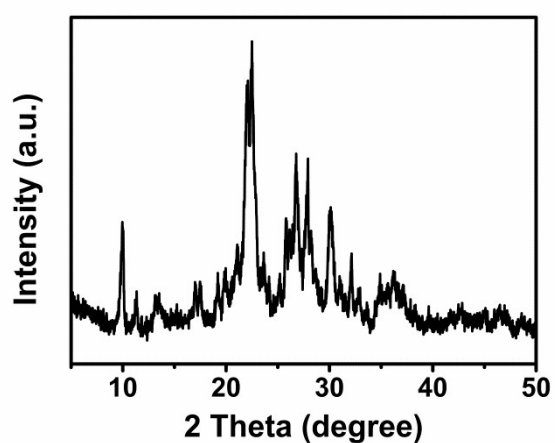


**One-step synthesis of hydrophobic clinoptilolite modified by silanization for  
degradation of crystal violet dye in aqueous solution**

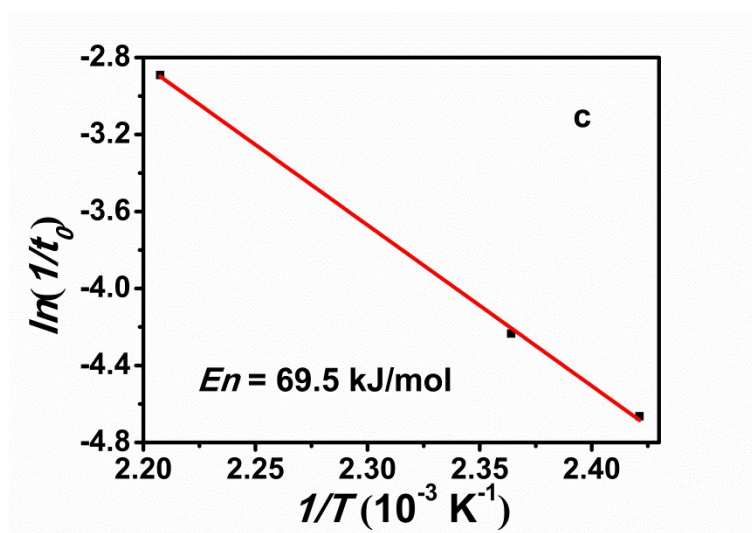
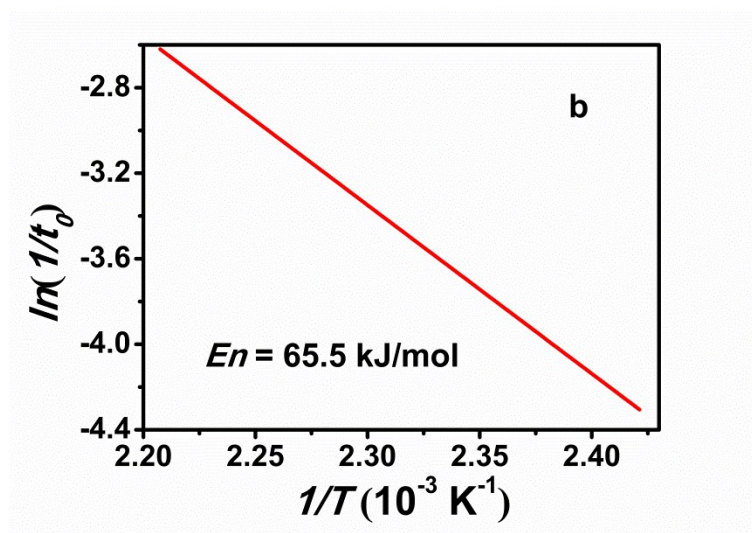
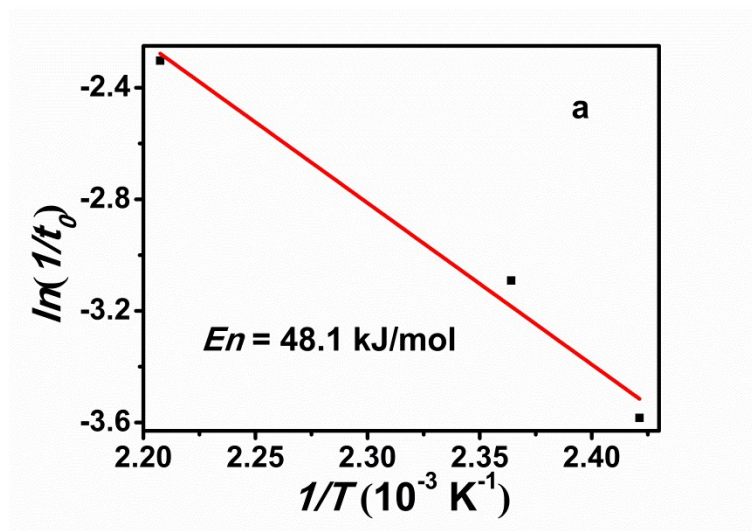
Jian Jiao, Jihong Sun<sup>\*</sup>, Raza Ullah, Shiyang Bai<sup>\*</sup> and Chengwei Zhai

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Chemistry and Chemical Engineering, Beijing University of Technology, Beijing,  
100124, China

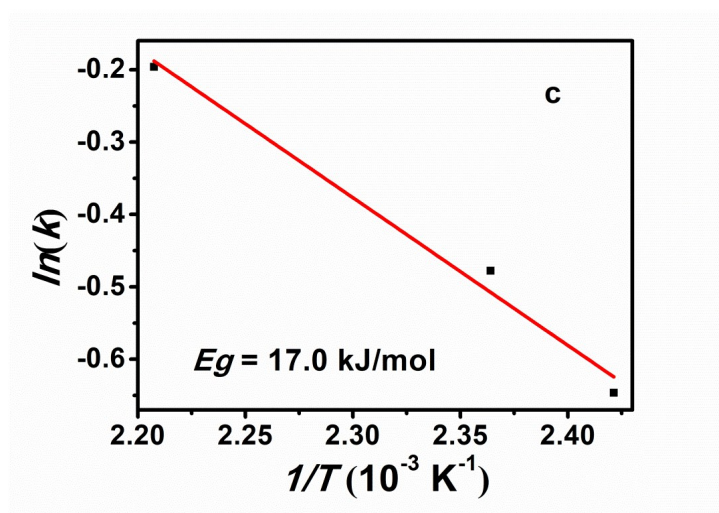
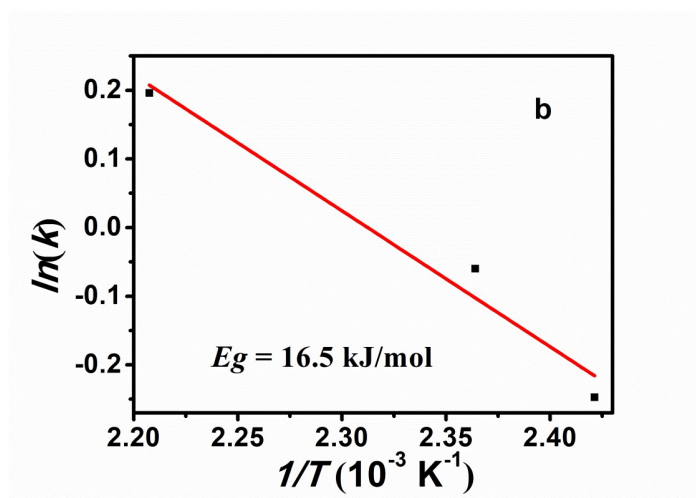
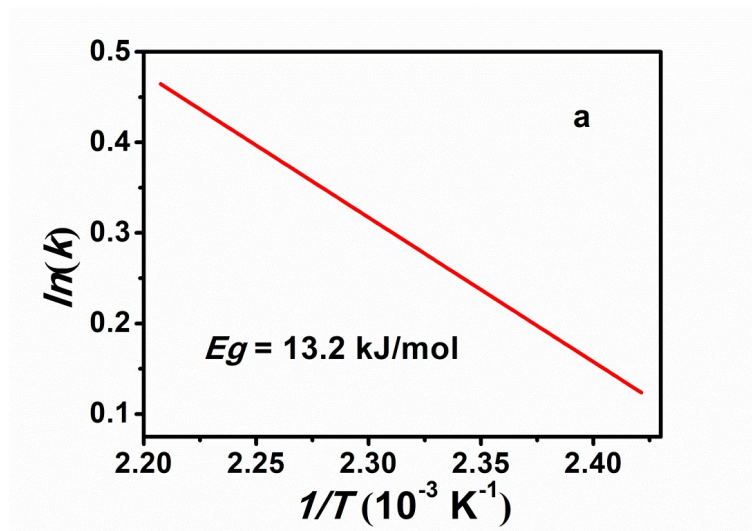
**Electronic Supporting Information**



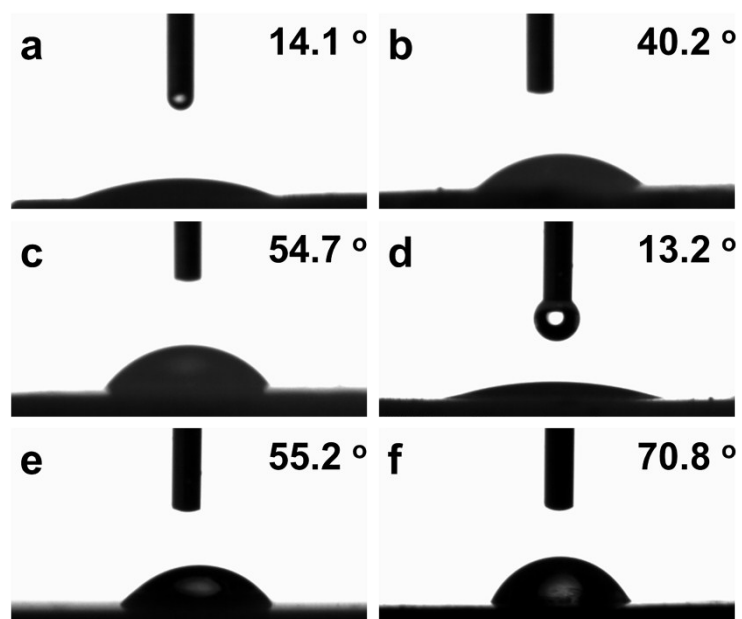
**Fig. S1** XRD pattern of natural CP, used as seed.



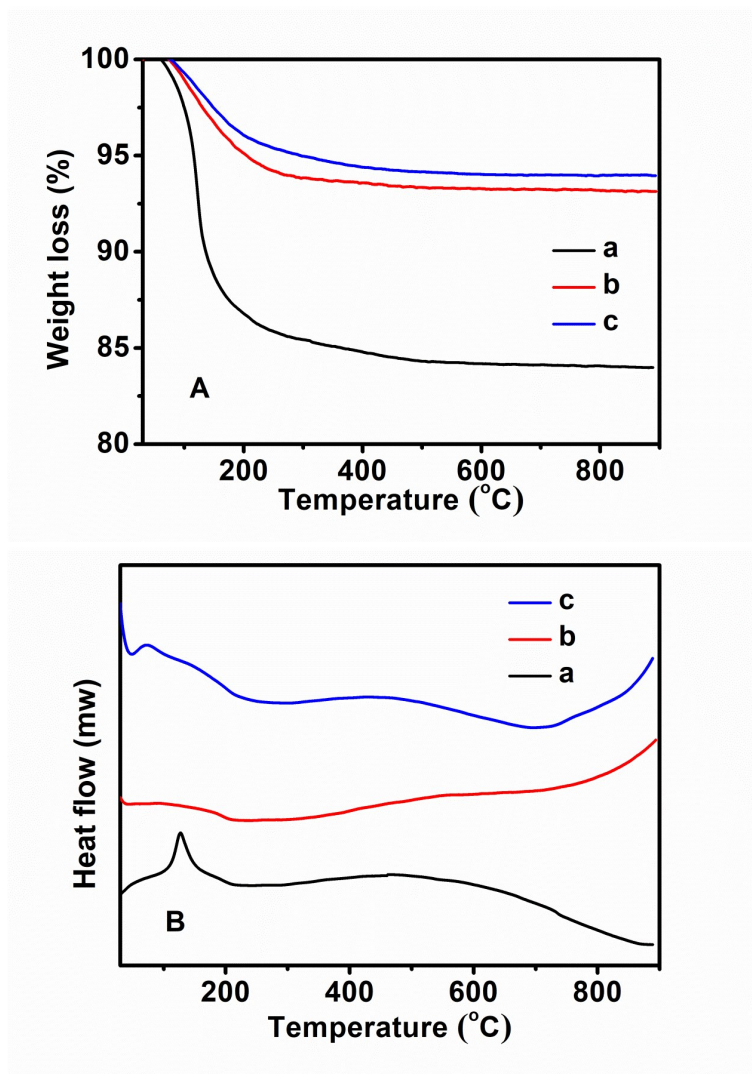
**Fig. S2** Arrhenius plots of induction time for (a) synthetic pure CP, (b) CP-0.4M, and (c) CP-0.4D.



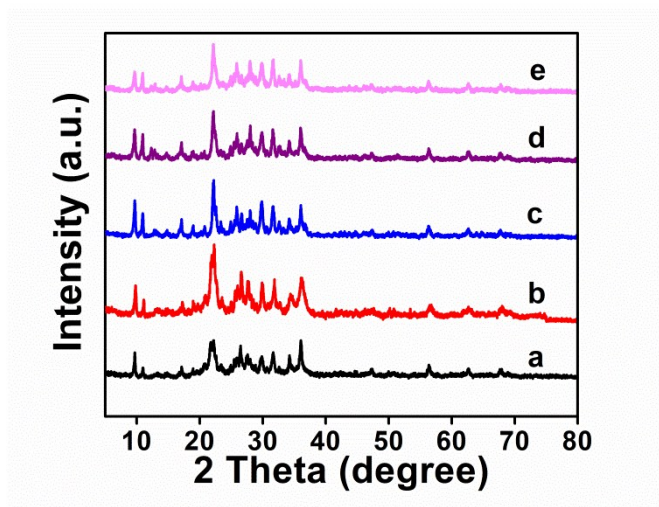
**Fig. S3** Arrhenius plots of growth periods for (a) synthetic pure CP, (b) CP-0.4M, and (c) CP-0.4D.



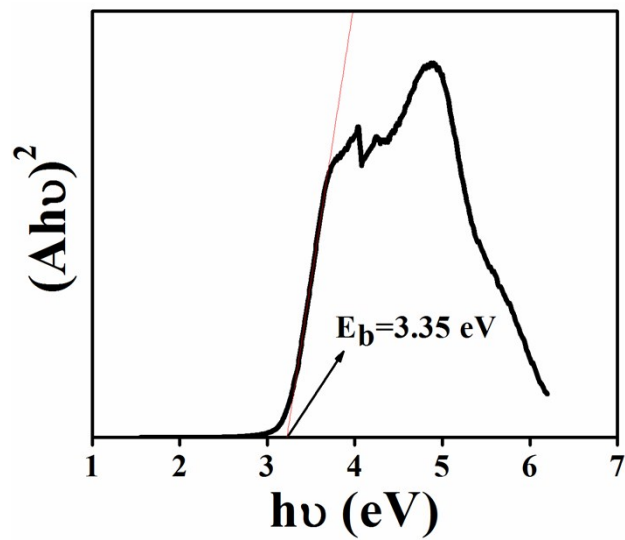
**Fig. S4** WCAs illustrations of (a) CP-150-5, (b) CP-150-0.4M5, (c) CP-150-0.6M5, (d) CP-150-3, (e) CP-150-0.4D3, and (f) CP-150-0.6D3.



**Fig. S5** TG (A) and DSC (B) profiles of as-synthesized samples: (a) CP-150-3, (b) CP-150-0.4M5, and (c) CP-150-0.6D3.

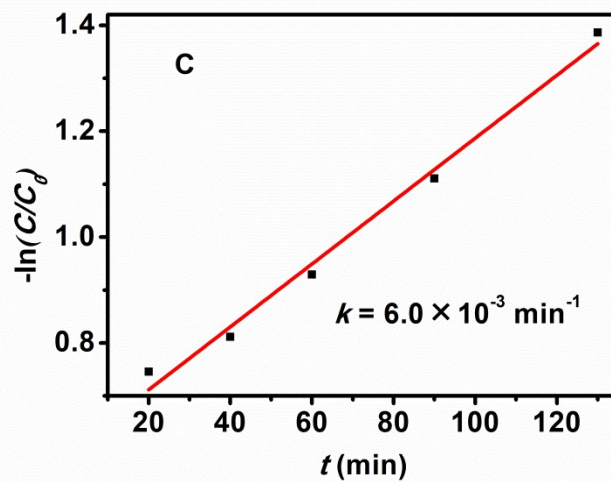
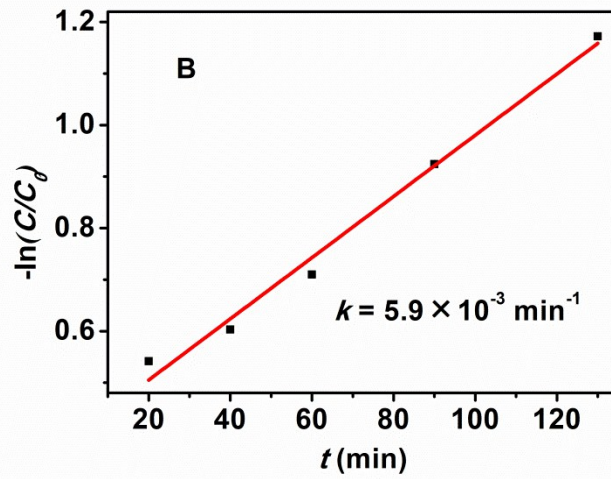
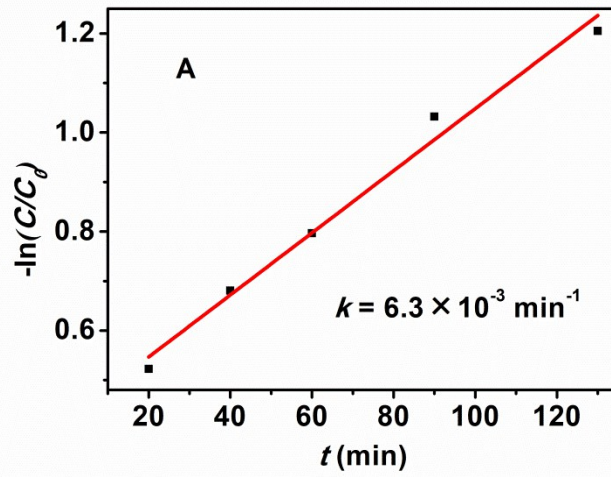


**Fig. S6** XRD patterns of (a) ZnO/natural CP, (b) 0.8-ZnO/natural CP, (c) ZnO/CP-150-3, (d) ZnO/CP-150-0.4M5 and (e) ZnO/CP-150-0.4D3.

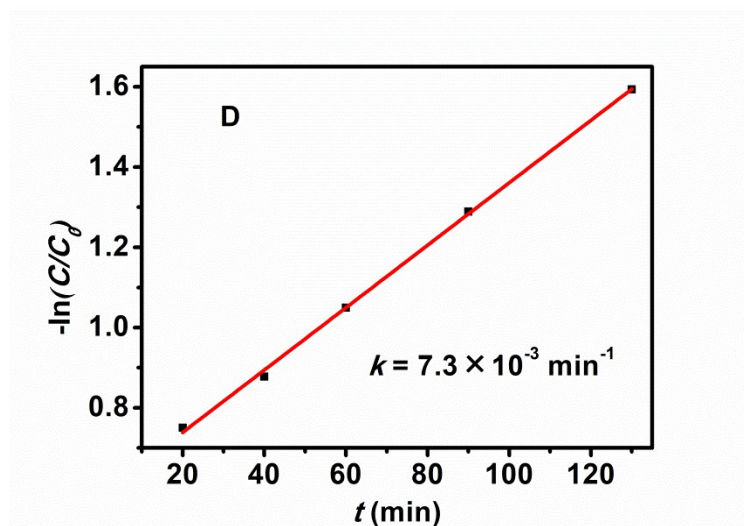


**Fig. S7** Band gap energy of ZnO/CP-150-3 determined using Tauc relation.









**Fig. S8** Rate constant fitting curve of different catalyst supports: (A) ZnO/natural CP, (B) ZnO/CP-150-3, (C) ZnO/CP-150-0.4M5 and (D) ZnO/CP-150-0.4D3.