Electronic Supplementary Material (ESI) for Nanoscale.

Synthesis Engineering of Iron Oxide Raspberry Shaped Nanostructures

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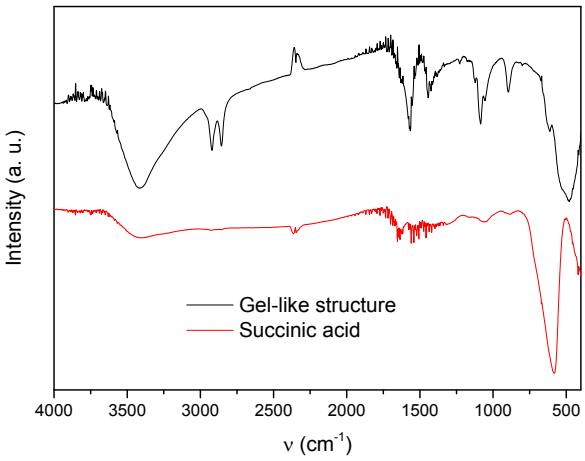

Figure S1. FTIR spectra of gel-like structure and succinic acid.

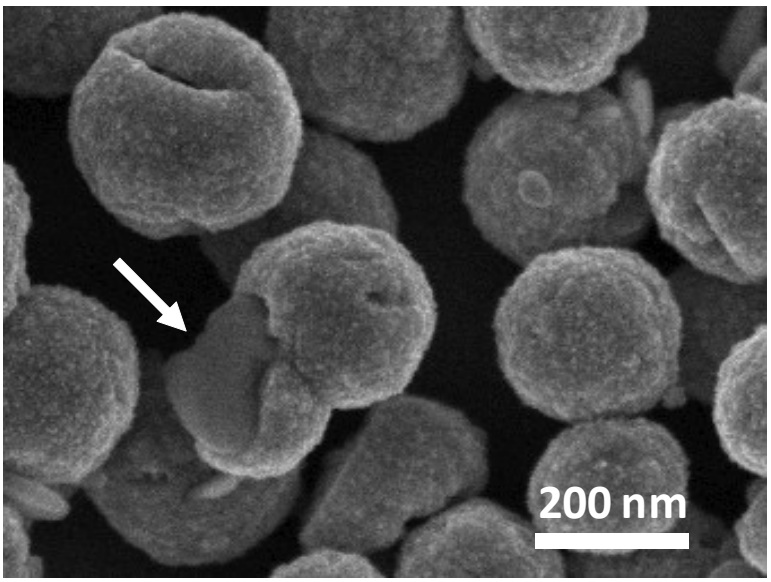

Figure S2. SEM image of RSN5 showing a PLS incorporated in a RSN.

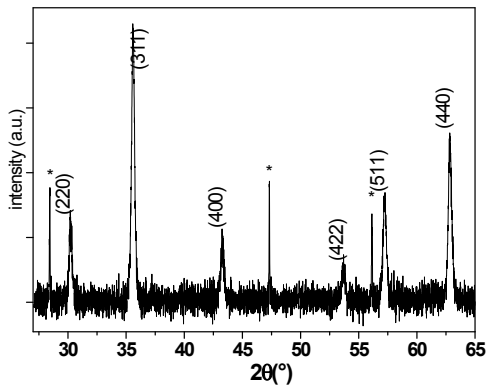

Figure S3. XRD pattern of the PLS after heating at 500°C under nitrogen. Peak are indexed to spinelle phase of iron oxide.

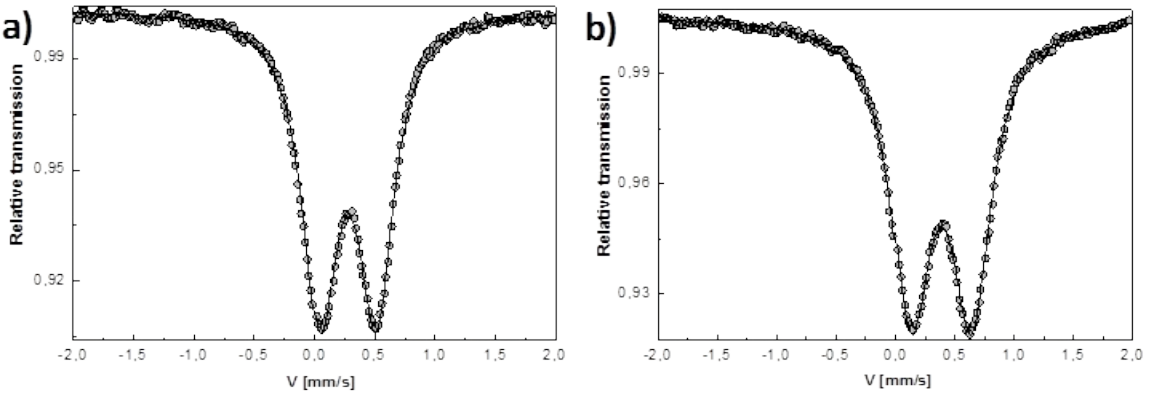

Figure S4. Mössbauer spectra of PLSs at a) 300 K and b) 77 K.

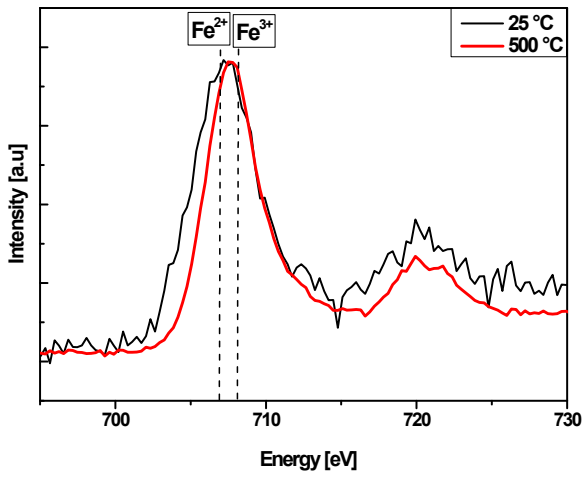

Figure S5. EELS spectra of PLS a) before and b) after heat treatment at 500 °C.

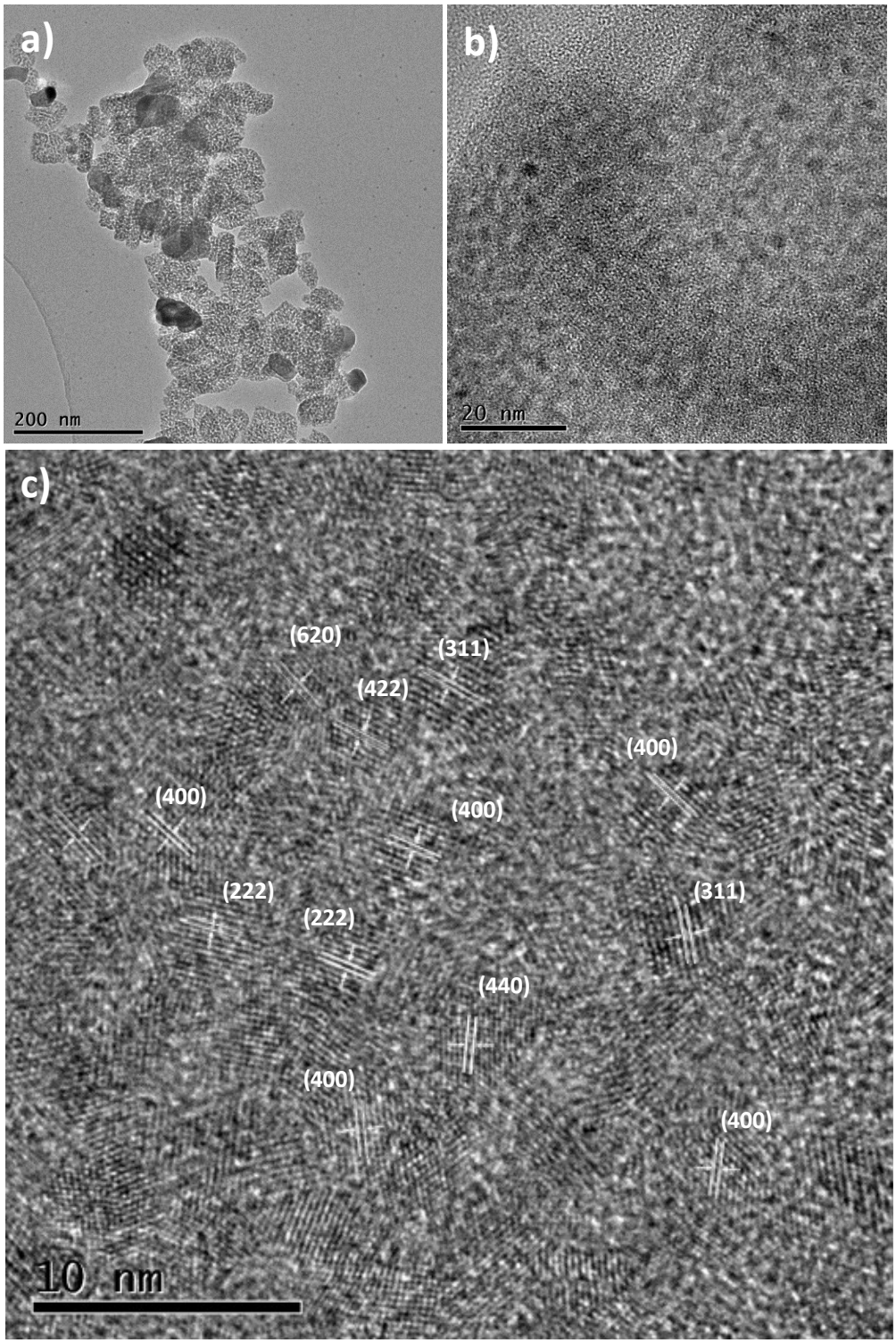

Figure S6. TEM micrographs of PLS after heat treatement at 500 °C. a) and b) at different magnification. c) High resolution showing lattice fringes of clusters.

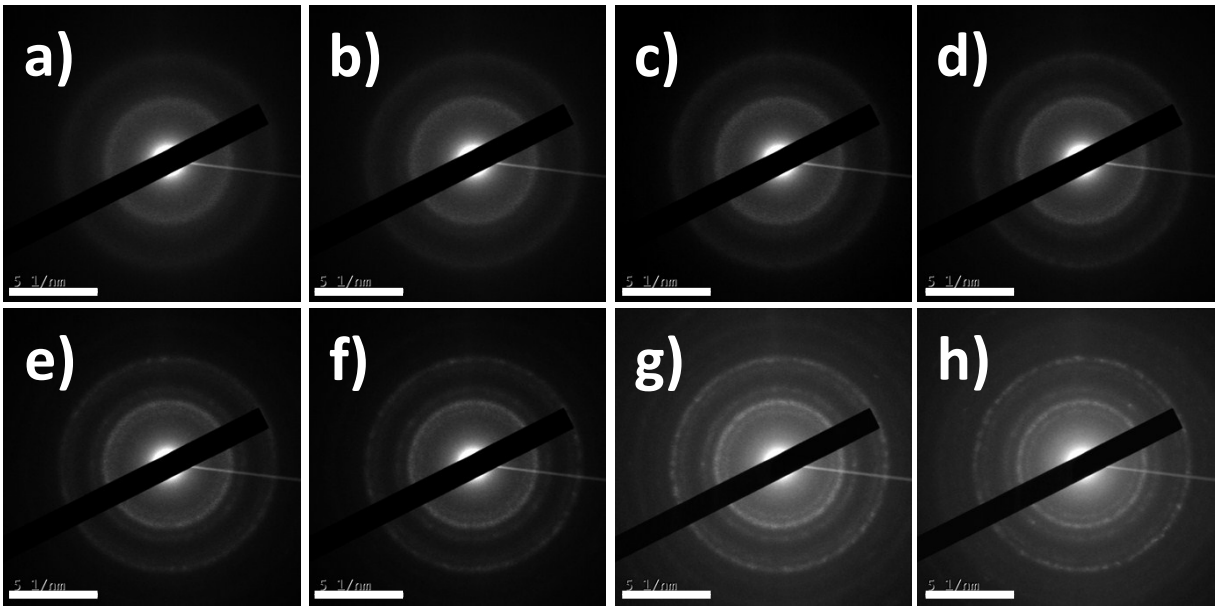

Figure S7. Electron diffraction patterns of PLS after being exposed to electron beam for a) 0 min, b) 0.5 min, c) 1 min, d) 2 min, e) 4 min, f) 6 min, g) 10 min and h) 20 min.

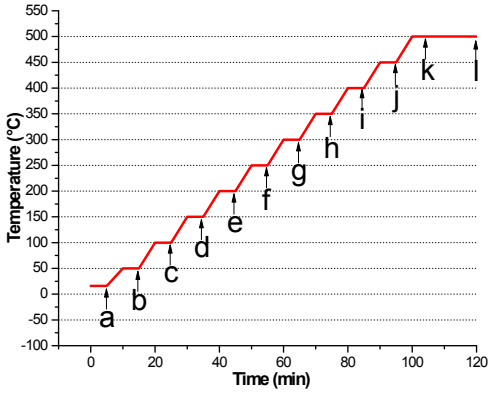

Figure S8. Heating rate of PLS from 20 °C to 500 °C. Letters correspond to electron diffractions patterns and TEM micrographs shown in Figure S7.

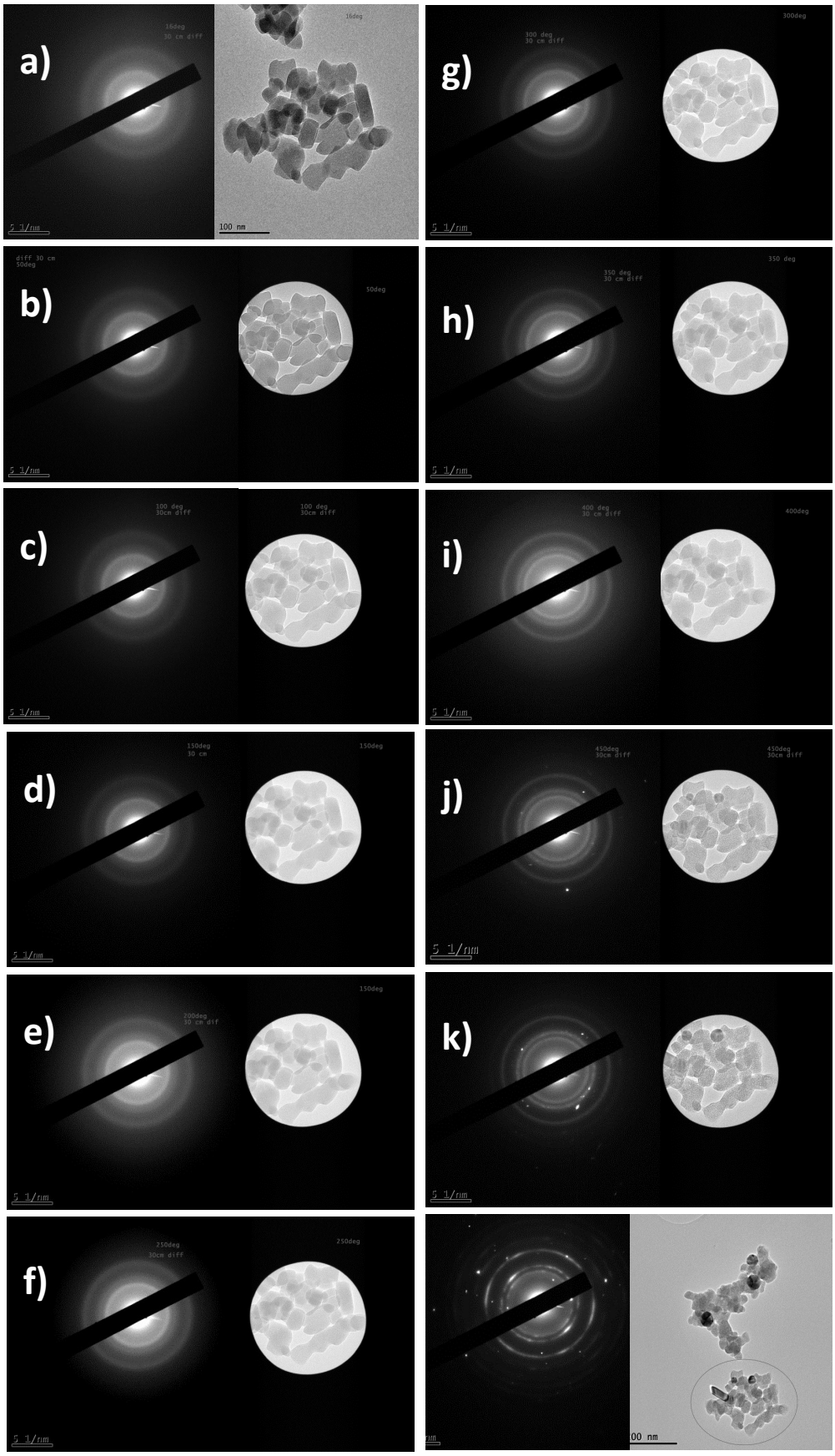

Figure S9. Electron diffraction patterns of PLS and corresponding area in TEM micrographs upon heating from 20 °C to 500 °C. Letters correspond to the one in figure S6.

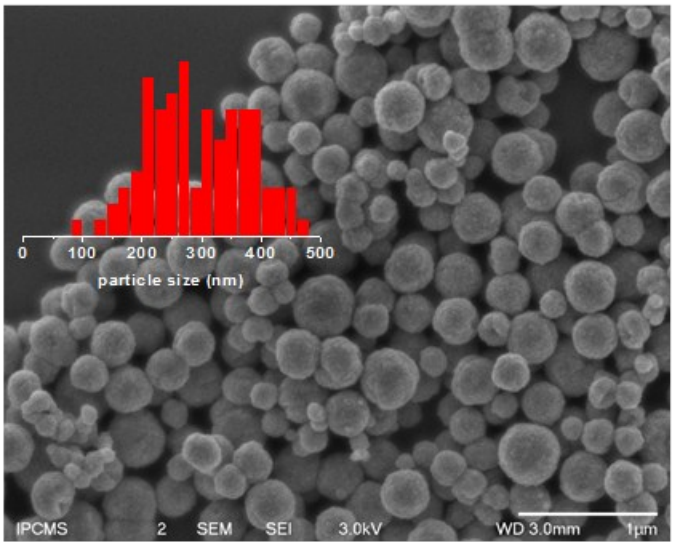

Figure S10. SEM image of RSN obtained by a simple scaling up process test

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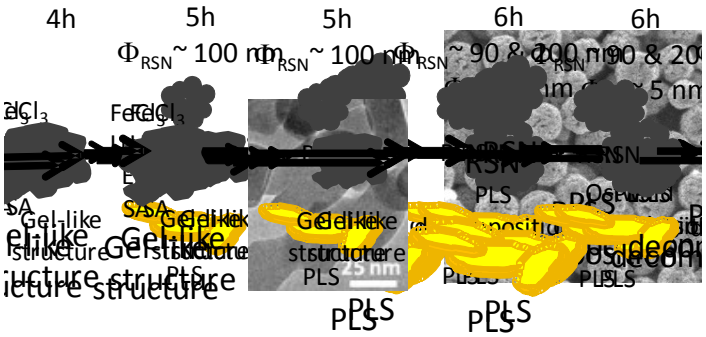

Formation mechanism of rapsberry shaped nanostructure with identification of two iron precursors: the starting one and an intermediate and *in-situ* formed iron alkoxide precursor with a plate-like structure which decomposition with time and heating contributes to the heterogeneous growth of porous iron oxide nanostructures