Electronic Supplementary Material (ESI) for CrystEngComm.

Supplementary Information

Polydopamine thin film-assisted patterned chemical bath deposition of ZnO nanorods on arbitrary substrates

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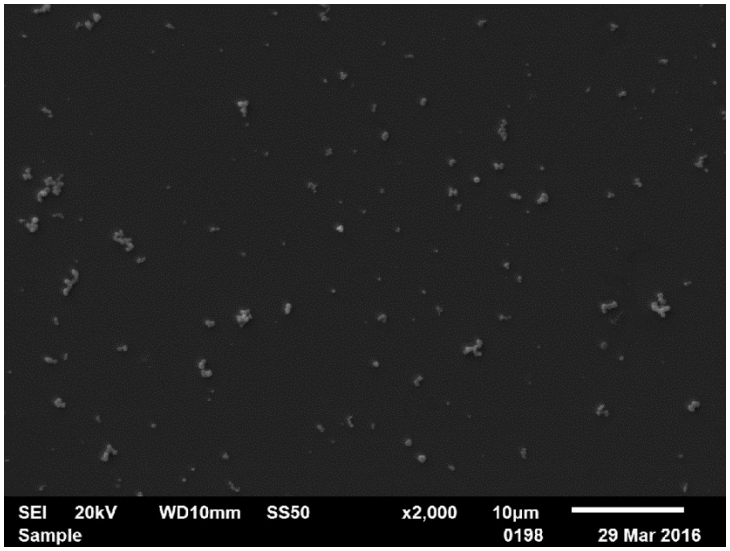

Fig. S1 SEM image of a clean glass after CBD of ZnO.

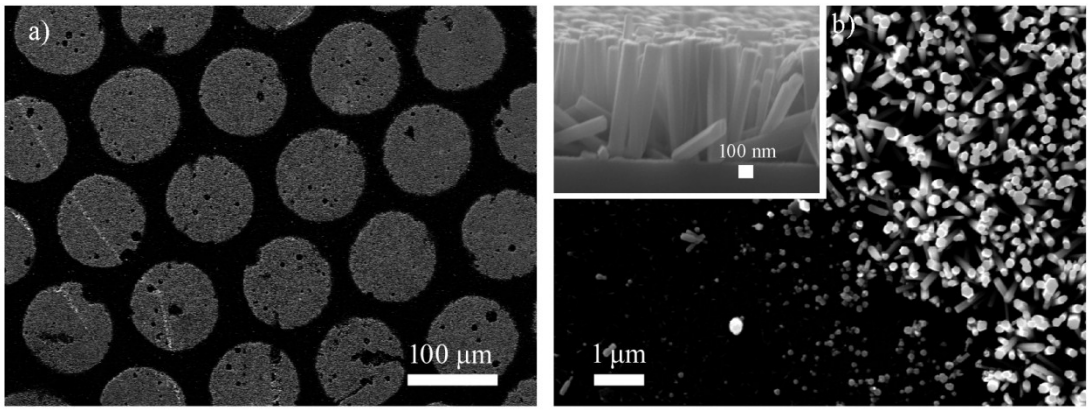

Fig. S2 SEM image of patterned aligned ZnO nanorods obtained on a patterned PDA coated ZnO-seeded substrate, suggesting PDA film is able to completely inhibit the ZnO growth on ZnO-seeded substrate. The PDA pattern was generated via UV oxidation with the assistance of a TEM grid photomask. Inset in (b) shows the cross-section SEM image of ZnO nanorods.

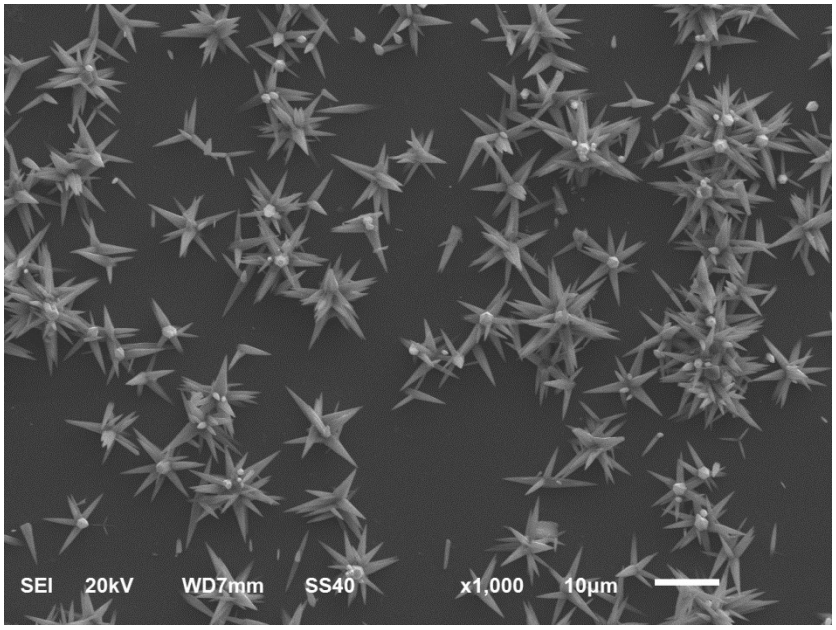

Fig. S3 Representative SEM image of ZnO nanorods on Fe-PDA@glass shows the influence of PDA thickness and Fe ion concentration. PDA thickness: ca. 8 nm (1 h growth); Fe^{3+} concentration 2.5 µM.

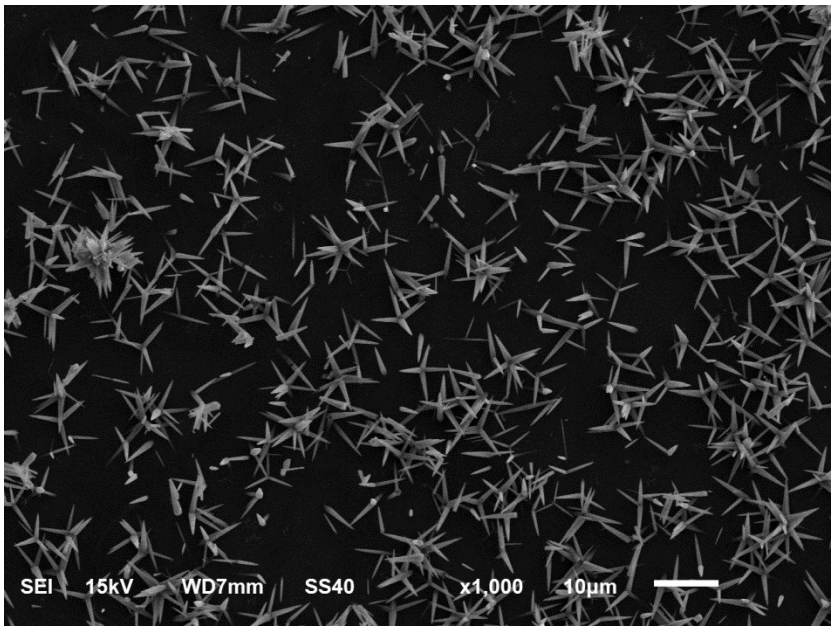

Fig. S4 Representative SEM image of ZnO nanorods on Fe-PDA@glass shows the influence of PDA thickness and Fe ion concentration. PDA thickness: ca. 4 nm (20 min growth); Fe^{3+} concentration 2.5 nM.

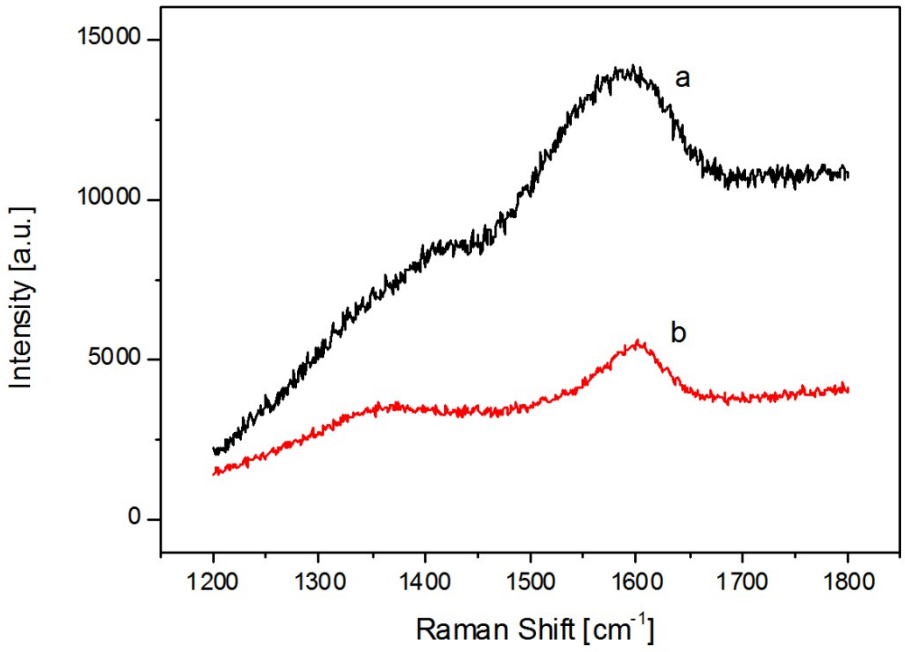

Fig. S5 Raman spectrum of PDA (a) and Fe-absorbed PDA(b).

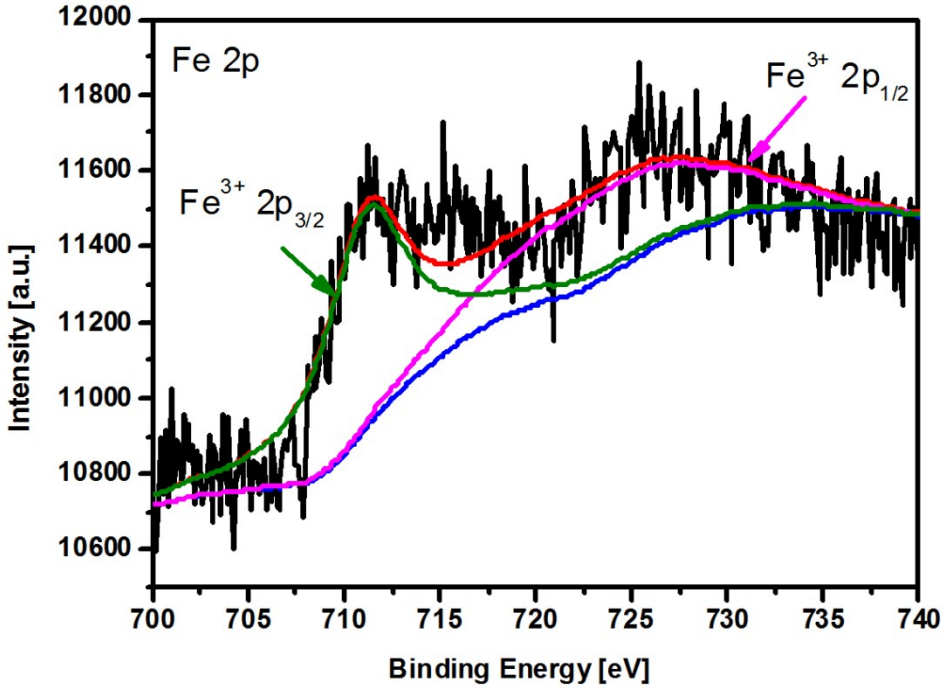

Fig. S6 High-resolution XPS spectrum of Fe 2p collected on Fe-absorbed PDA.

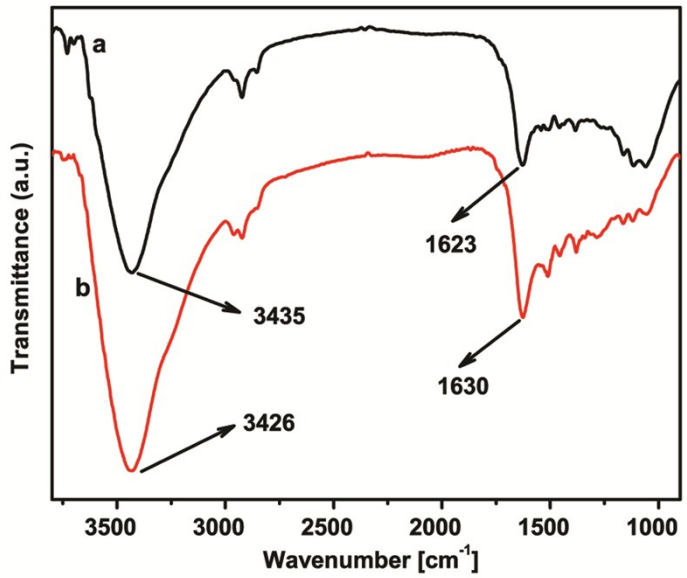

Fig.S7 FTIR spectra of pristine PDA (a) and Fe-absorbed PDA (b).

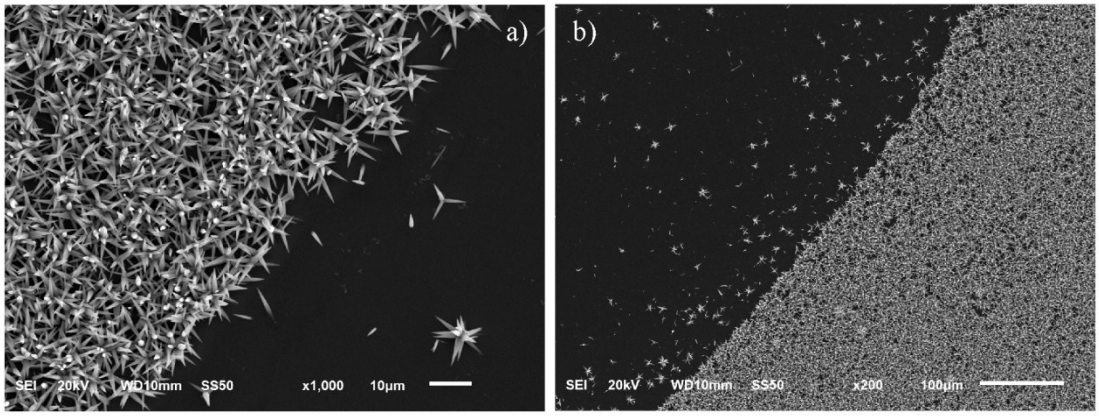

Fig. S8 SEM images show the site-selective growth of ZnO nanorods on Fe-PDA@Si. The PDA patterned was generated by droplet polymerization method.

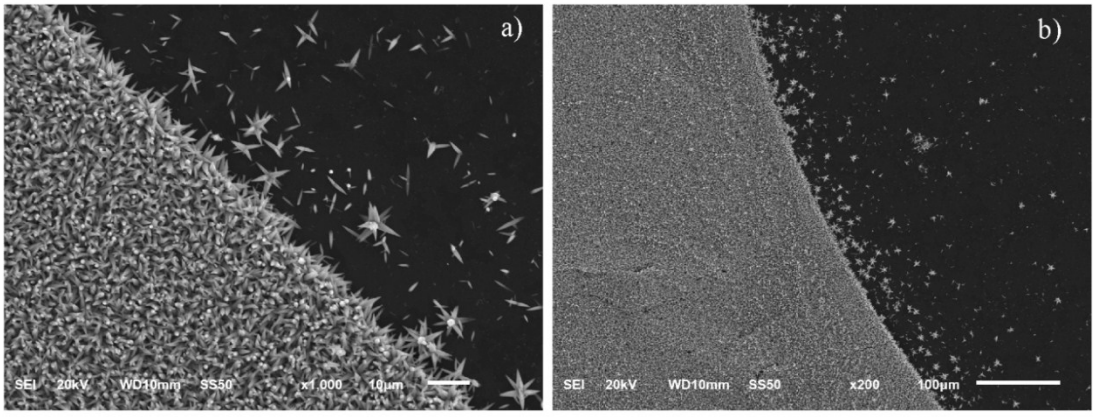

Fig. S9 SEM images show the site-selective growth of ZnO nanorods on Fe-PDA@PET. The PDA patterned was generated by droplet polymerization method.