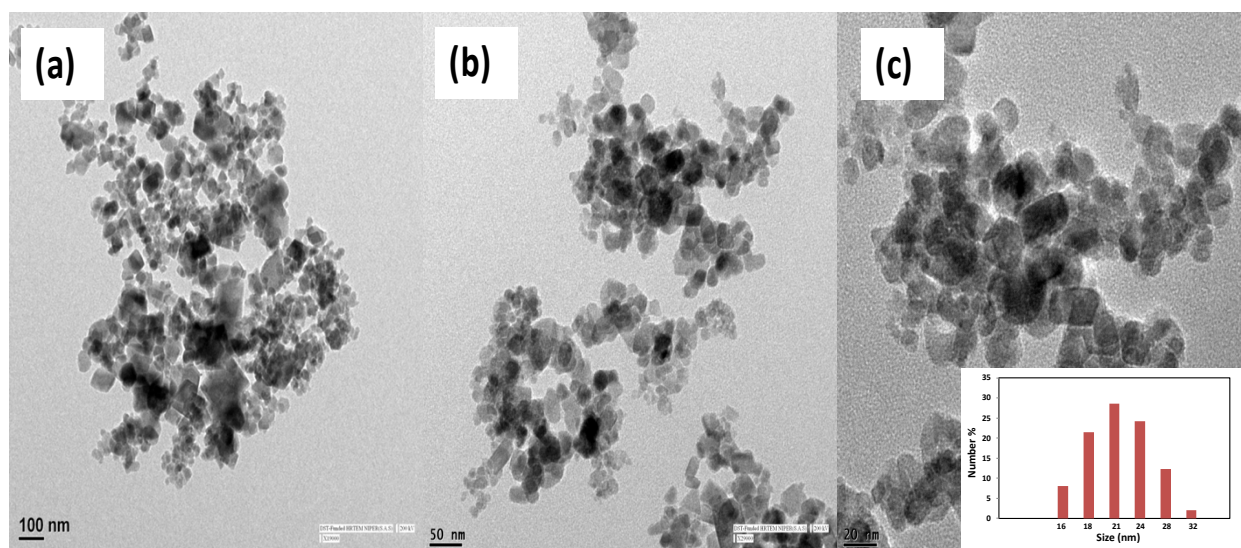
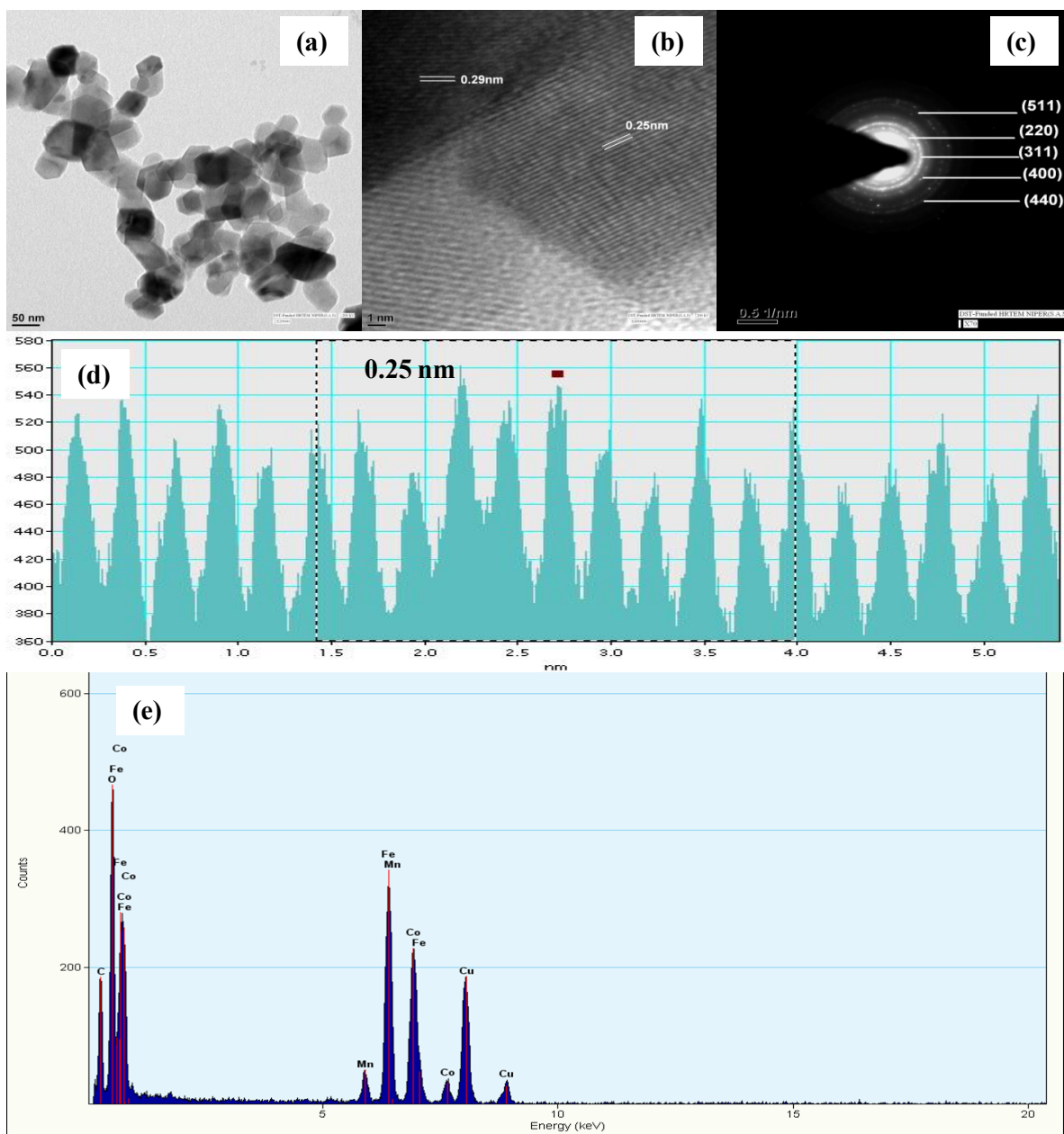


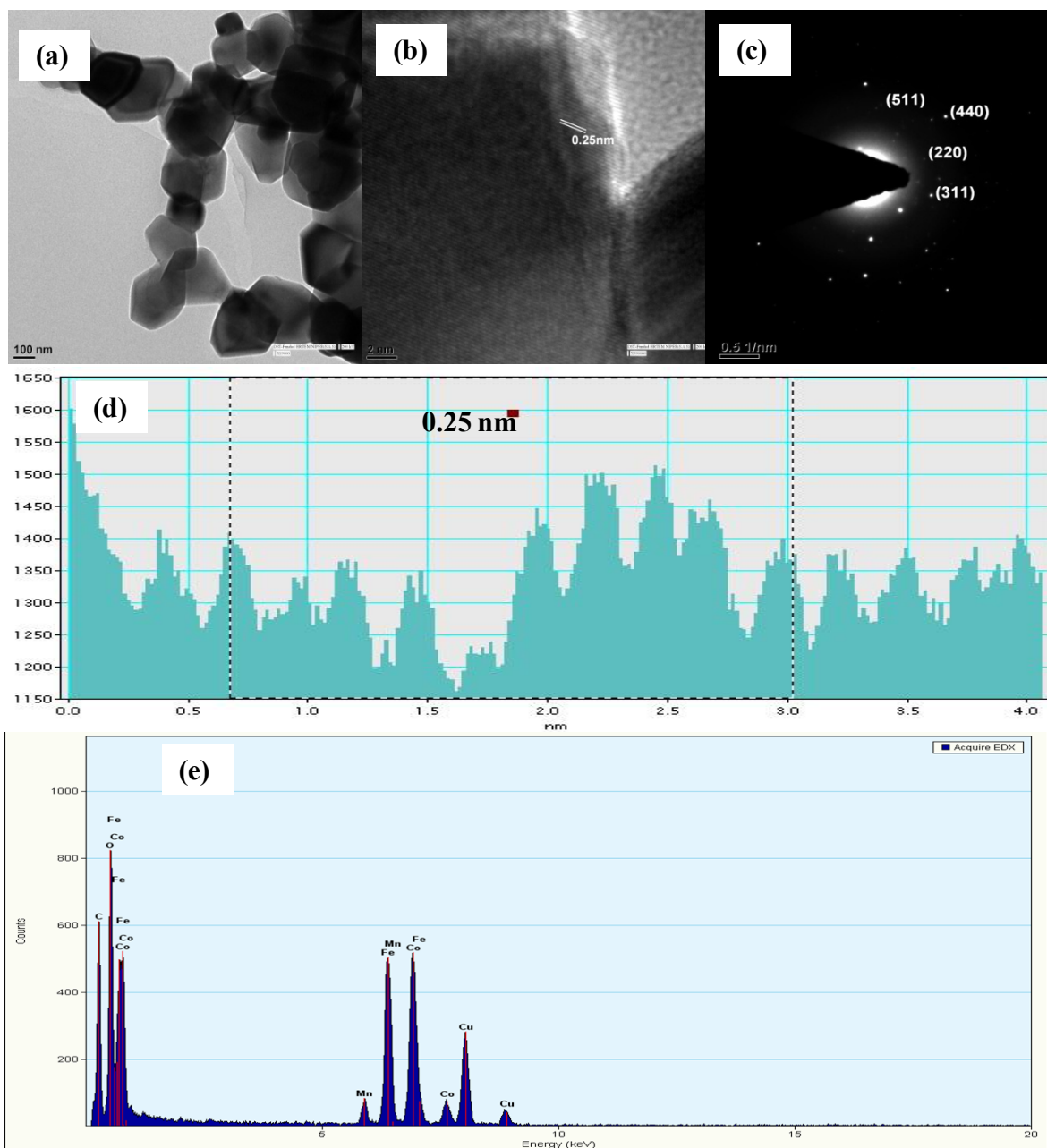
**Fig. S1. Representation of the (a) colour change occurring during the reduction of 2-NA and (b) magnetic separation of the catalyst after completion of reaction.**



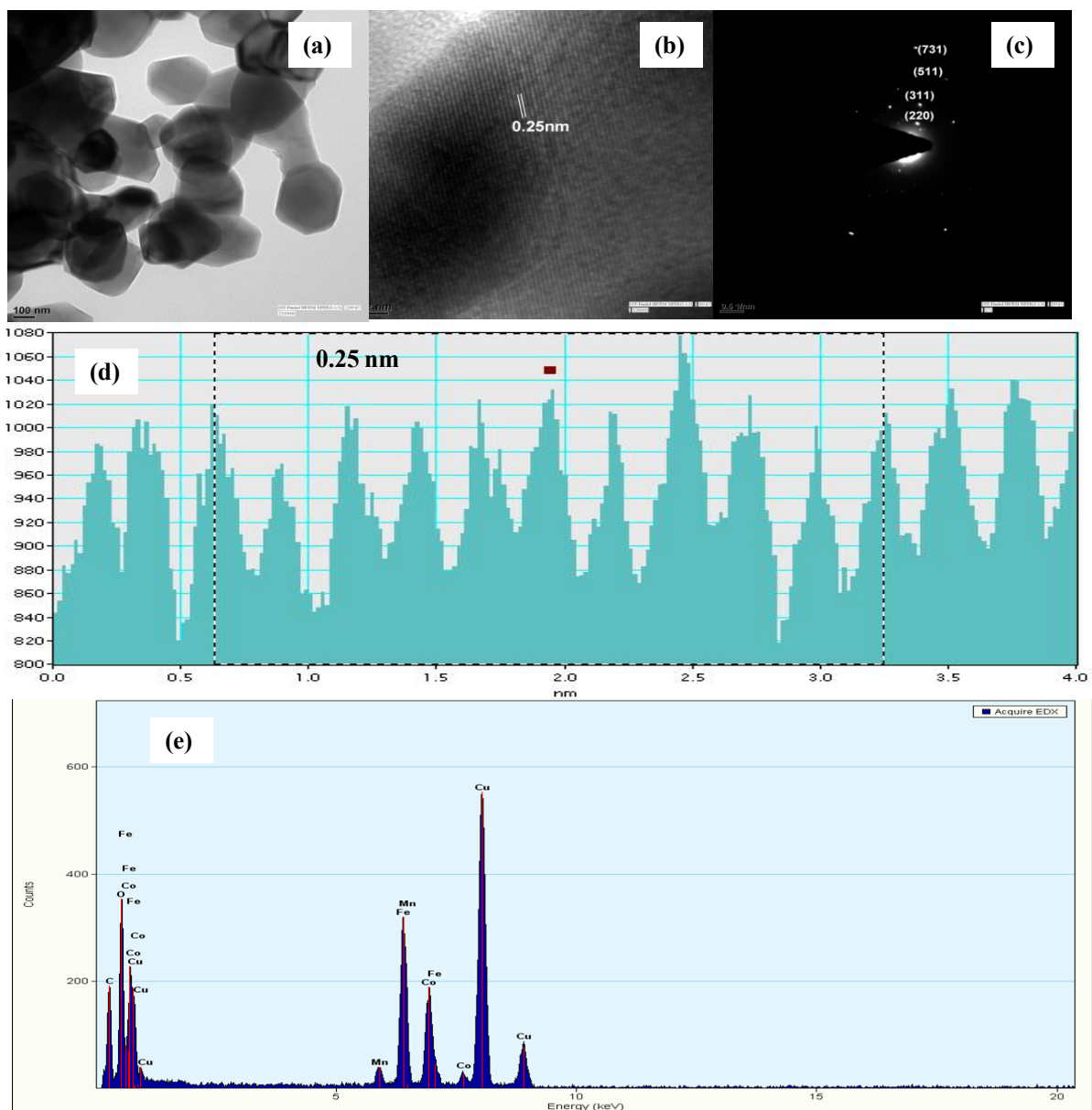
**Fig. S2.** Low resolution TEM images of  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanoferrite annealed at 400 °C at the magnification scale of (a) 100 nm, (b) 50 nm and (c) 20 nm with particle size distribution in inset.



**Fig. S3.** HR-TEM images of the  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanocatalyst annealed at 600 °C (a) low resolution image depicting the spherical particles, (b) displaying the lattice interplanar distance corresponding to the lattice planes as observed by XRD, (c) SAED pattern showing the crystalline phases corresponding to the major crystalline planes (d) profile of frame showing the average fringe width of 0.25 nm and (e) EDX spectrum

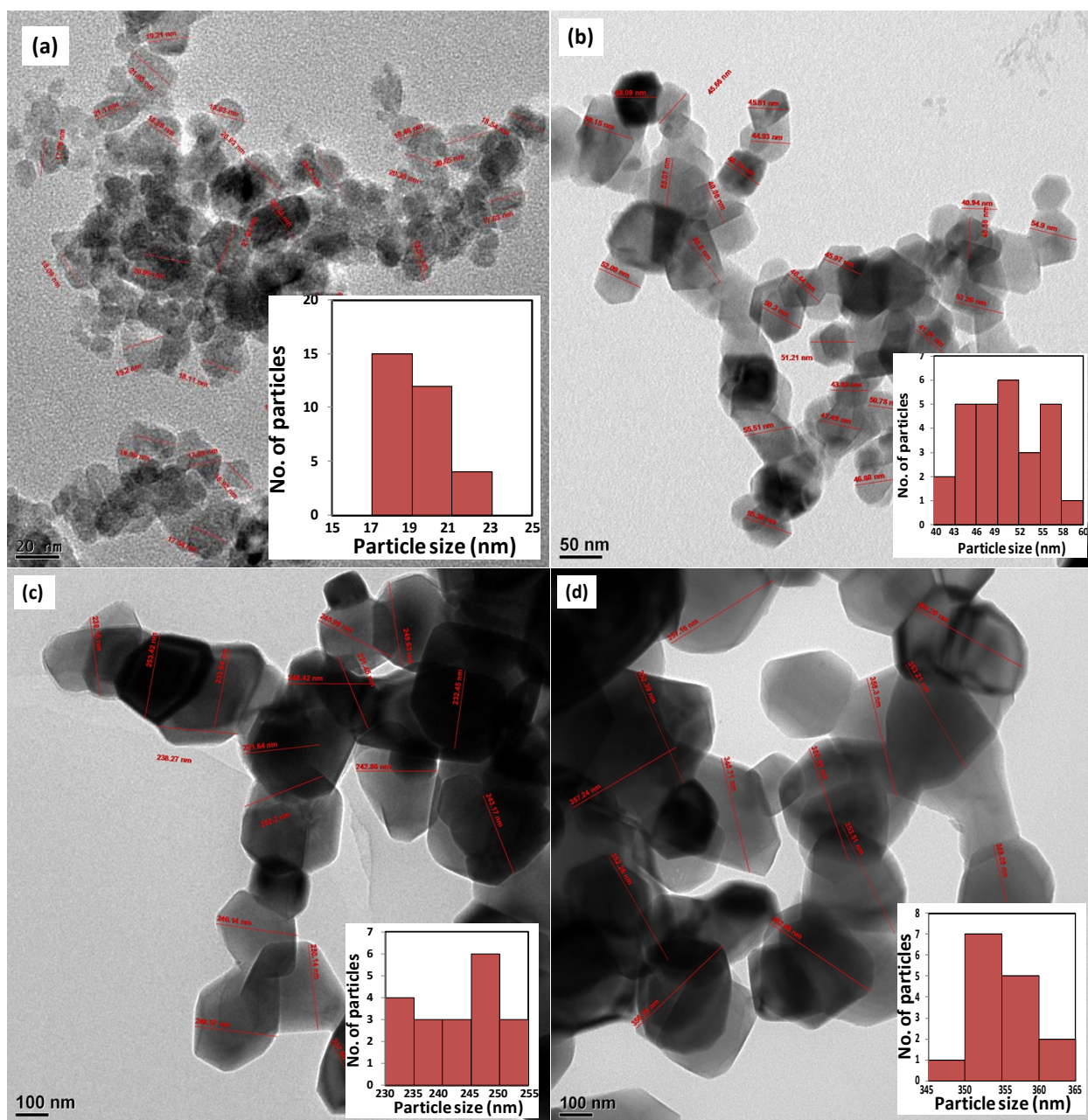


**Fig. S4.** HR-TEM images of the CoMn<sub>0.2</sub>Fe<sub>1.8</sub>O<sub>4</sub> nanocatalyst annealed at 800 °C (a) low resolution image depicting the spherical particles, (b) displaying the lattice interplanar distance corresponding to the lattice planes as observed by XRD, (c) SAED pattern showing the crystalline phases corresponding to the major crystalline planes (d) profile of frame showing the average fringe width of 0.25 nm and (e) EDX spectrum



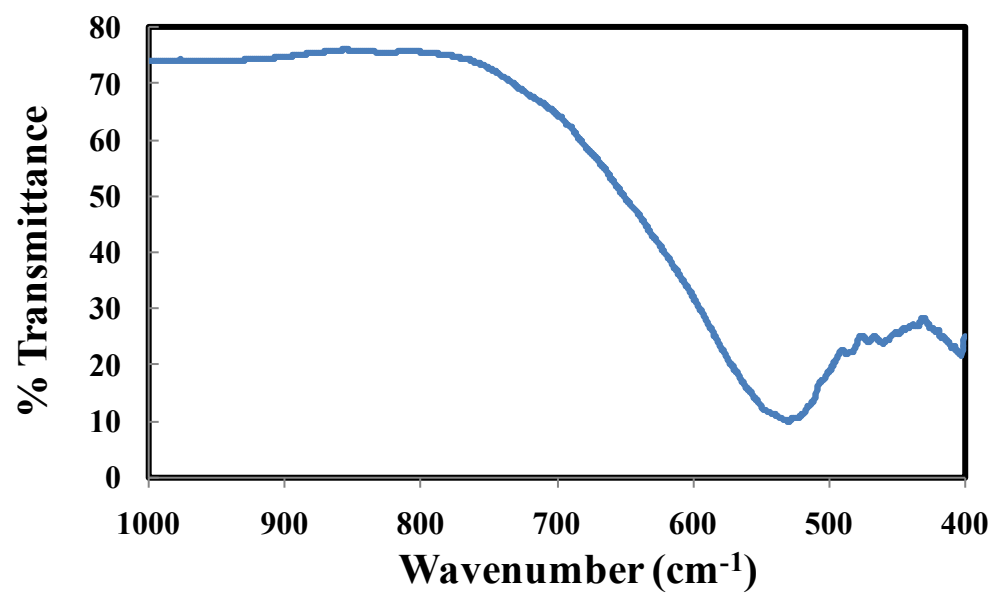
**Fig. S5.** HR-TEM images of the  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanocatalyst annealed at  $1000^\circ\text{C}$  (a) low resolution image depicting the spherical particles, (b) displaying the lattice interplanar distance corresponding to the lattice planes as observed by XRD, (c) SAED pattern showing the crystalline phases corresponding to the major crystalline planes (d) profile of frame showing the average fringe width of 0.25 nm and (e) EDX spectrum.





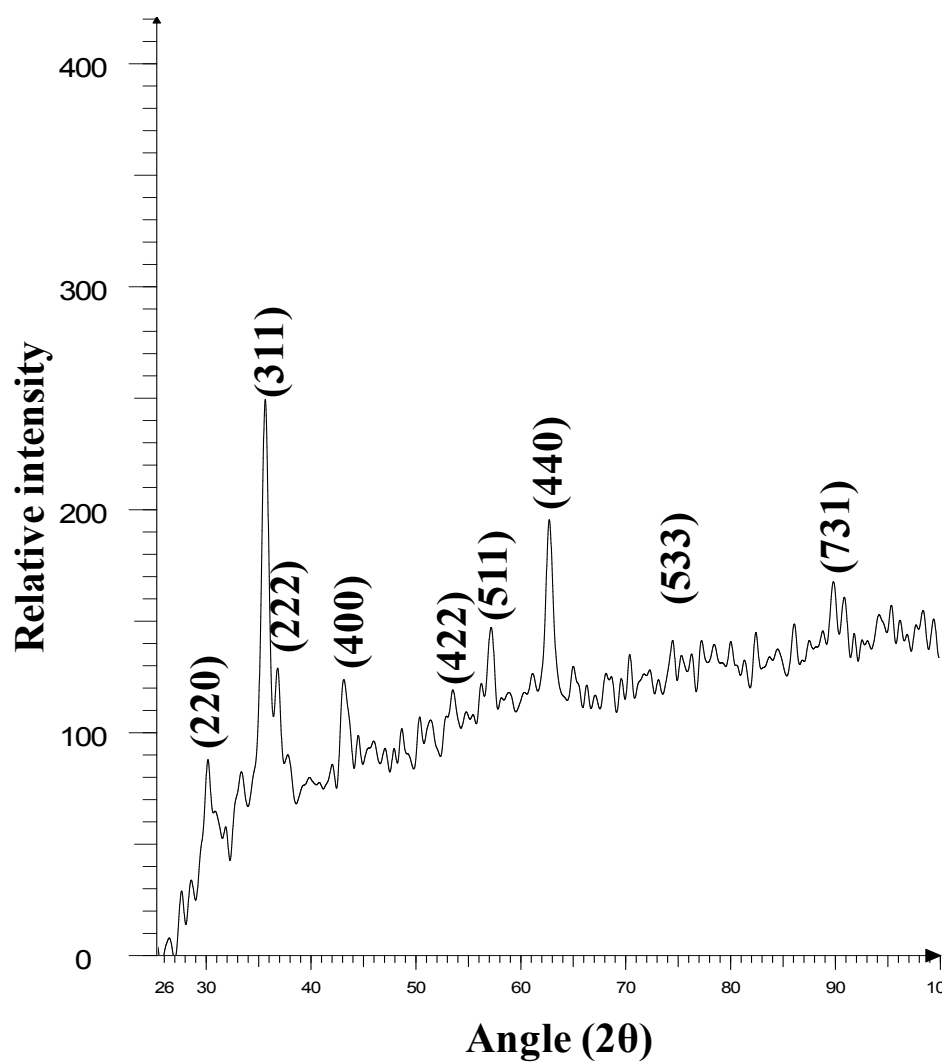
**Fig. S6. TEM images with marked particle size and size distribution in inset for the samples annealed at (a) 400 °C, (b) 600 °C, (c) 800 °C and (d) 1000 °C.**

**Fig. S7. Potential mechanistic pathway for the reduction of nitroarenes.**

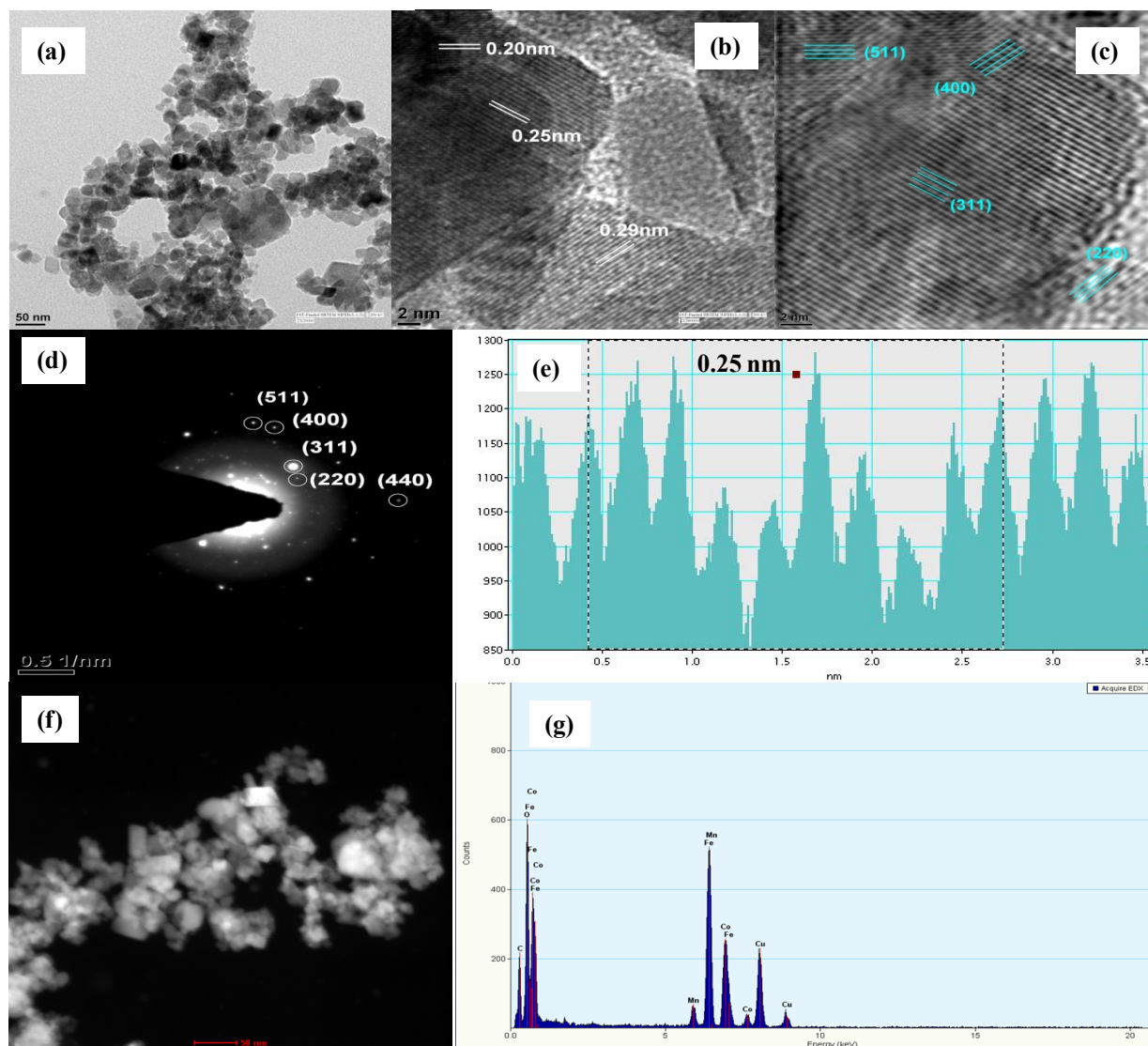


**Fig. S8.** Typical FTIR spectra for recovered  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanocatalyst annealed at 400 °C.





**Fig. S9.** Typical XRD pattern for recovered  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanocatalyst annealed at 400 °C.



**Fig. S10.** HR-TEM images of the recovered  $\text{CoMn}_{0.2}\text{Fe}_{1.8}\text{O}_4$  nanocatalyst annealed at  $400^\circ\text{C}$  (a) at the magnification scale of 5 nm, (b) displaying the lattice interplanar distance corresponding to the lattice planes as observed by XRD, (c) IFFT of (b) showing various planes (d) SAED pattern showing the crystalline phases corresponding to the major crystalline planes (e) profile of frame showing the average fringe width of 0.25 nm (f) STEM image and (g) EDX spectrum.

