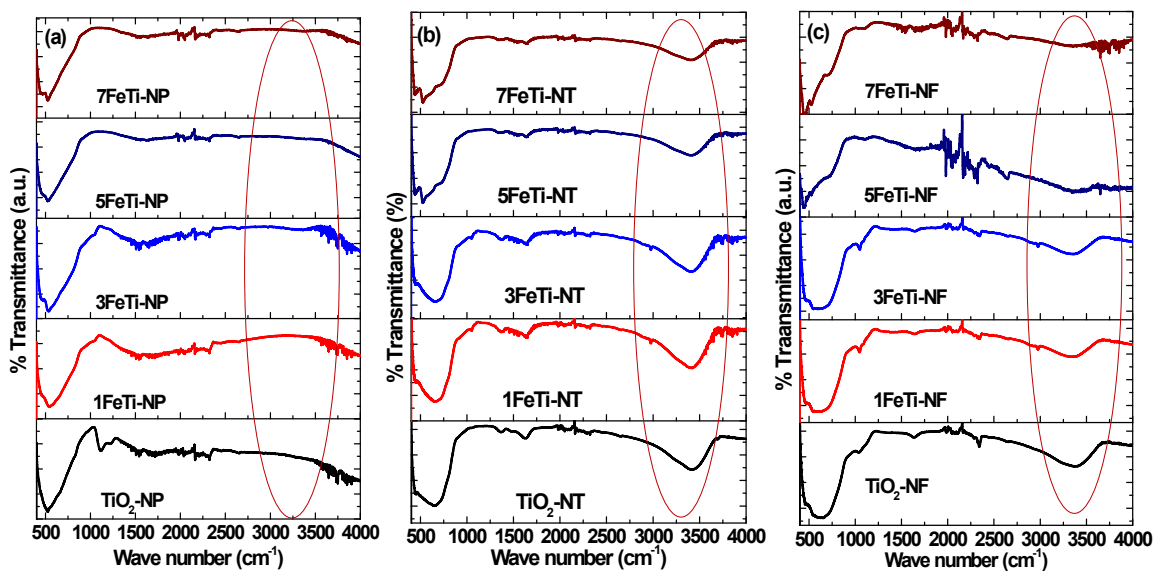
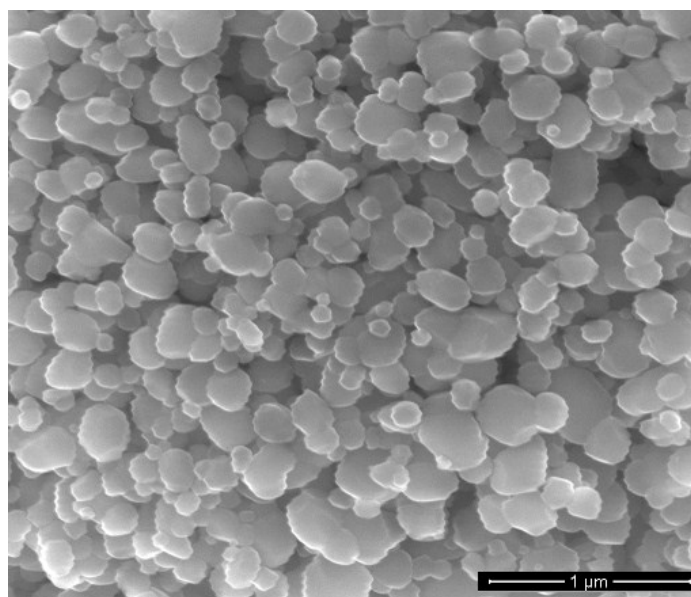


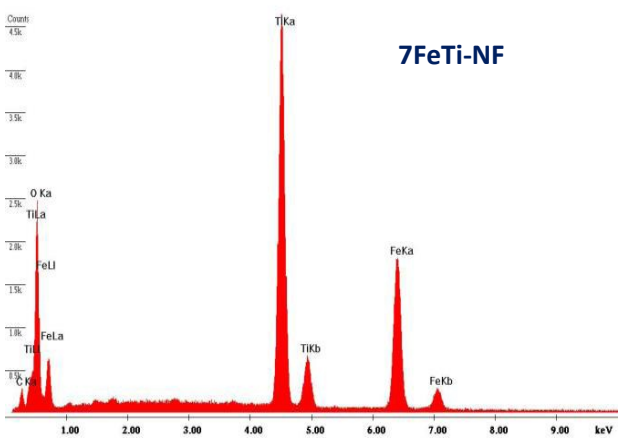
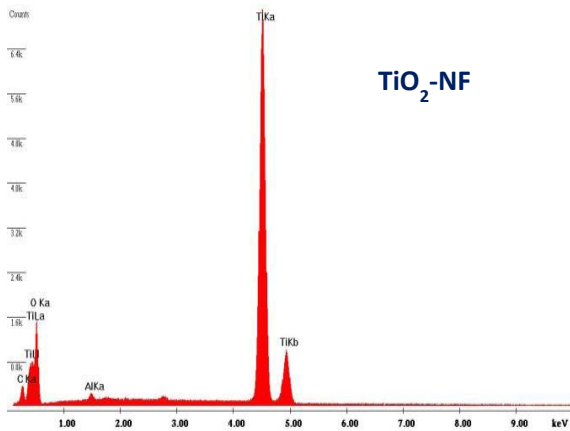
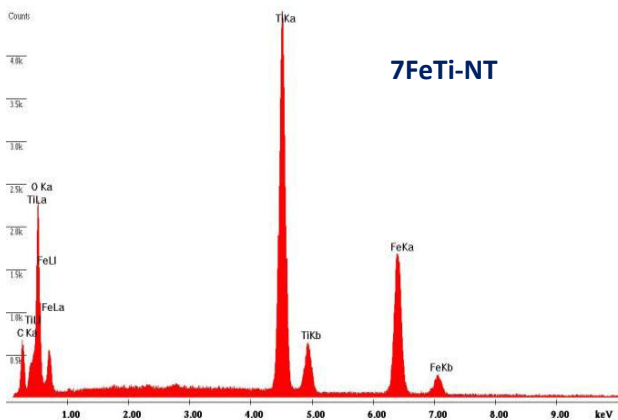
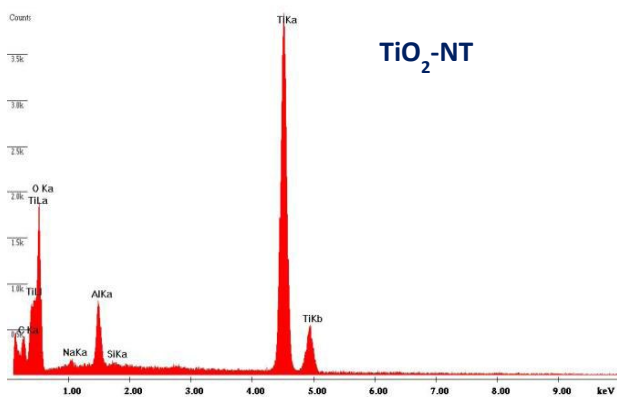
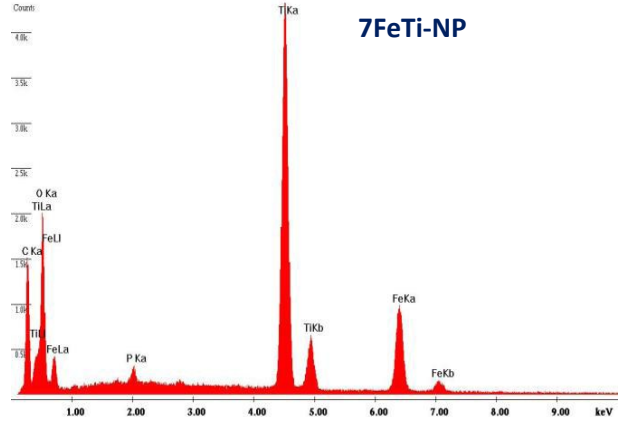
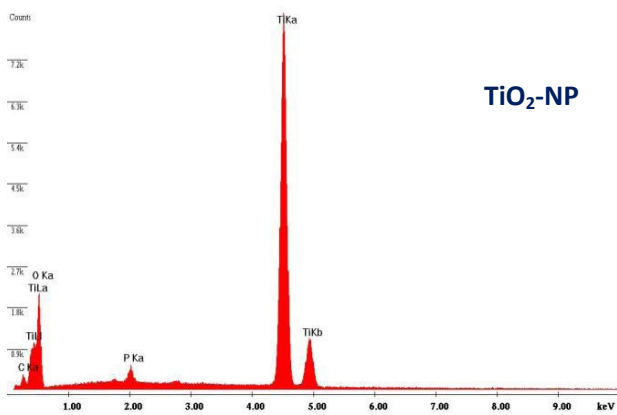
## Supplementary information



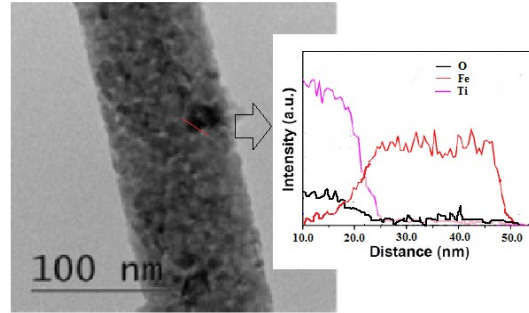
**Fig. S1:** FTIR spectra of pure and iron supported TiO<sub>2</sub> nanomaterials (a) NP (b) NT and (c) NF



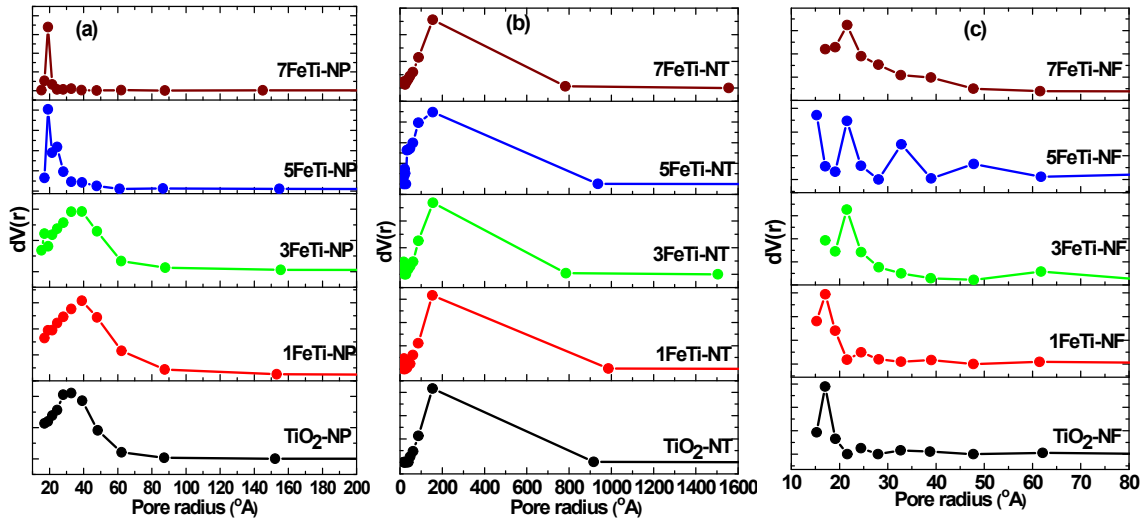
**Fig. S2:** SEM image of P25 TiO<sub>2</sub> anatase sample



**Fig. S3:** The energy-dispersive X-ray spectroscopy (EDS) spectra bare and Fe-TiO<sub>2</sub> nanomaterials



**Fig S4:** EDS line scan spectra of Fe, Ti and O elements for 1FeTi-NF sample



**Fig. S5:** Pore size distribution patterns of pure and iron oxide supported  $\text{TiO}_2$  (a) NP (b) NT and (c) NF samples

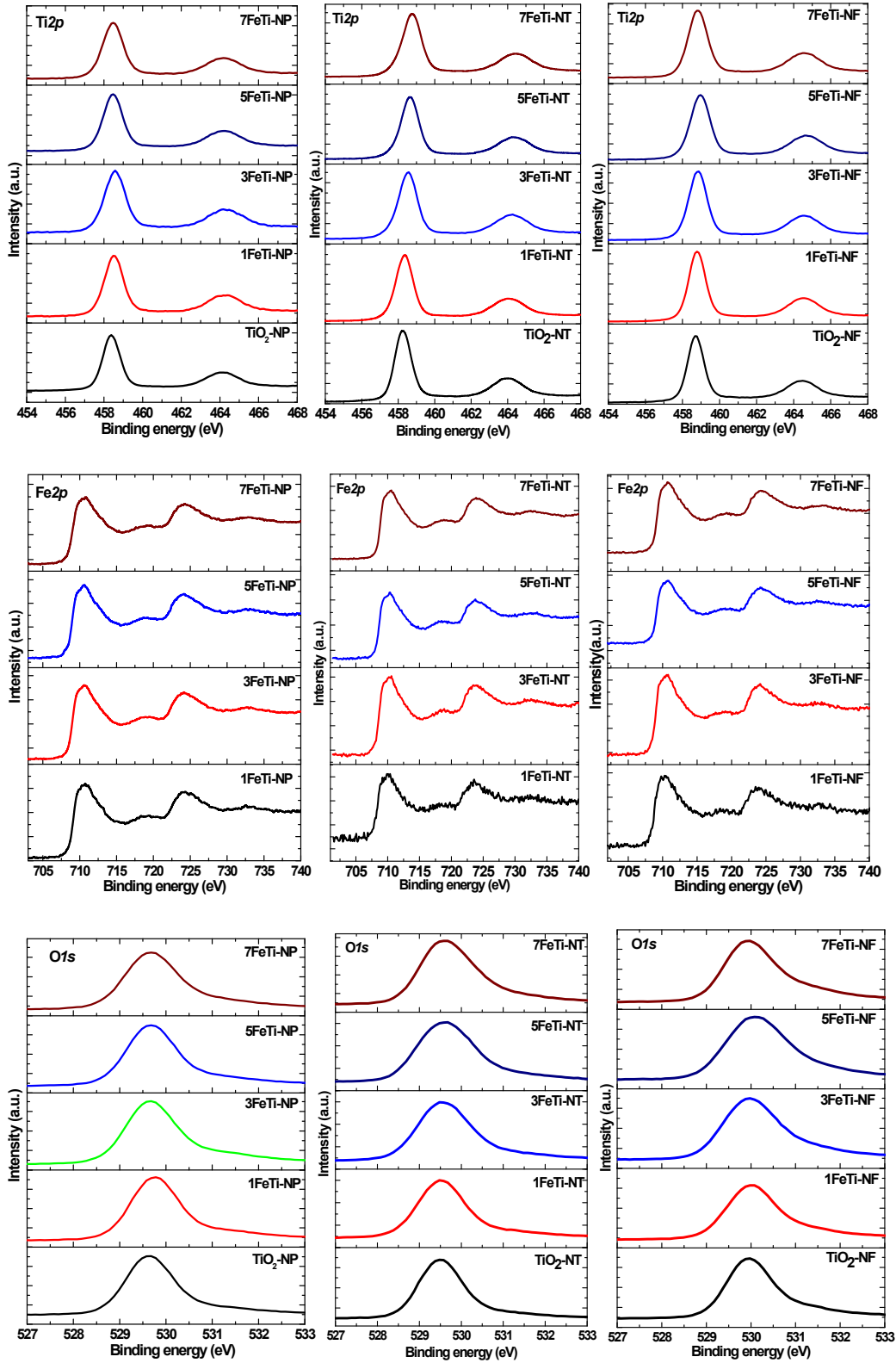
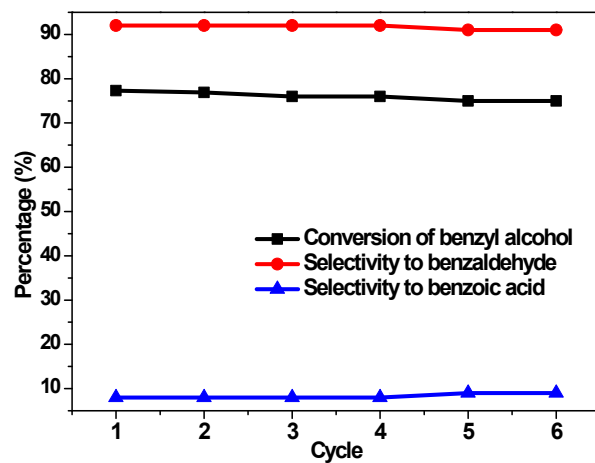
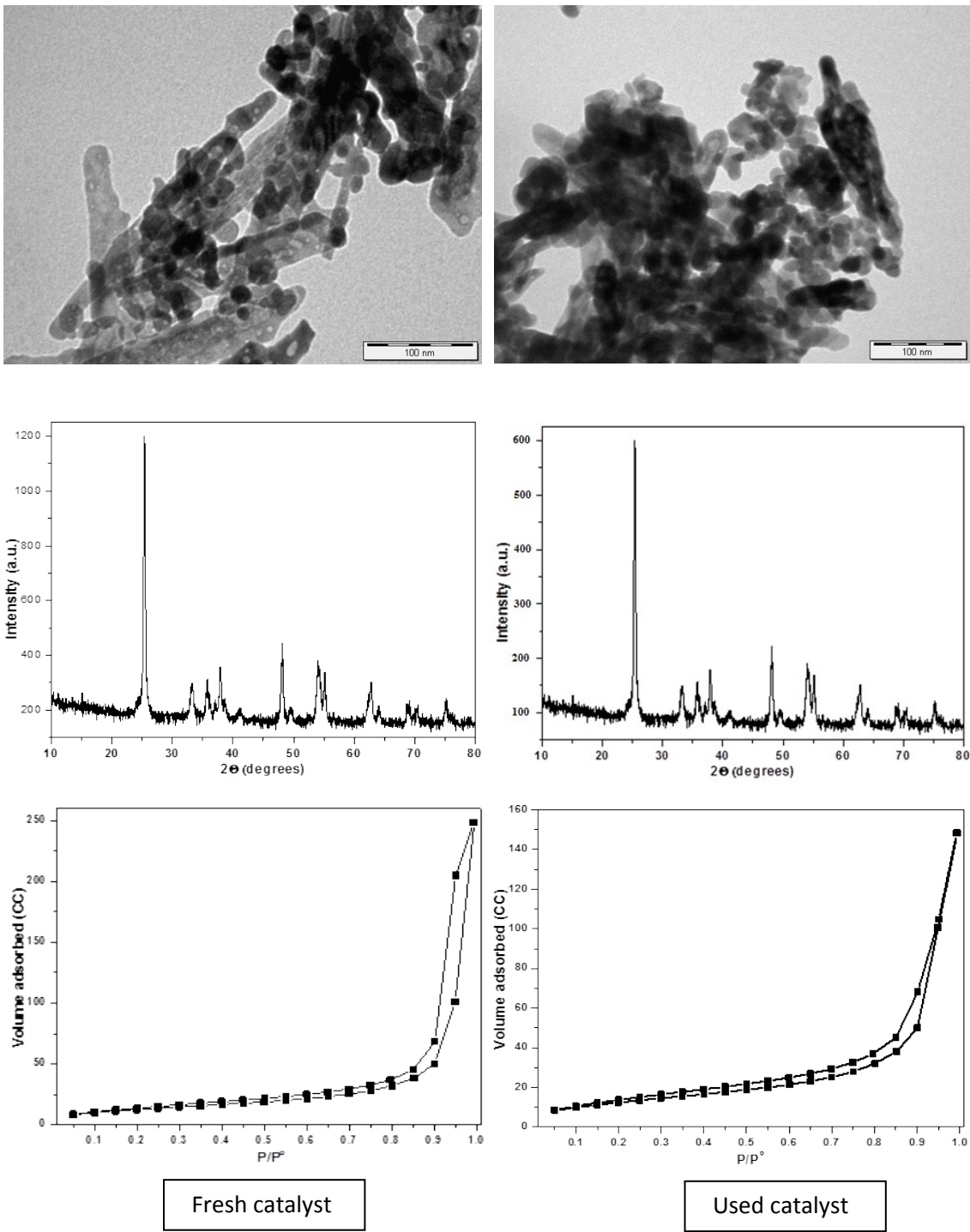


Fig. S6: The core XPS Ti2p, Fe2p and O 1s spectra of 7FeTi-NP, NF and NT samples



**Fig.S7:** Reusability of 3FeTi-NP catalyst for benzyl alcohol oxidation; Reaction conditions:  $\text{H}_2\text{O}_2$ -60 mmol, Benzyl Alcohol-50 mmol, catalyst weight 0.05 g, Temp-90 °C, Time-6h



**Fig S8:** TEM, XRD and  $N_2$ -isotherm results for fresh and used 7FeTi-NT samples