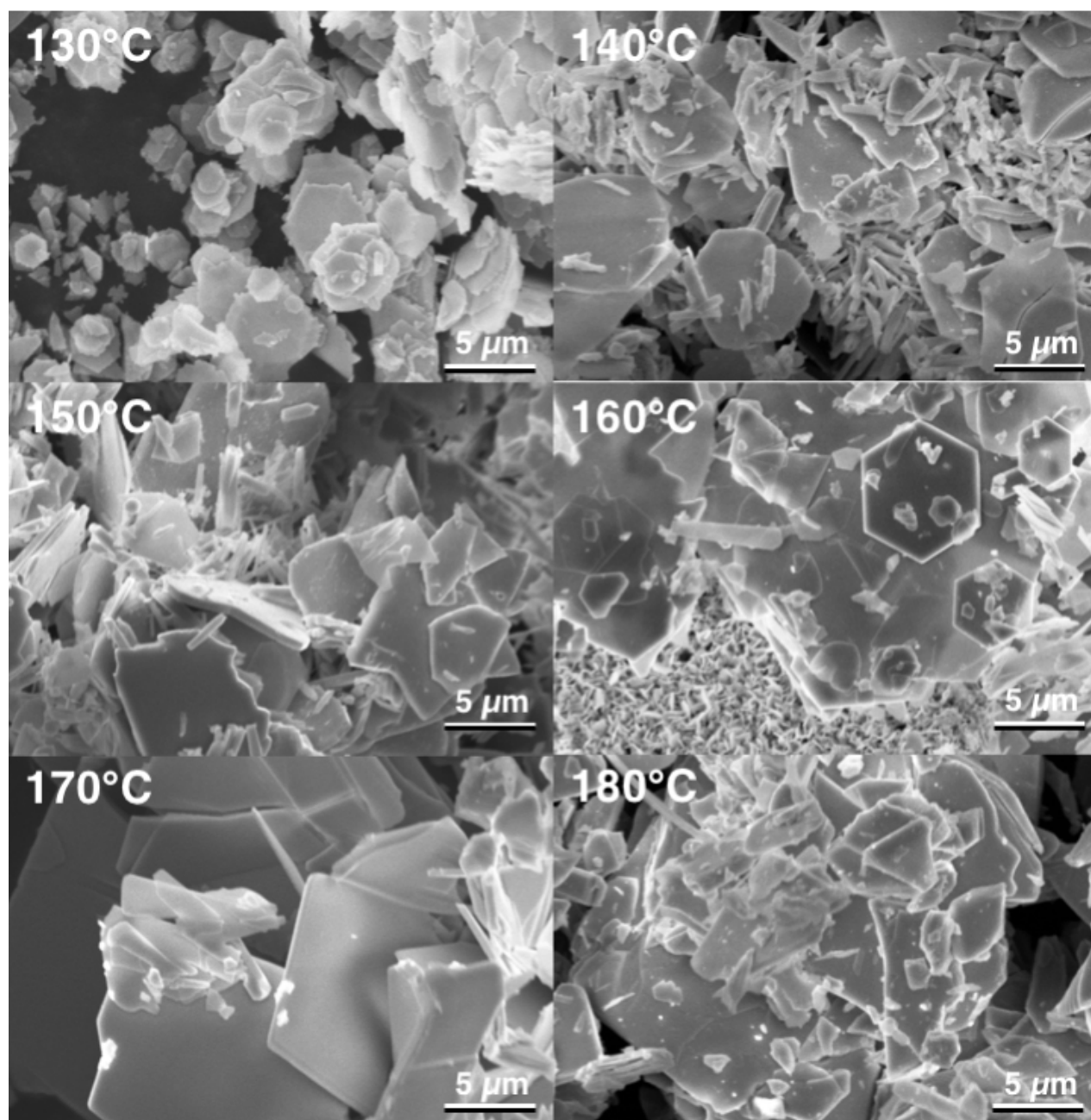


Fig. S7 SEM images of solids resulting from heating $U_{60}Ox_{30}$ solutions between 130°C and 180°C.