

Electronic Supplementary Information (ESI) for

Multi-Dimensional Micro-/nano-reactor Spheres for Sustainable Water Treatment

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FESEM images of HHHS

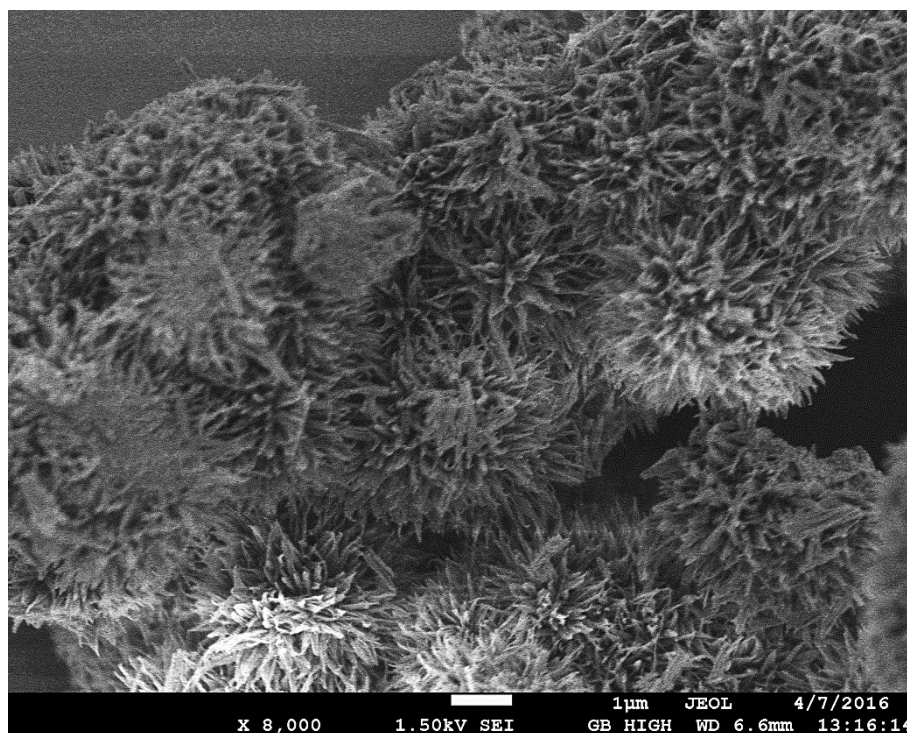


Figure 1 FESEM image of HHHS.

TEM images of HHHS Multi-shell structure

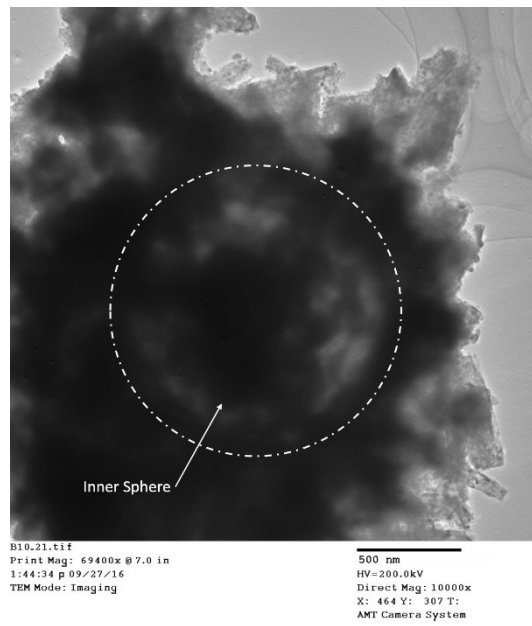


Figure 2 TEM image of inner sphere shown by the darker solid sphere within the round hollow shell

EDX Analysis

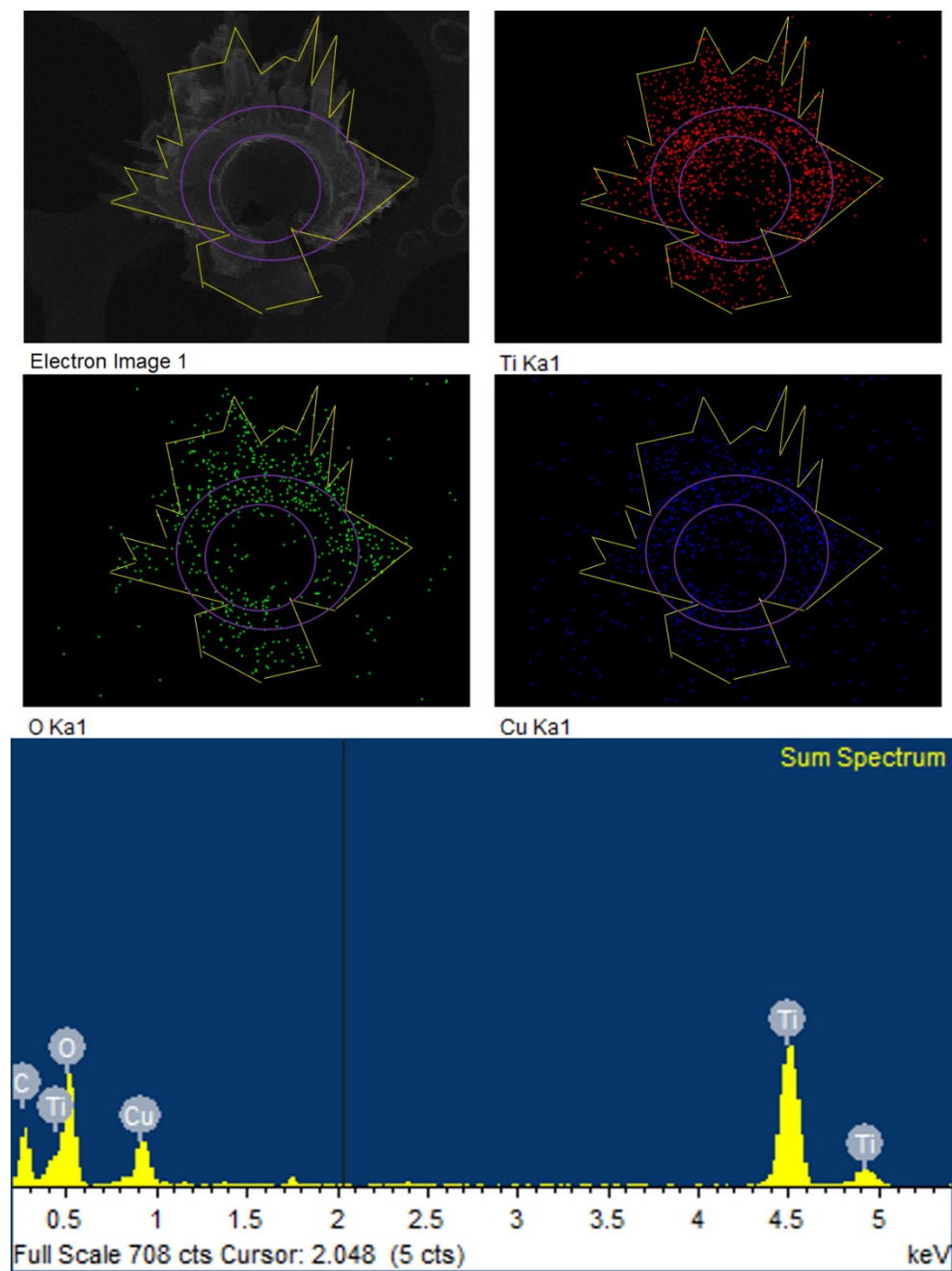


Figure 3 EDX analysis of HHHS

XRD Analysis and Indexing Information

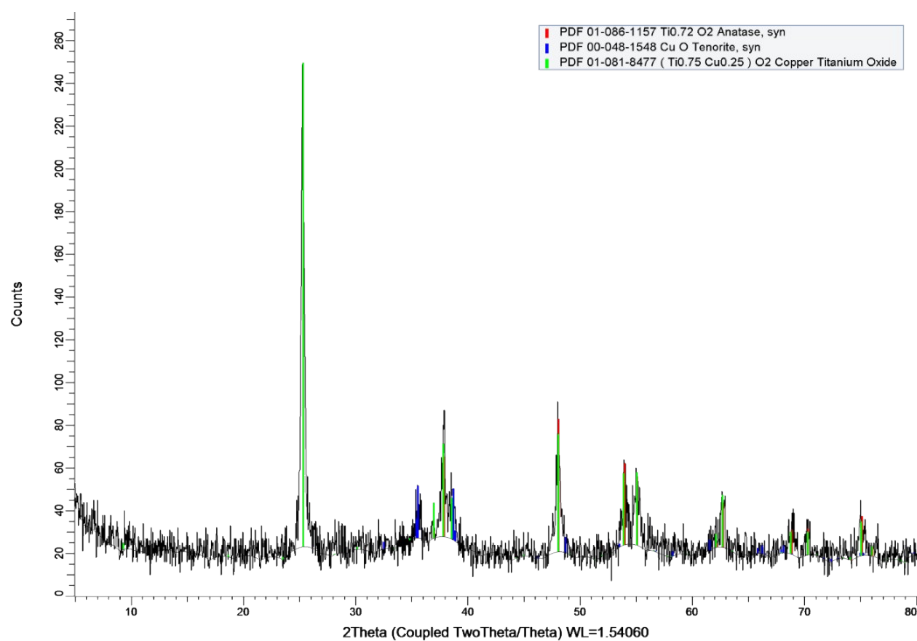


Figure 4. HHHS XRD indexing to Anatase TiO₂, CuO & Copper Titanium Oxide

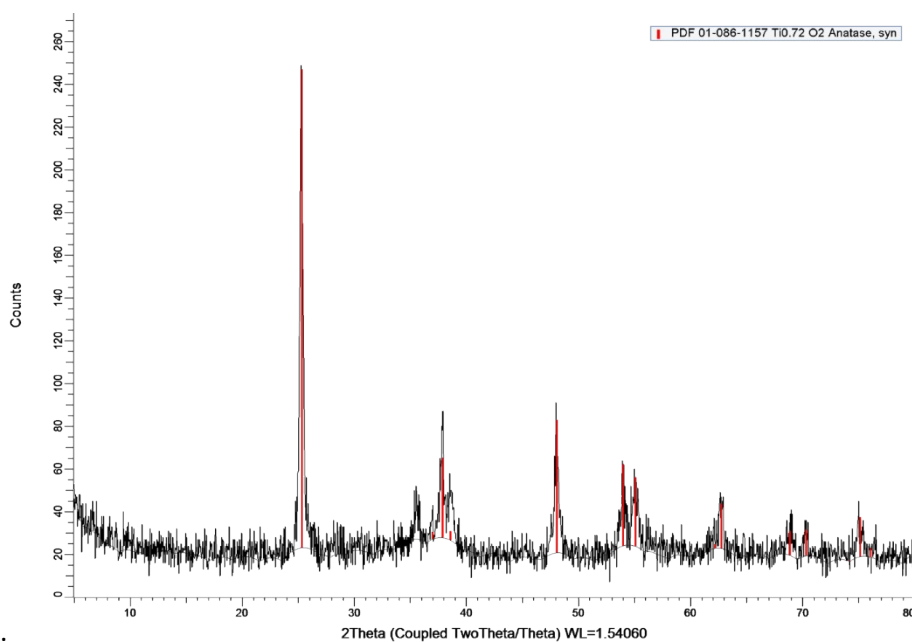


Figure 5. HHHS Individual XRD indexing to Anatase TiO₂

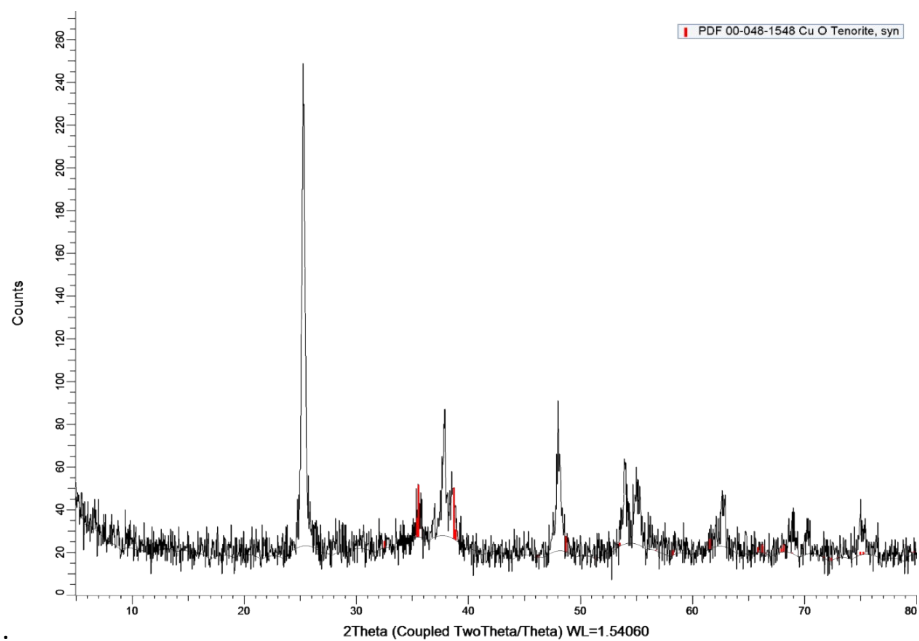


Figure 6. HHHS Individual XRD indexing to CuO

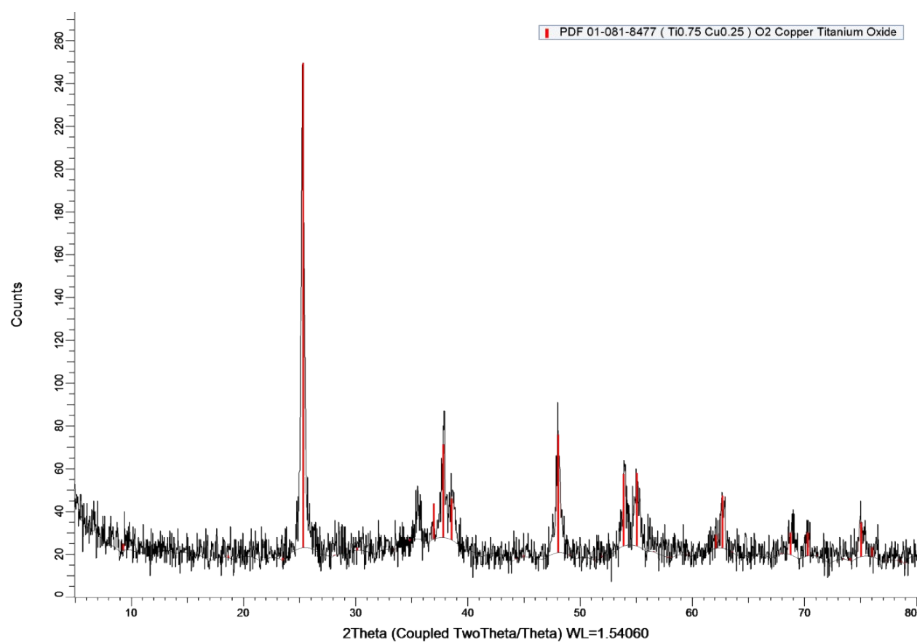


Figure 7. HHHS Individual XRD indexing to CuTi₃O₈

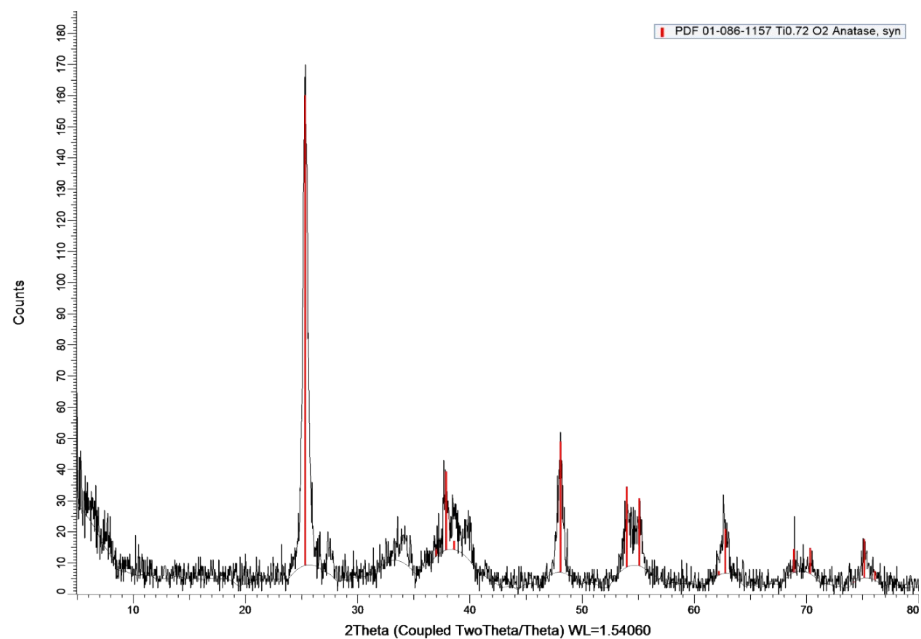


Figure 8. HHTS XRD indexing to Anatase TiO_2

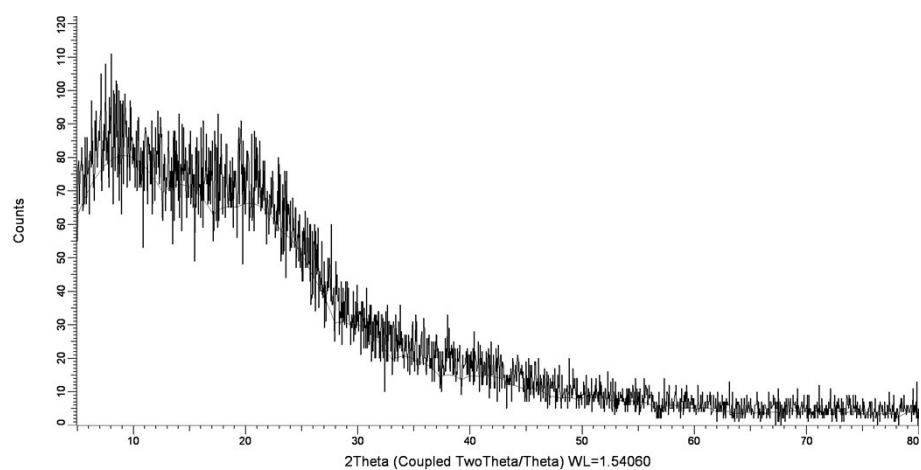


Figure 9 Carbonaceous Spheres XRD pattern

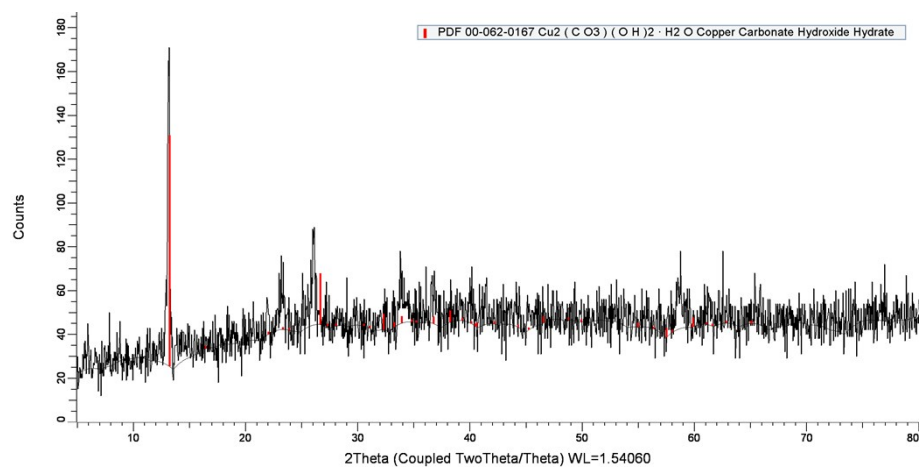


Figure 10 Cu-C spheres XRD indexing to Copper Carbonate Hydroxide Hydrate

Kubelka-Munk Function

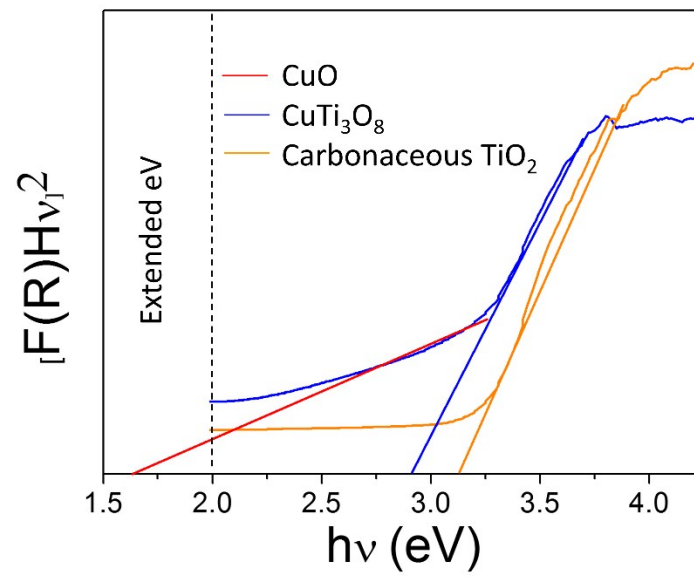


Figure 11 Kubelka-Munk function reflecting HHTS Carbonaceous TiO_2 , shift in the eV of the HHHS due to possible hypothetical CuTi_3O_8 and the presence of CuO which eV ranges from 1.2 to 2.