Role of synthesis variables on controlled nucleation and growth of hexagonal molybdenum oxide nanocrystals: Investigation on thermal and optical properties

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(ESI†) S1(a) The peak shift analysis of as-synthesized h-MoO$_3$ samples prepared with different HNO$_3$ concentrations; (b) variation of diffraction peak intensity and crystallite size with respect to HNO$_3$ concentration.
(ESI†) S2 The FT-IR spectra of as-synthesized h-MoO$_3$ samples prepared with different HNO$_3$ concentrations
(ESI†) S3(a) XRD patterns of as-synthesized h-MoO₃ sample prepared with different HCl concentrations; (b) variation of diffraction peak intensity and crystallite size with respect to HCl concentration
(ESI†) S4 SEM images of as-synthesized h-MoO$_3$ samples prepared with (a, b) 3 mL; (c, d) 5 mL; (e, f) 10 mL and (g, h) 15 mL HCl concentrations
(ESI† S5(a)) XRD pattern of as-synthesized h-MoO$_3$ samples synthesized using water/ethanol combination; (b) variation of diffraction peak intensity and crystallite size with respect to ethanol concentration
(ESI†) S6(a) XRD pattern of as-synthesized h-MoO₃ samples synthesized using the water / heptane combination; (b) variation of diffraction peak intensity and crystallite size with respect to heptane concentration
(ESI†) S7 SEM images of as-synthesized h-MoO$_3$ samples synthesized using water/ethanol compositions
(ESI†) S8 SEM images of as-synthesized h-MoO₃ samples synthesized using water/heptane compositions
(ESI†) S9(a) XRD patterns of h-MoO₃ samples synthesized at different reaction time and reaction temperature; (b) Variation of diffraction peak intensity and crystallite size with respect to reaction time and reaction temperature
(ESI†) S10 UV-Vis diffuse reflectance spectra of samples obtained for different HNO$_3$ and HCl concentrations
(ESI†) S11 UV-Vis diffuse reflectance spectra of as-synthesized h-MoO₃ samples synthesized under water, ethanol and heptane as solvent medium; inset shows the band gap of h-MoO₃