

Supporting Information

Water oxidation by simple manganese salts in the presence of cerium(IV) ammonium nitrate: Towards a complete picture

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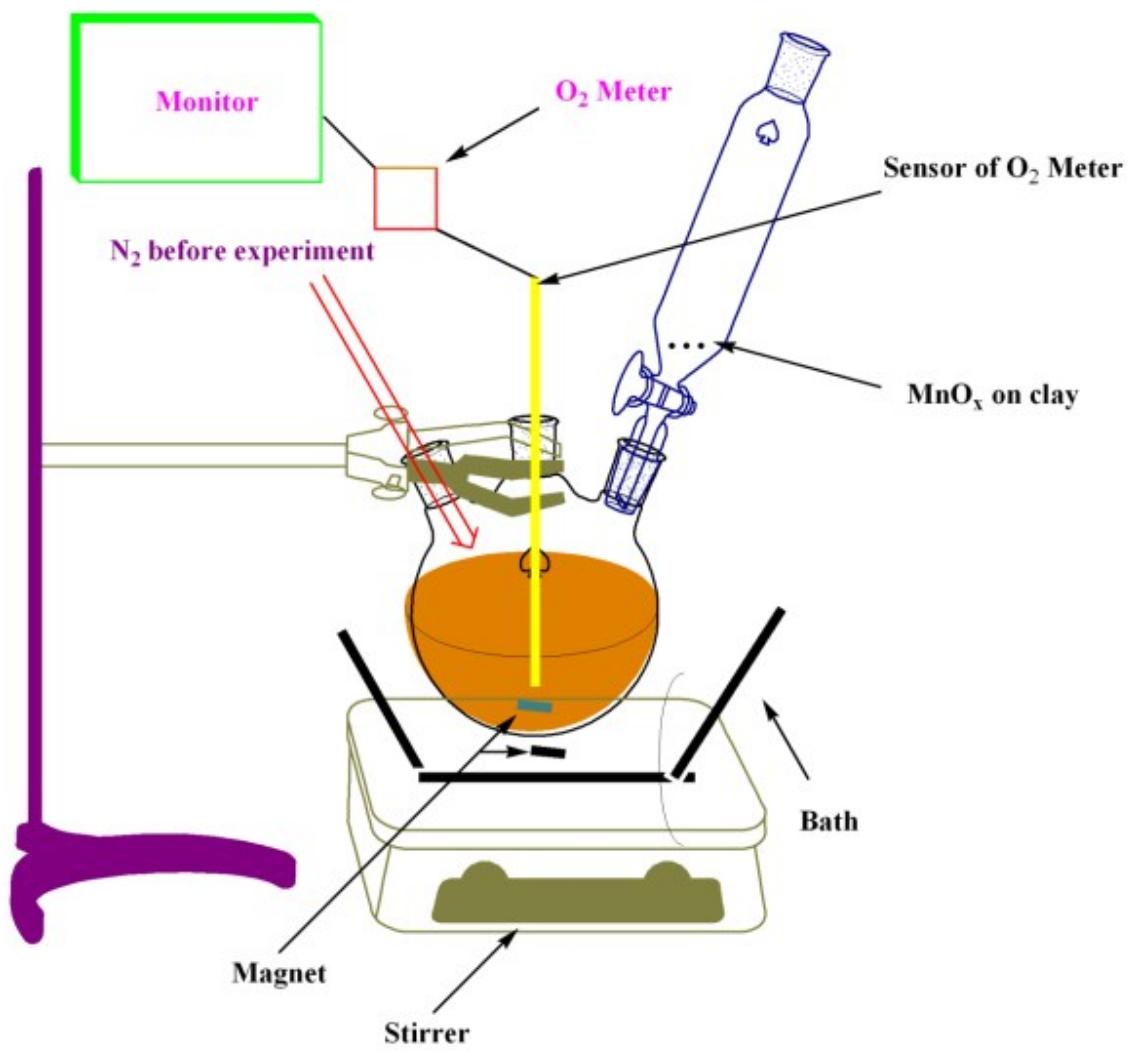


Fig. S1 Water-oxidation experiments set up.

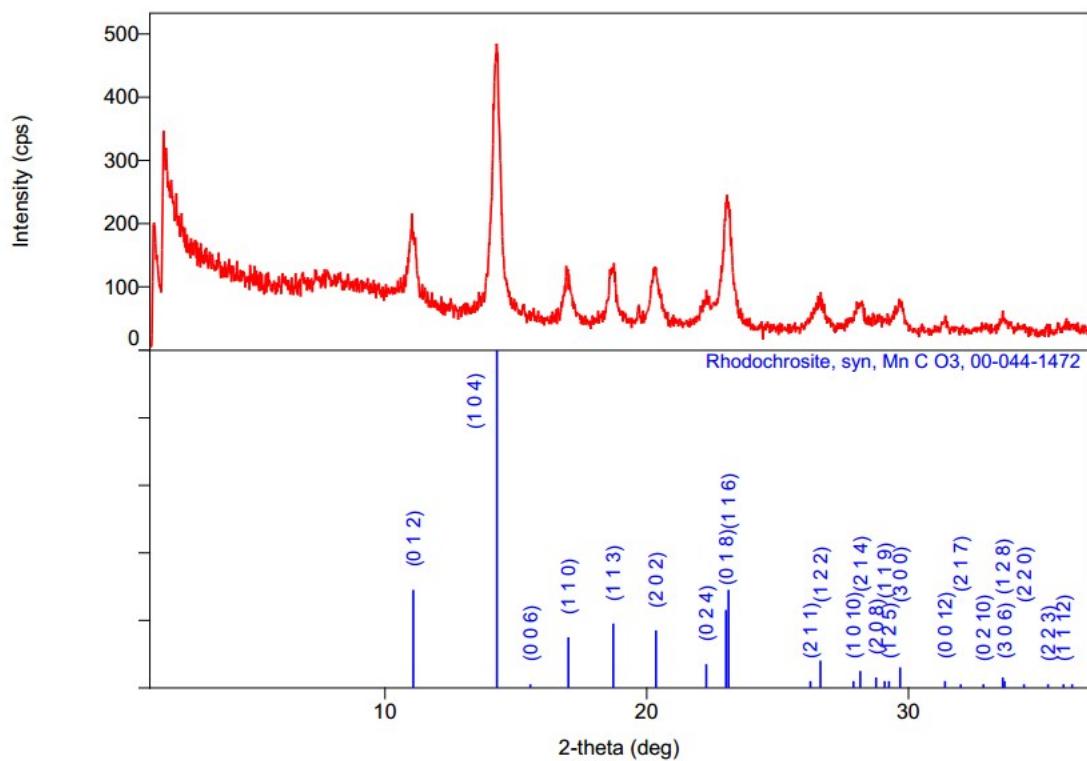


Fig. S2 XRD pattern of MC-RT.

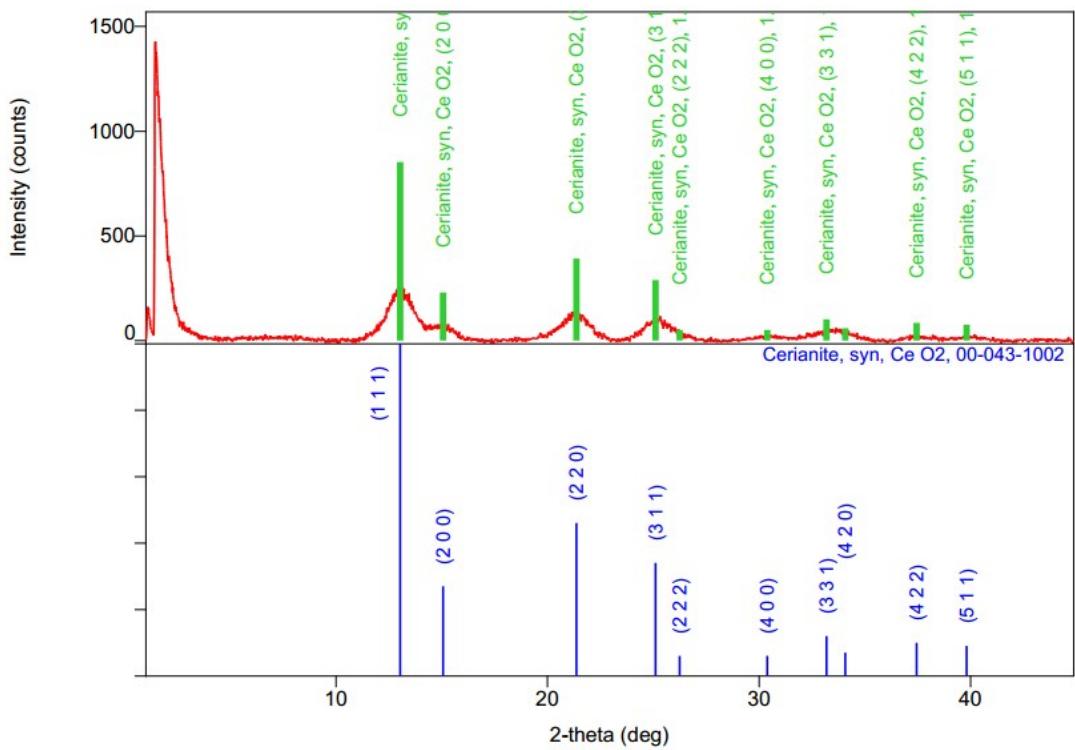


Fig. S3 XRD pattern of CMC-RT.

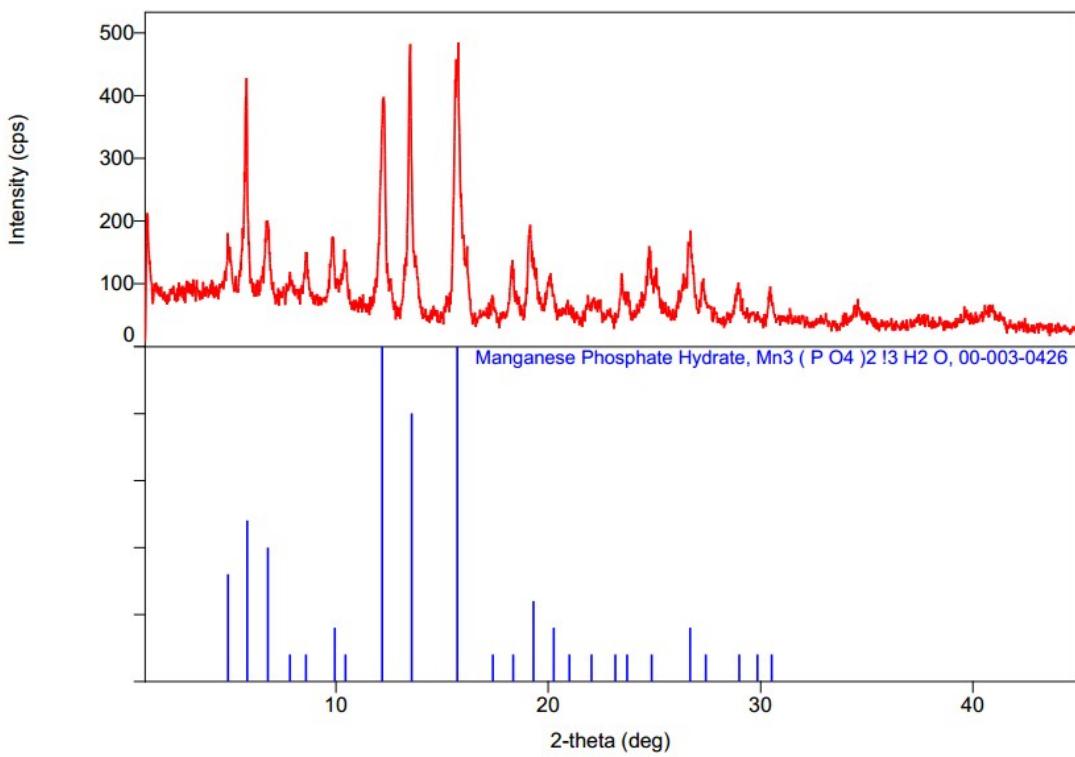


Fig. S4 XRD pattern of MP-60.

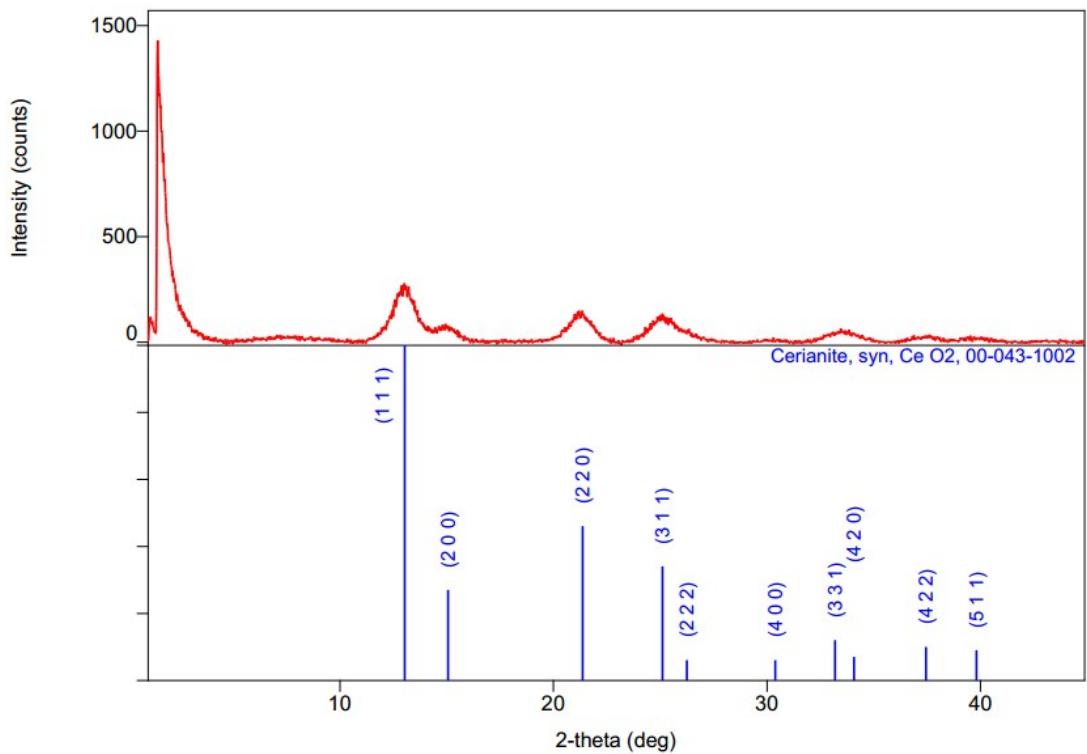


Fig. S5 XRD pattern of CMP-60.

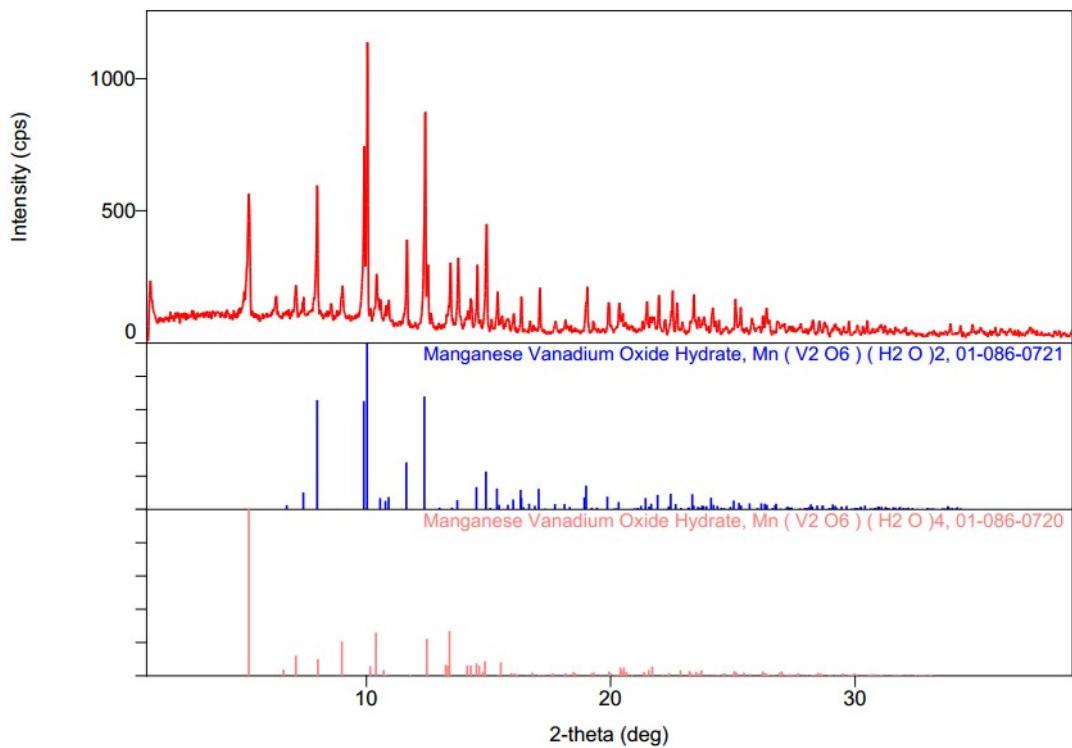


Fig. S6 XRD pattern of MV-60.

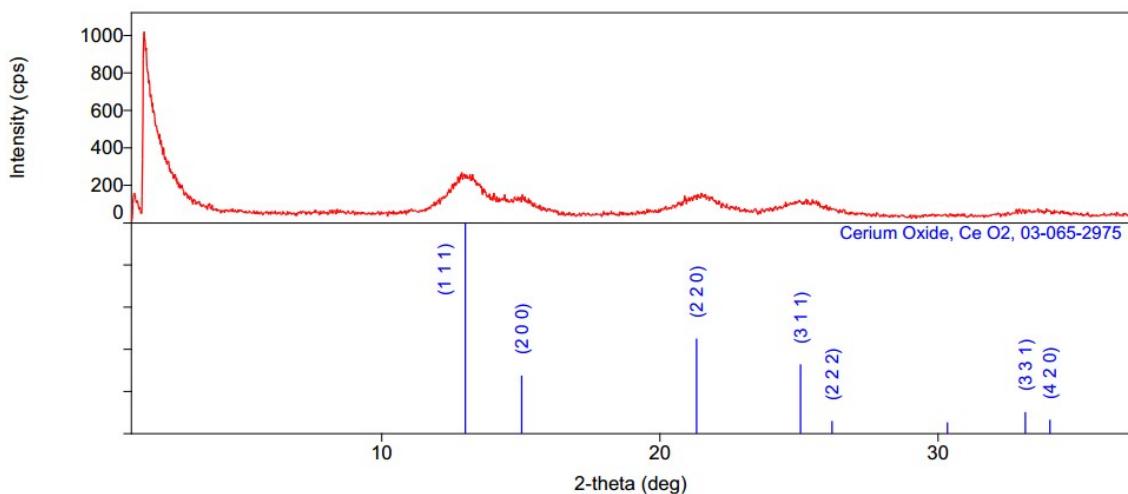


Fig. S7 XRD pattern of CMV-60.

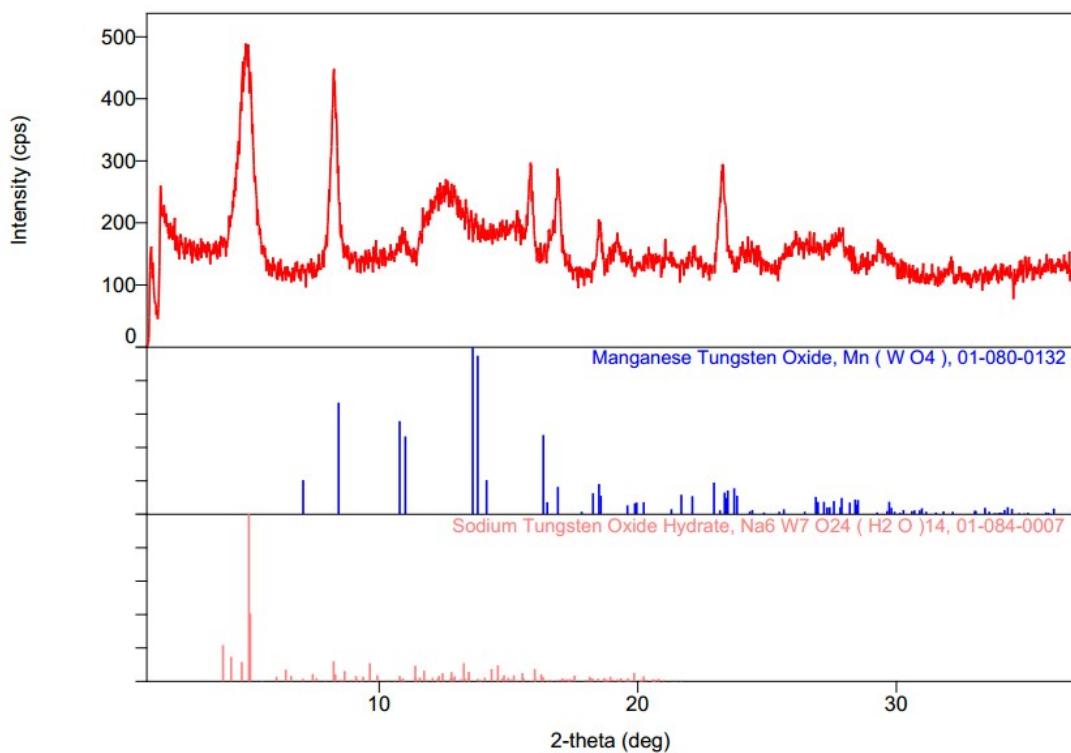


Fig. S8 XRD pattern of MW-60.

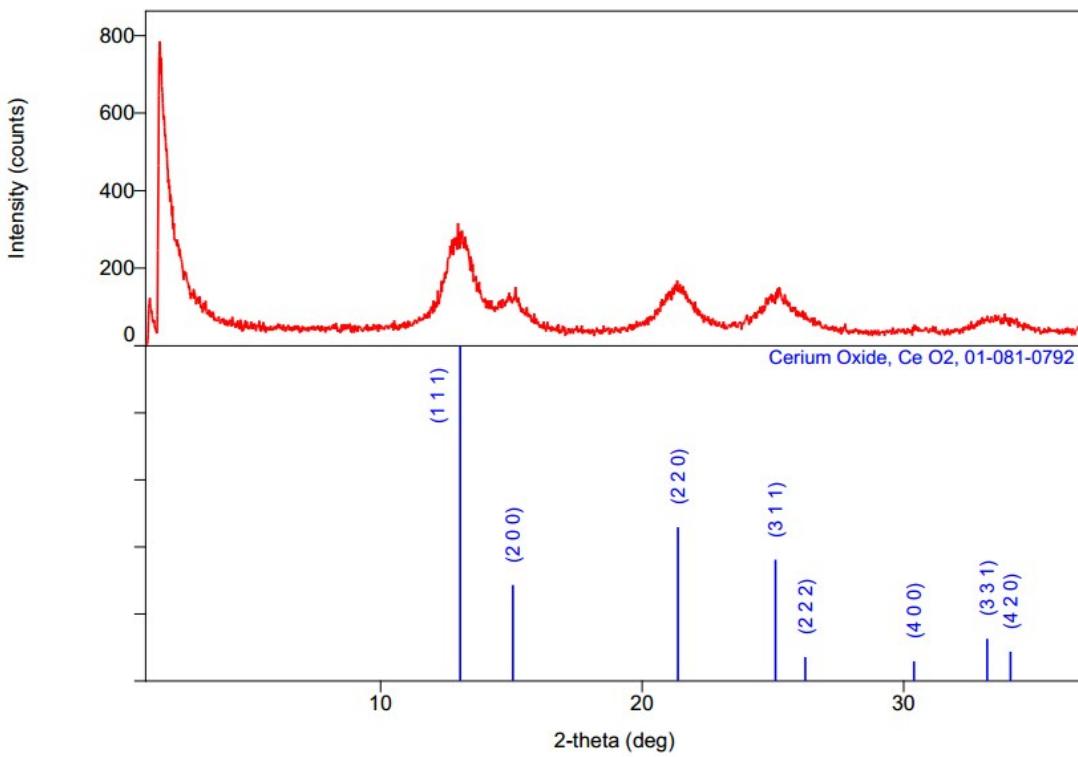


Fig. S9 XRD pattern of CMW-60.

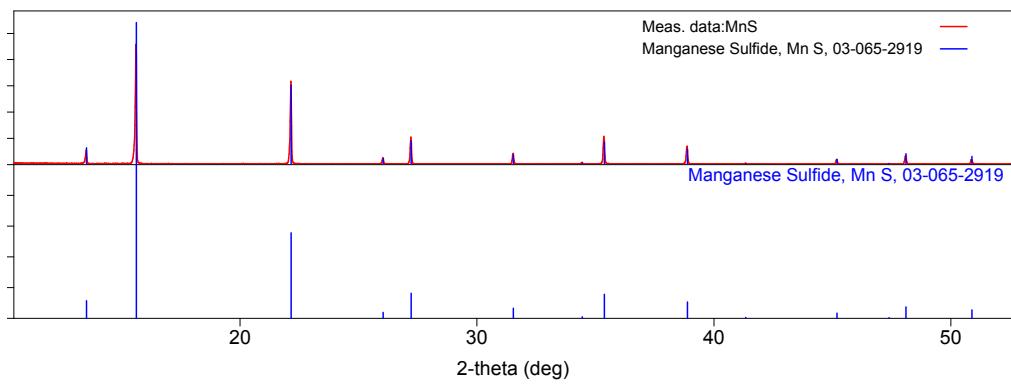


Fig. S10 XRD pattern of MS-RT.

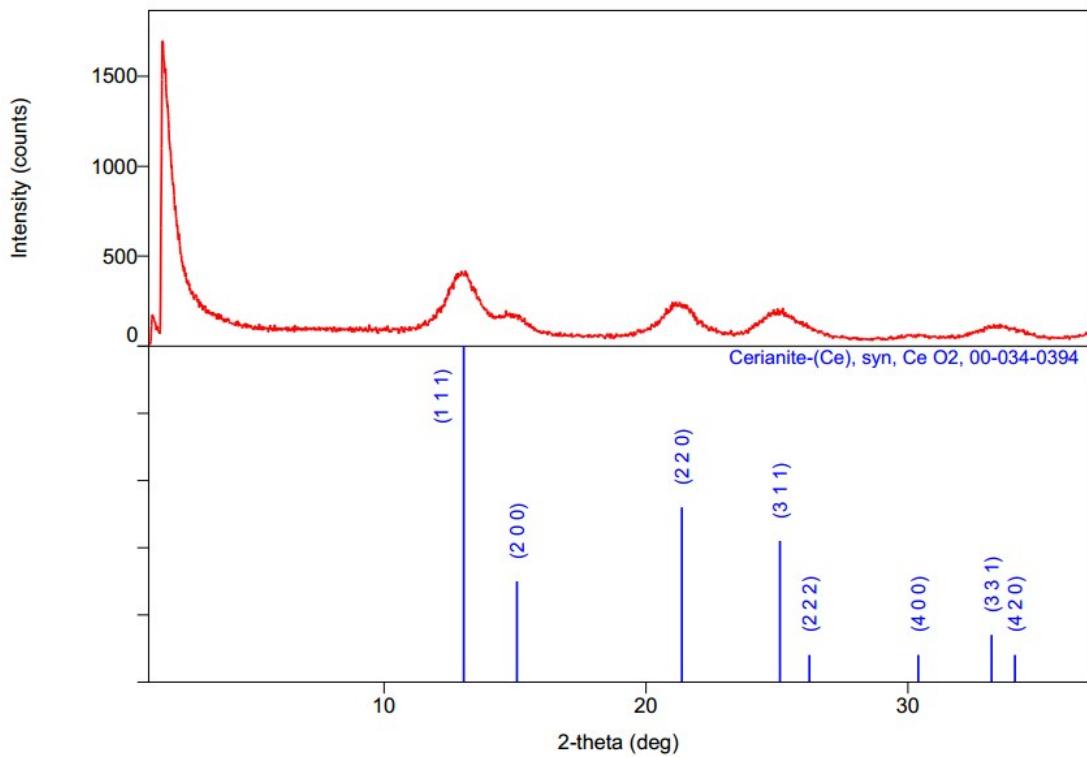


Fig. S11 XRD pattern of CMS-RT.

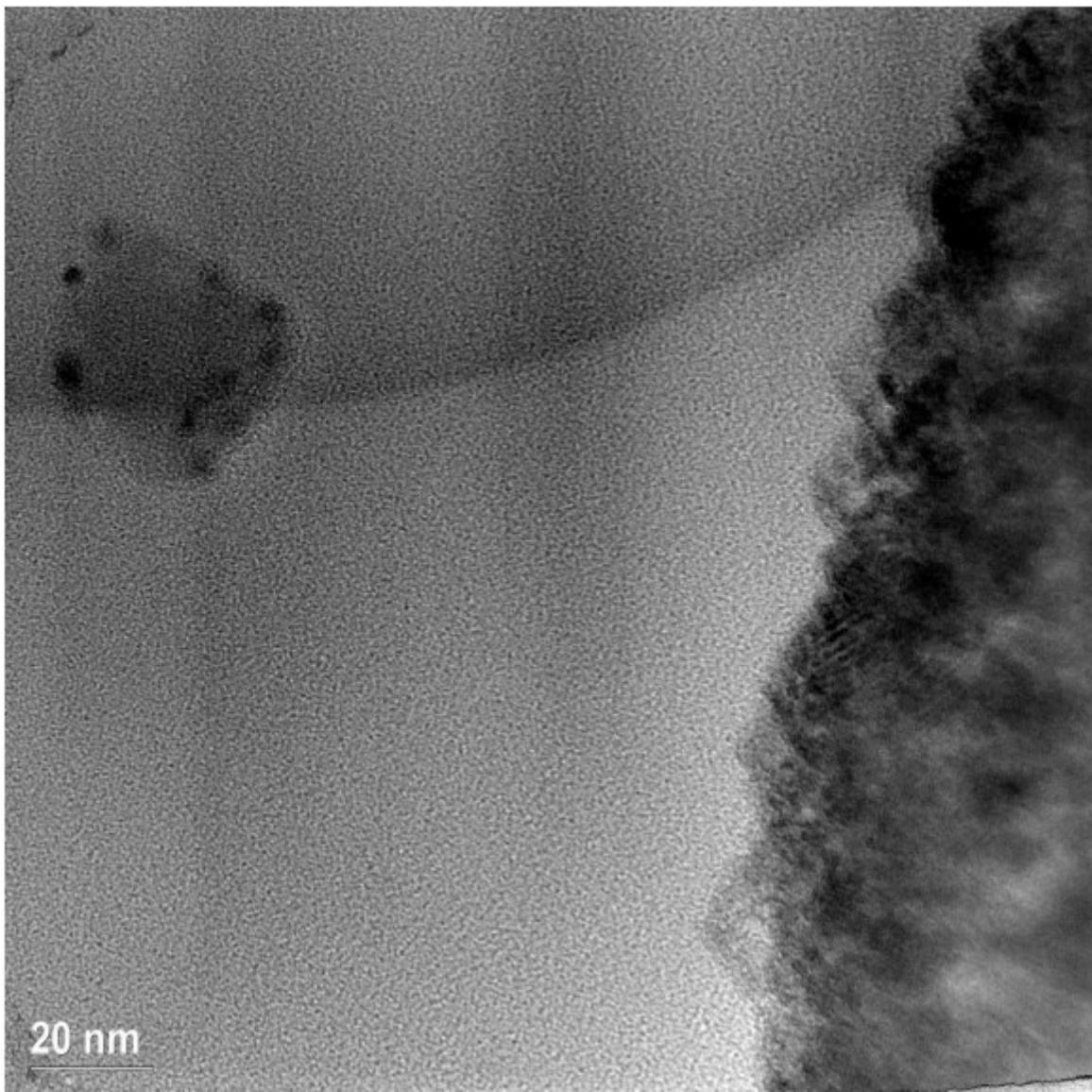


Fig. S12 HRTEM image of MC-RT.

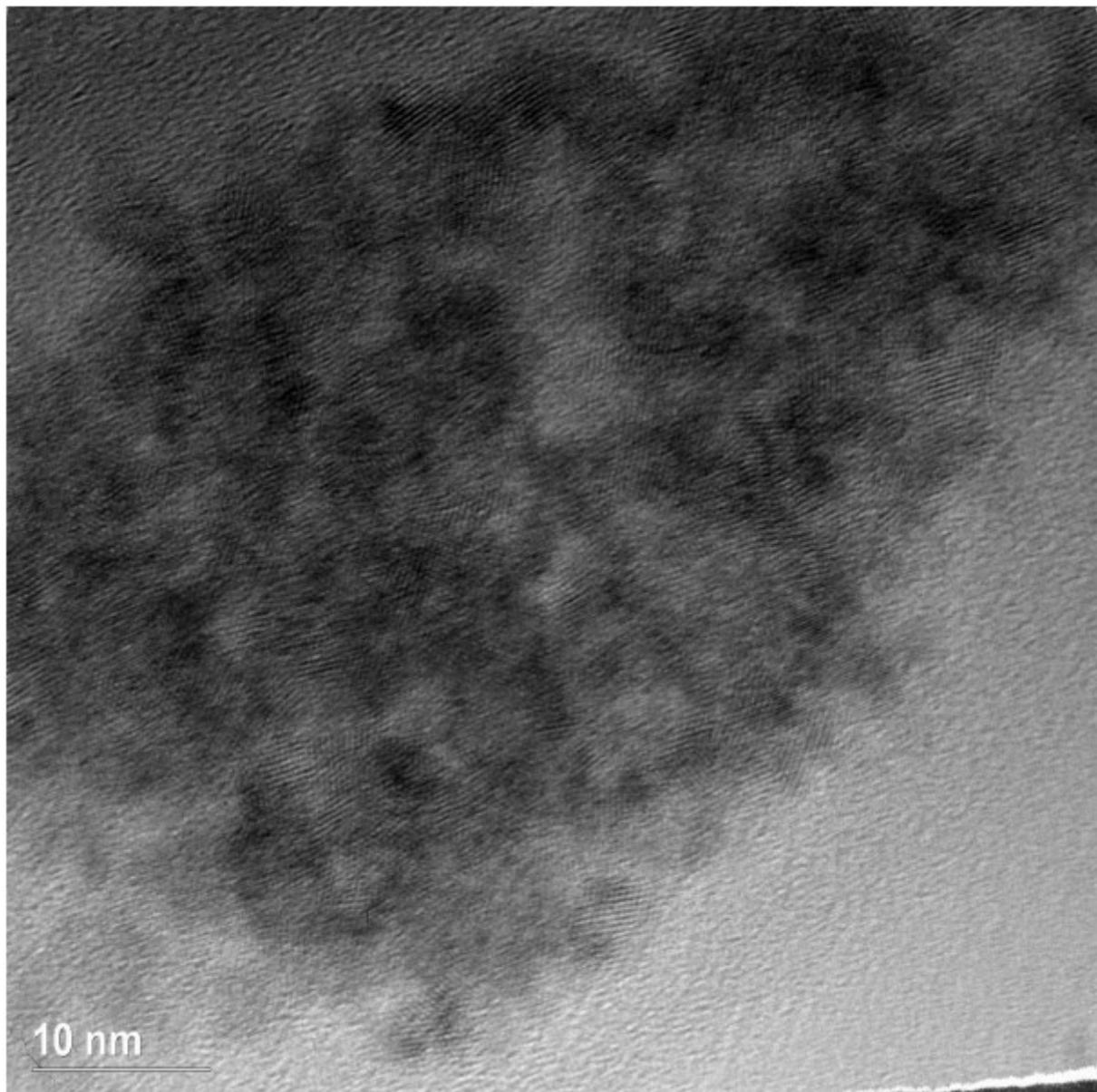


Fig. S13 HRTEM image of CMC-RT.

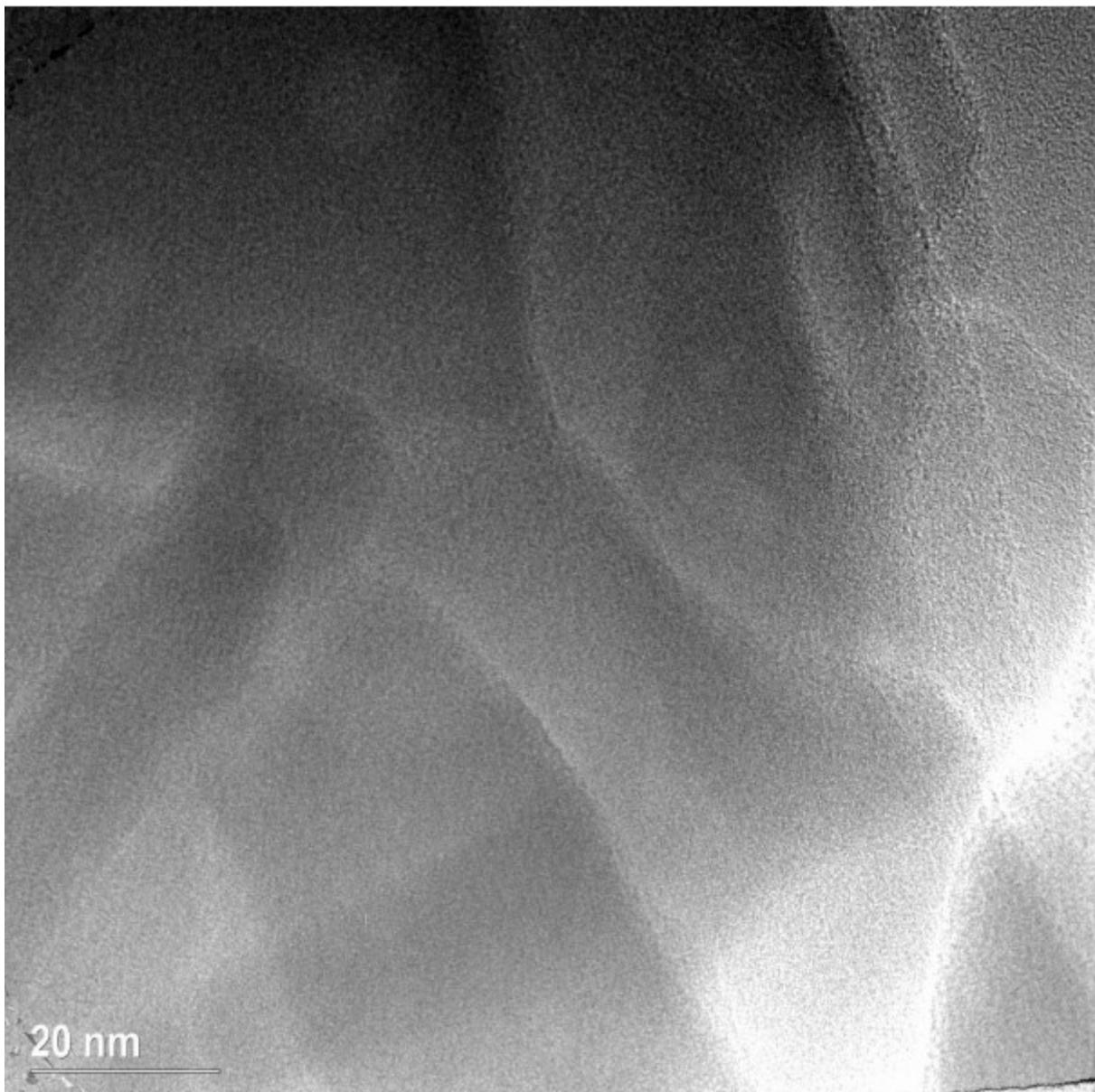


Fig. S14 HRTEM image of MP-60.

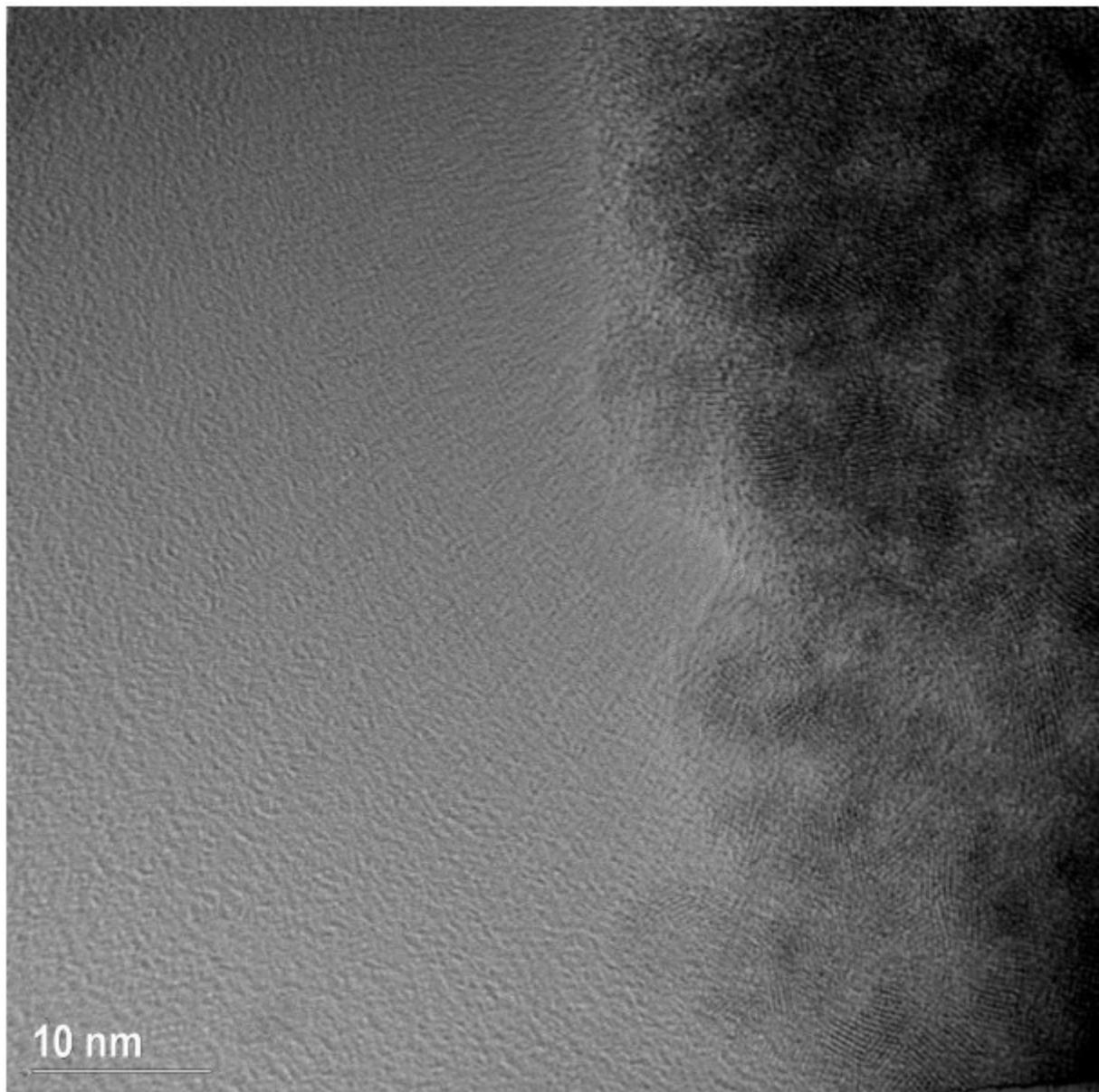


Fig. S15 HRTEM image of CMP-60.



Fig. S16 HRTEM image of MV-60.

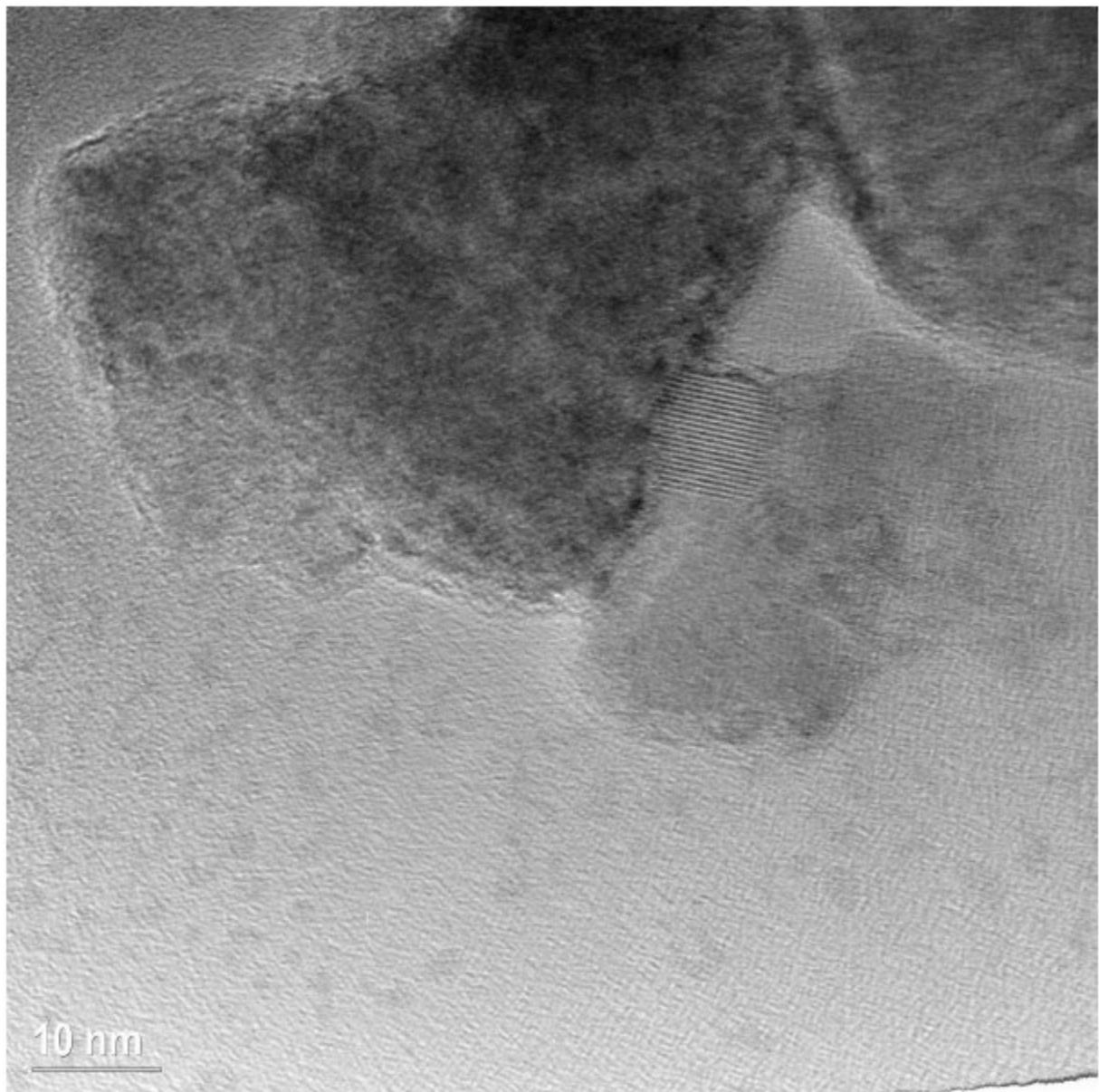


Fig. S17 HRTEM image of CMV-60.

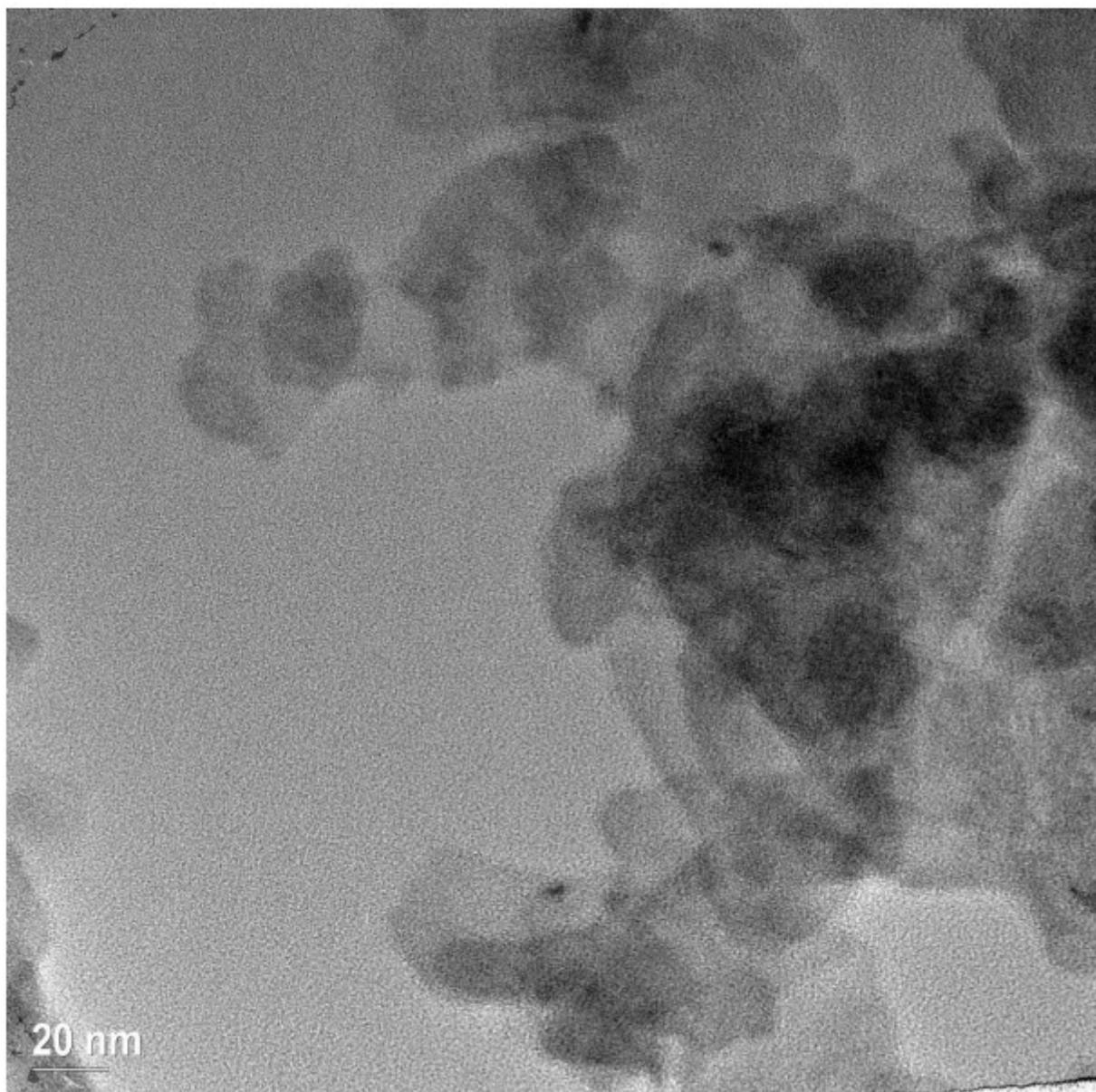


Fig. S18 HRTEM image of MW-60.

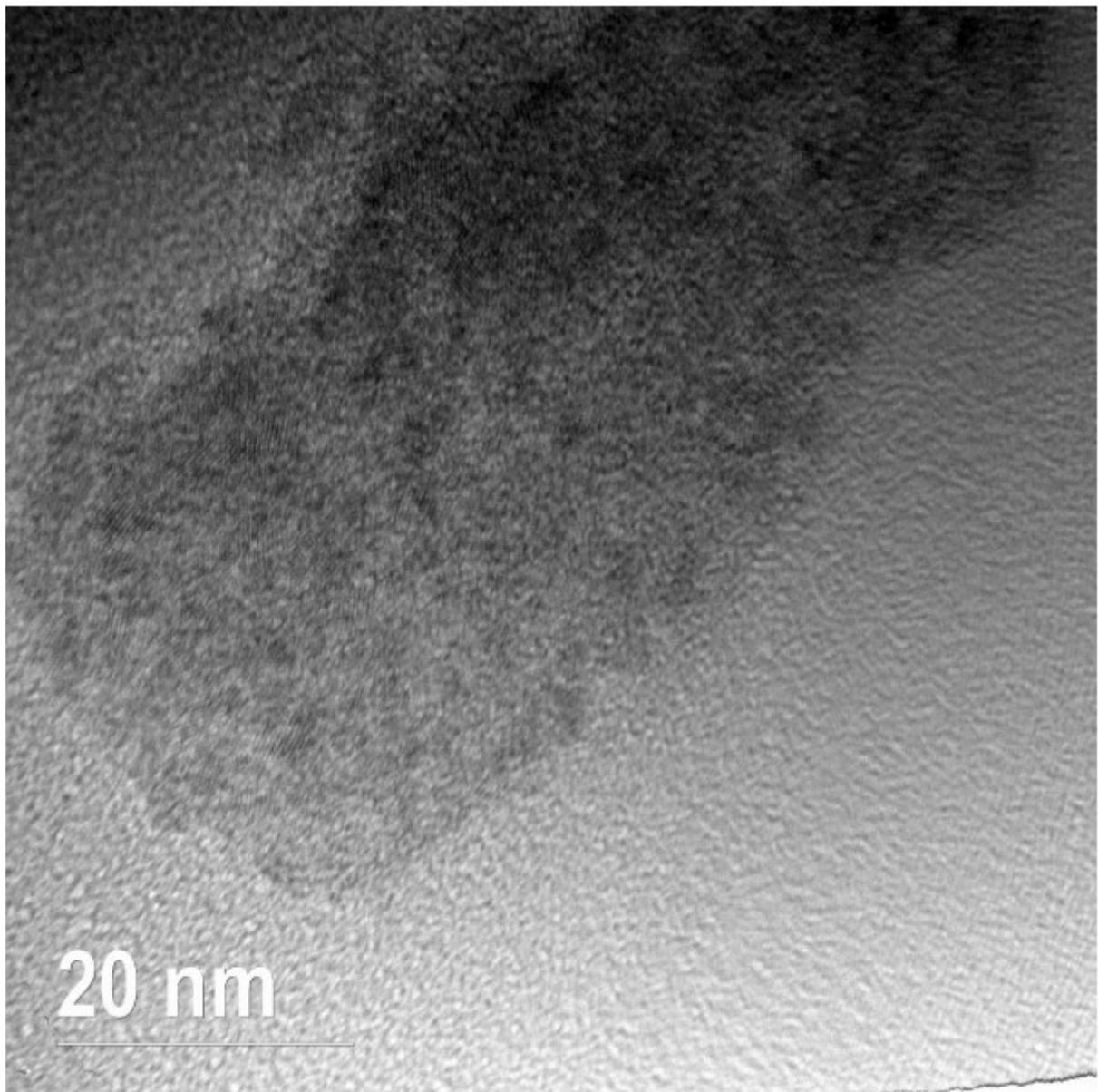


Fig. S19 HRTEM image of CMW-60.

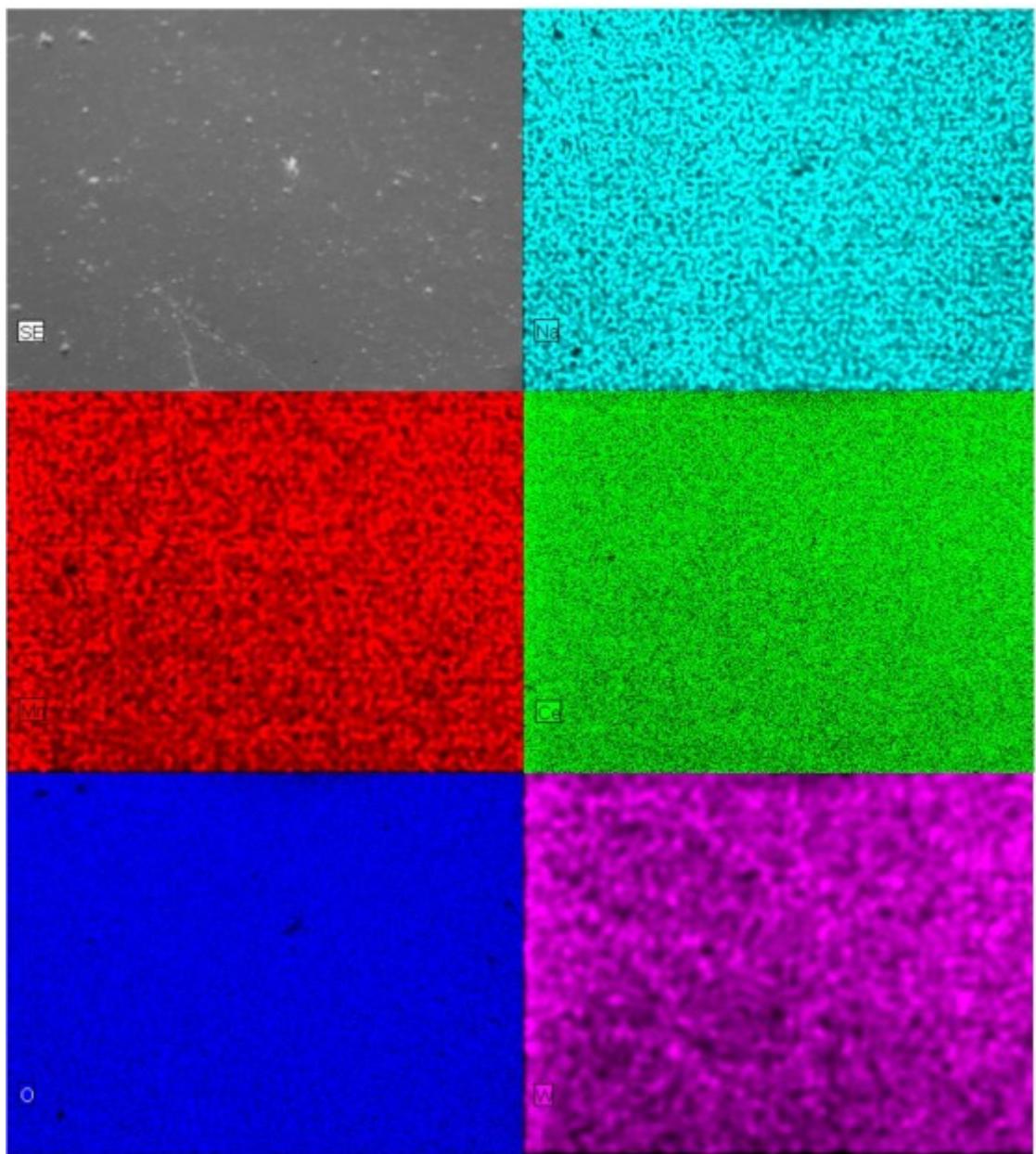


Fig. S20 EDX mapping results for CMW-60. Na (light blue), Mn (red), Ce (green), O (dark blue), W (purple).

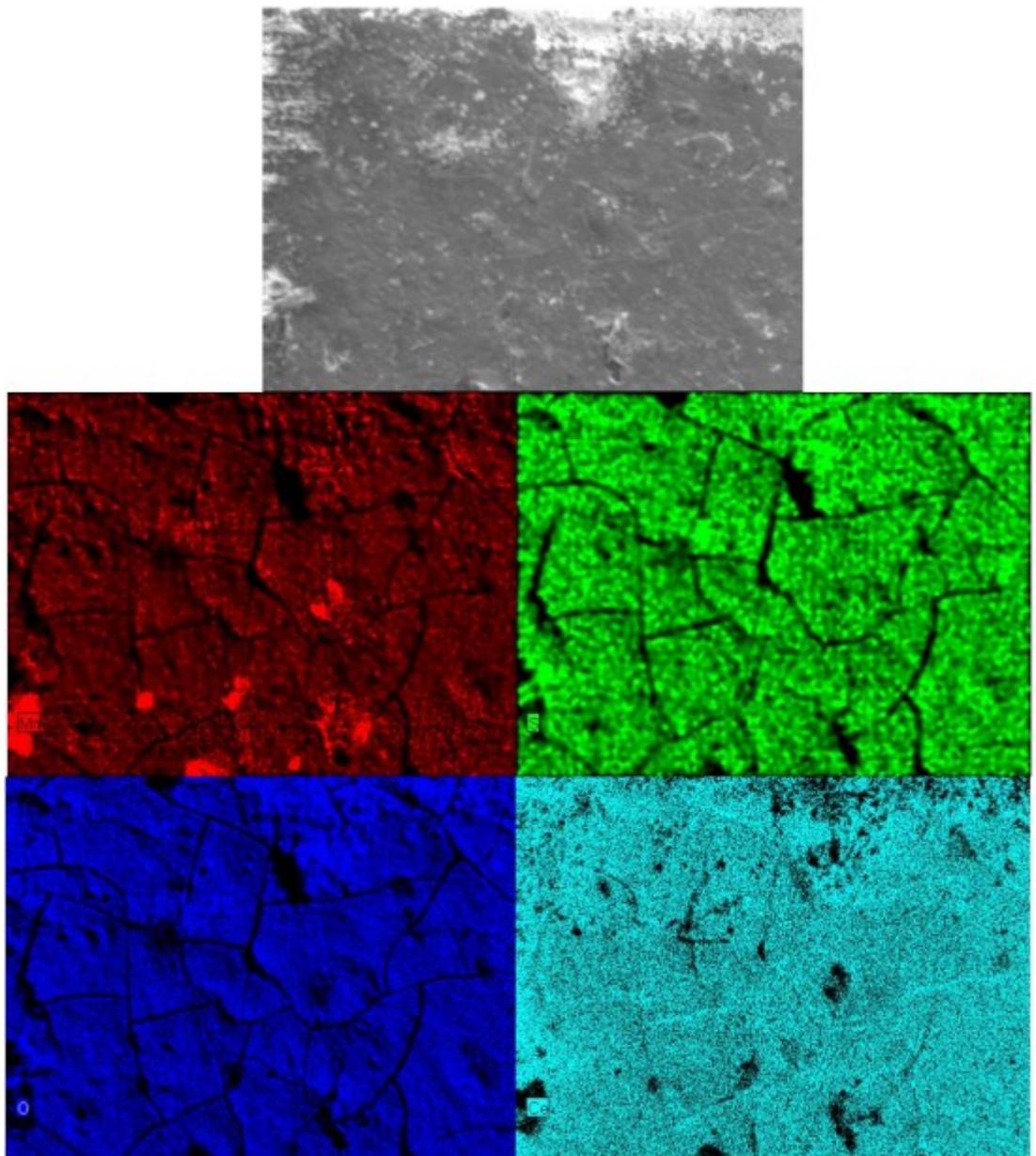


Fig. S21 EDX mapping results of CMS-RT. Mn (red), S (green), O (dark blue), Ce (light blue).

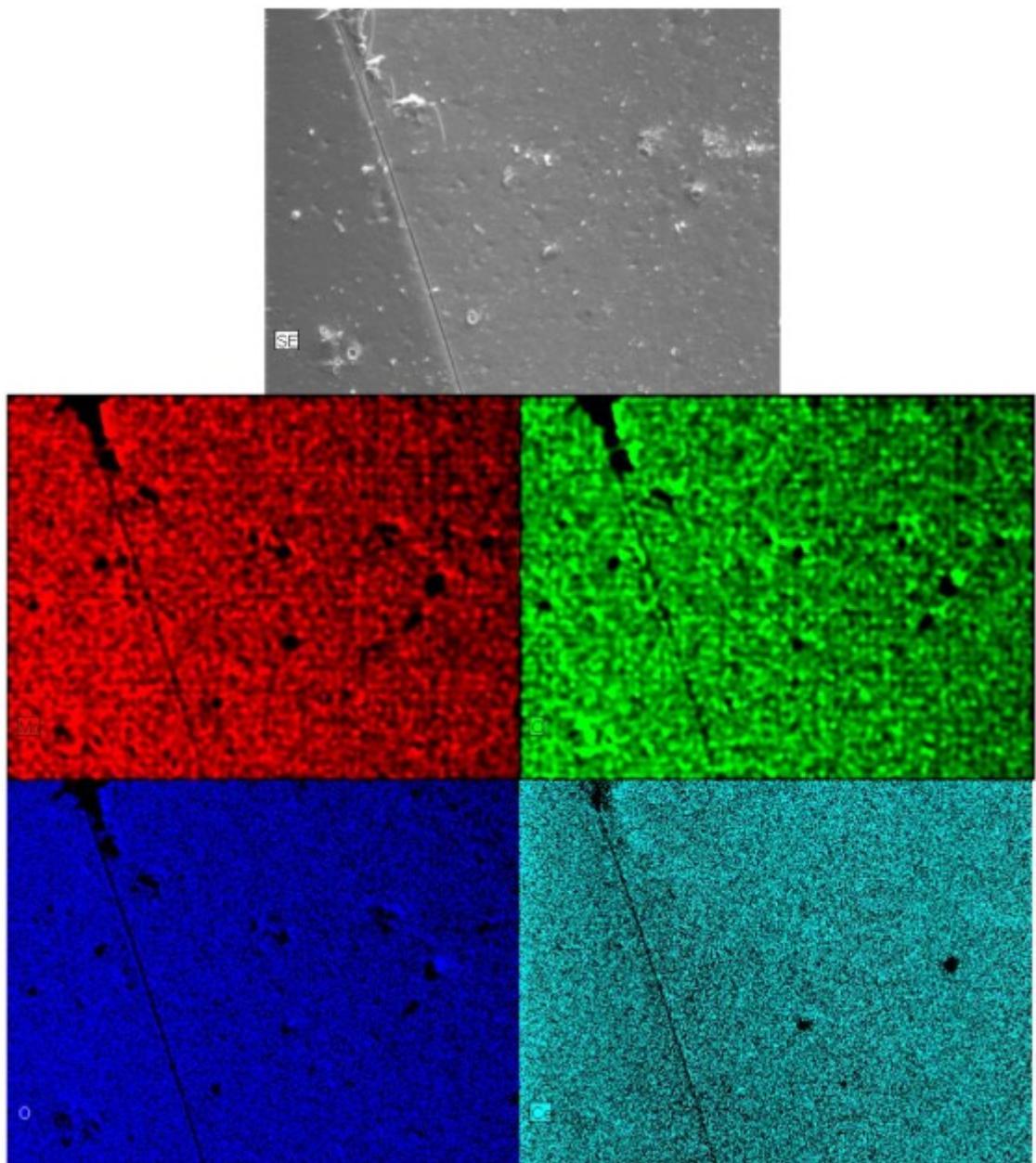


Fig. S22 EDX mapping results for CMC-RT: Mn (red), C (green), O (dark blue), Ce (light blue).

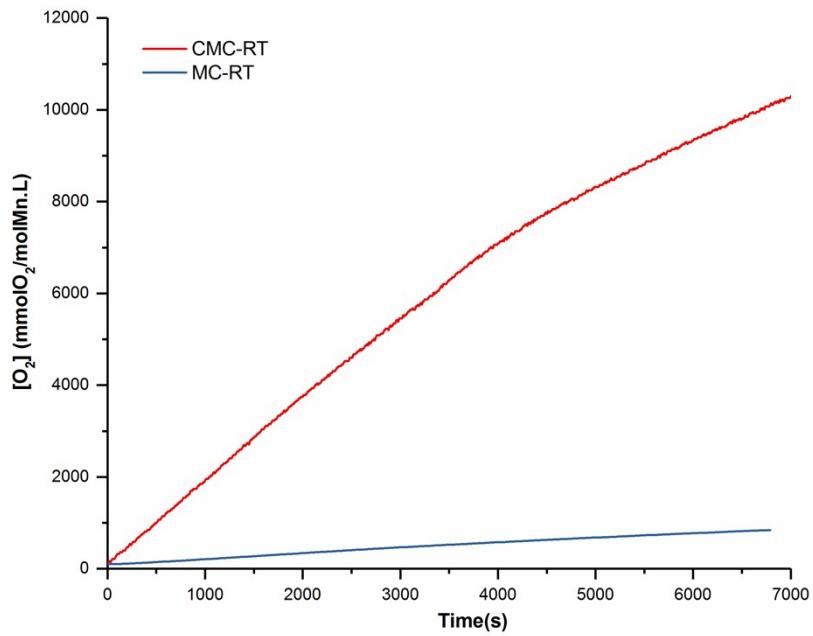


Fig. S23 Rate of oxygen evolution for MC-RT and CMC-RT.

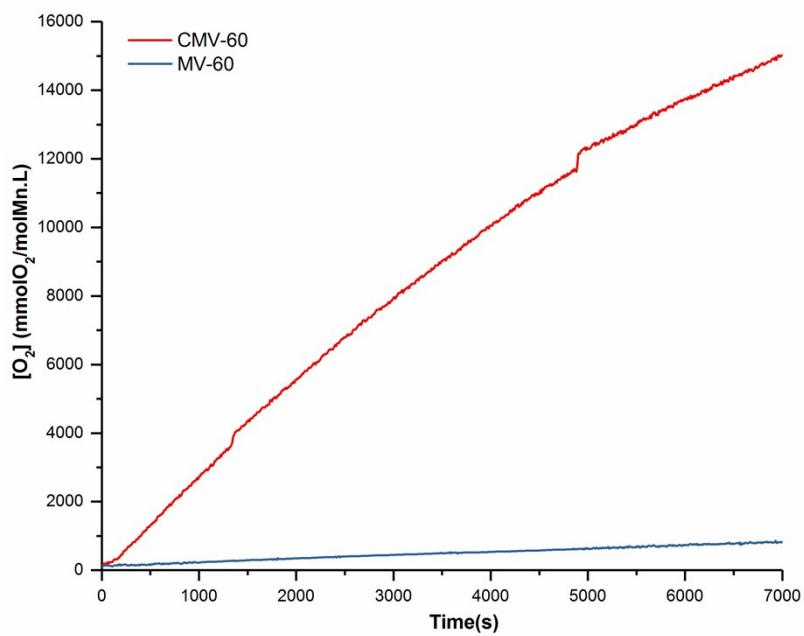


Fig. S24 Rate of oxygen evolution for MV-60 and CMV-60.

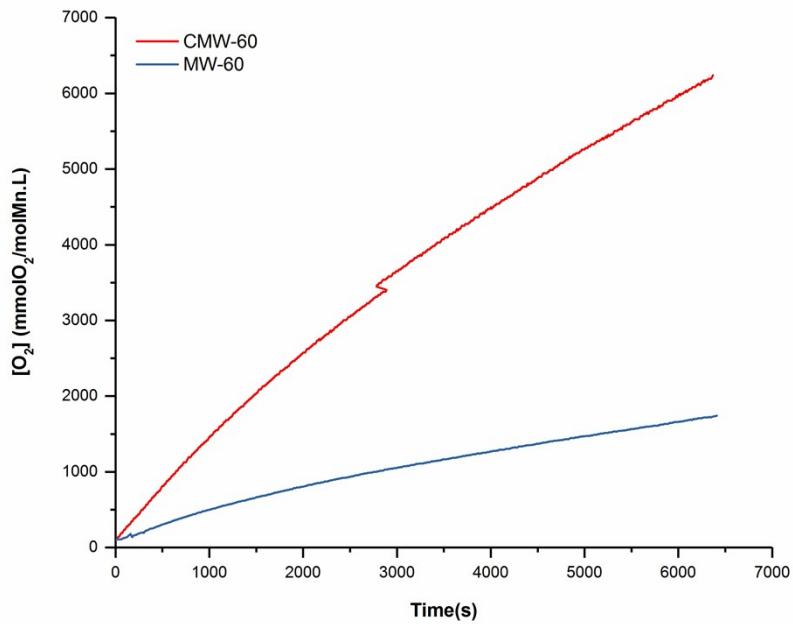


Fig. S25 Rate of oxygen evolution for MW-60 and CMW-60.

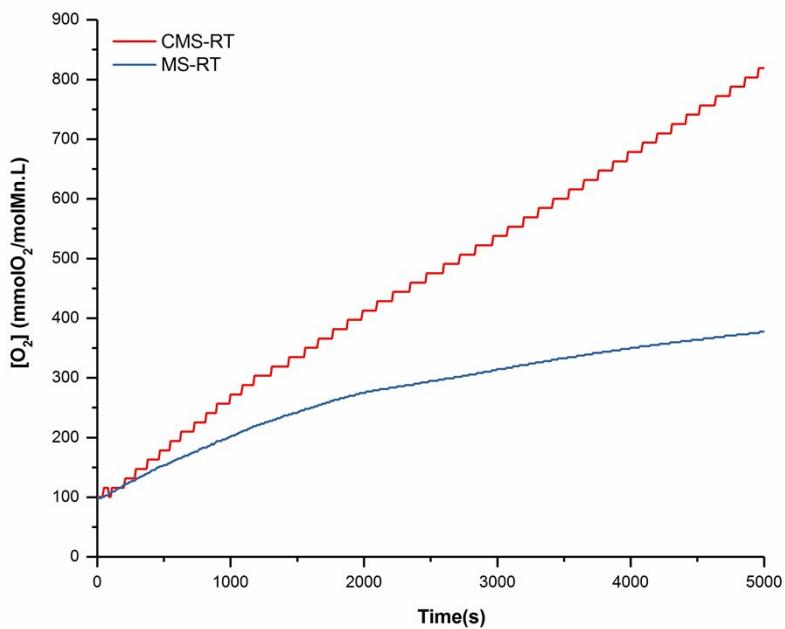


Fig. S26 Rate of oxygen evolution for MS-RT and CMS-RT.

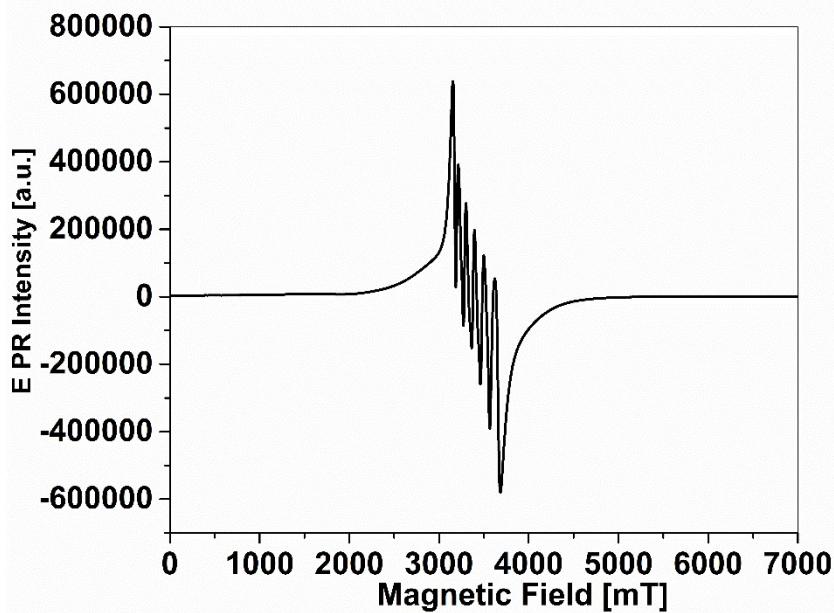


Fig. 27 EPR spectrum from mixing MP-60 (10.0 mg) in HNO_3 solution (0.1 M, 10 mL).

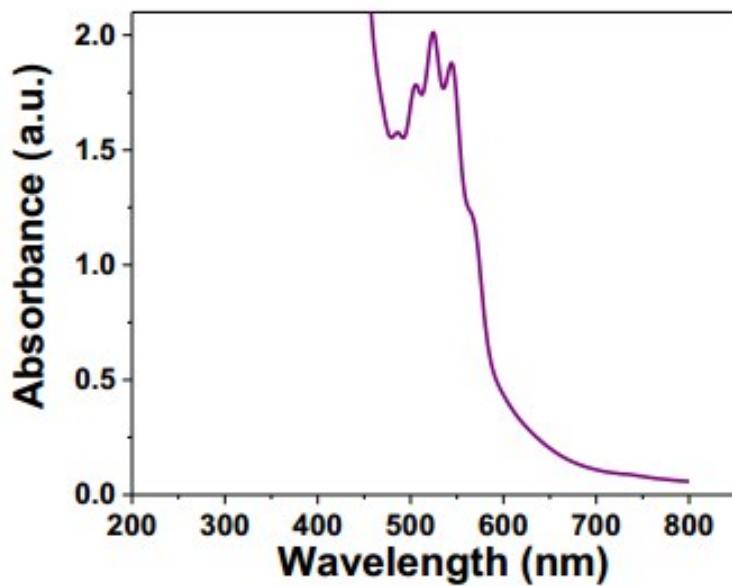


Fig. 28 UV-Vis spectrum of the solution obtained from the reaction of the MS-RT (5.0 mg) with concentrate Ce(IV) (0.9 M).