Structural and Morphological Control of Manganese Oxide Nanoparticles upon Soft Aqueous Precipitation through Mn^{2+} / MnO_4^- reaction.

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ELECTRONIC SUPPLEMENTARY INFORMATION.

Figures.

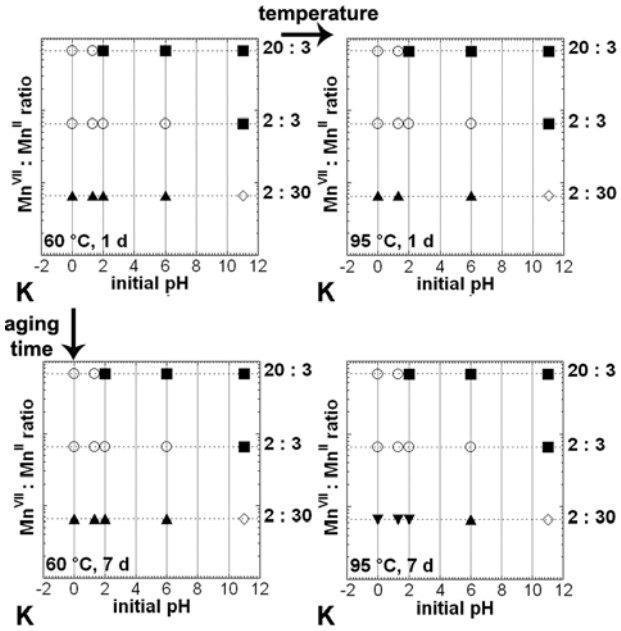

Figure SI-1. Speciation diagrams using K^+, as a function of the initial Mn^{VII}:Mn^{II} ratio and the initial pH. Cryptomelane type α-MnO_2 (○); γ-MnO_2 (▲); β-MnO_2 (▼); birnessite-type δ-MnO_2 (■); Mn_3O_4 (◊).

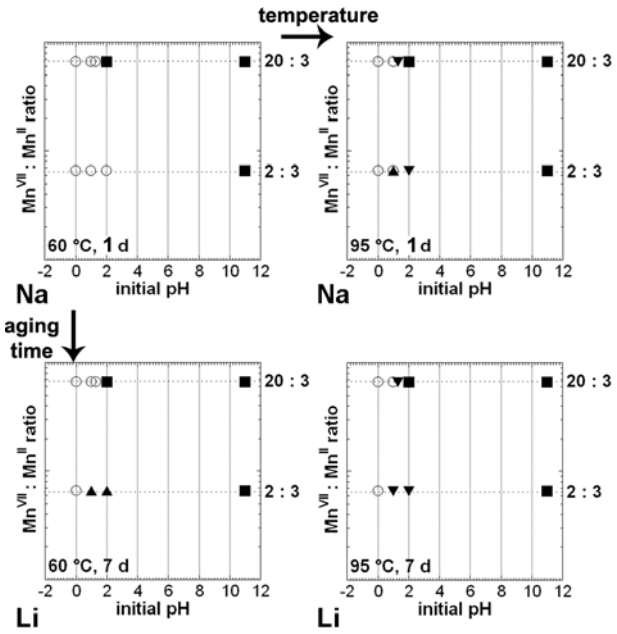

Figure SI-2. Speciation diagrams using Na^+ or Li^+, as a function of the initial Mn^{VII}:Mn^{II} ratio and the initial pH. Cryptomelane type α-MnO_2 (○); γ-MnO_2 (▲); β-MnO_2 (▼); birnessite-type δ-MnO_2 (■); Mn_3O_4 (◊).

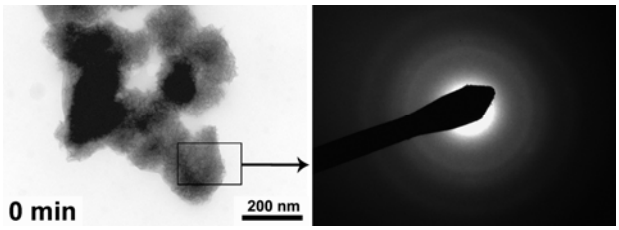

Figure SI-3. TEM micrograph and corresponding SAED pattern of the early precipitate obtained from an initial acidic solution, with Mn^{VII}:Mn^{II} ratio 20:3, 1.0 mol L^{-1} H_2SO_4 solution.

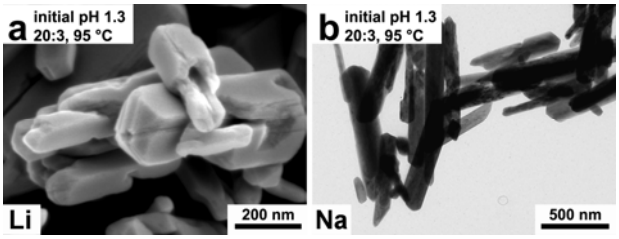

Figure SI-4. FESEM and TEM images of β-MnO_2 submicrorods obtained after aging 7 days with Mn^{VII}:Mn^{II} ratio 20:3.

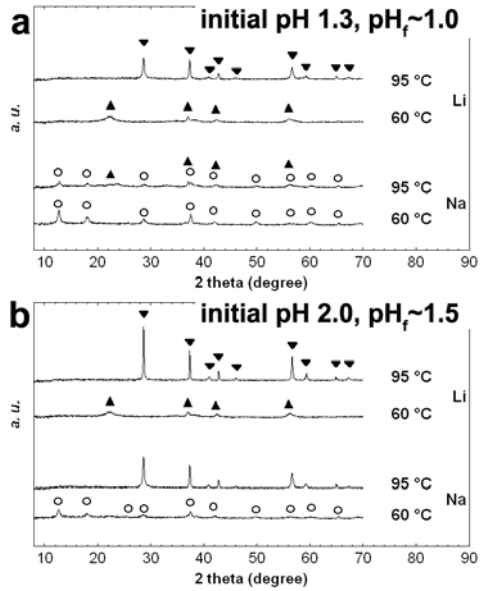

Figure SI-5. XRD patterns of manganese oxides obtained after aging 7 days at 60 or 95 °C, with ratio 2:3, Li^+ or Na^+ ions and various initial acidic conditions: initial pH 1.3 (a) and initial pH 2.0 (b). Cryptomelane type α-MnO_2 (○); γ-MnO_2 (▲); pyrolusite β-MnO_2 (▼).