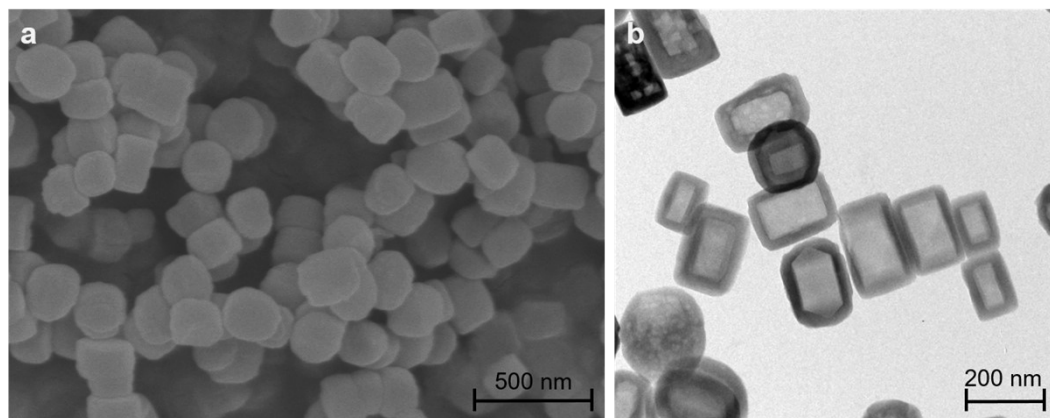
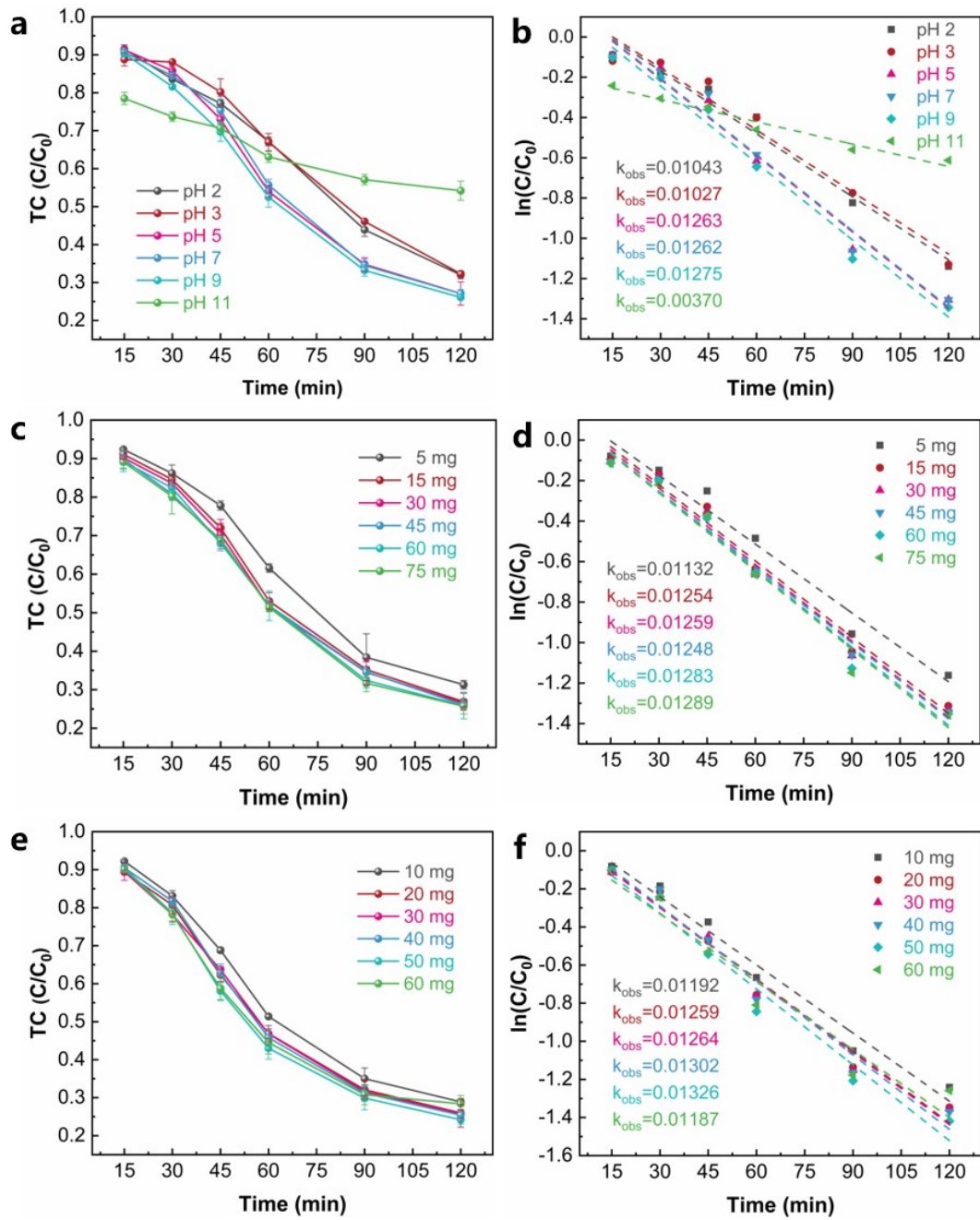


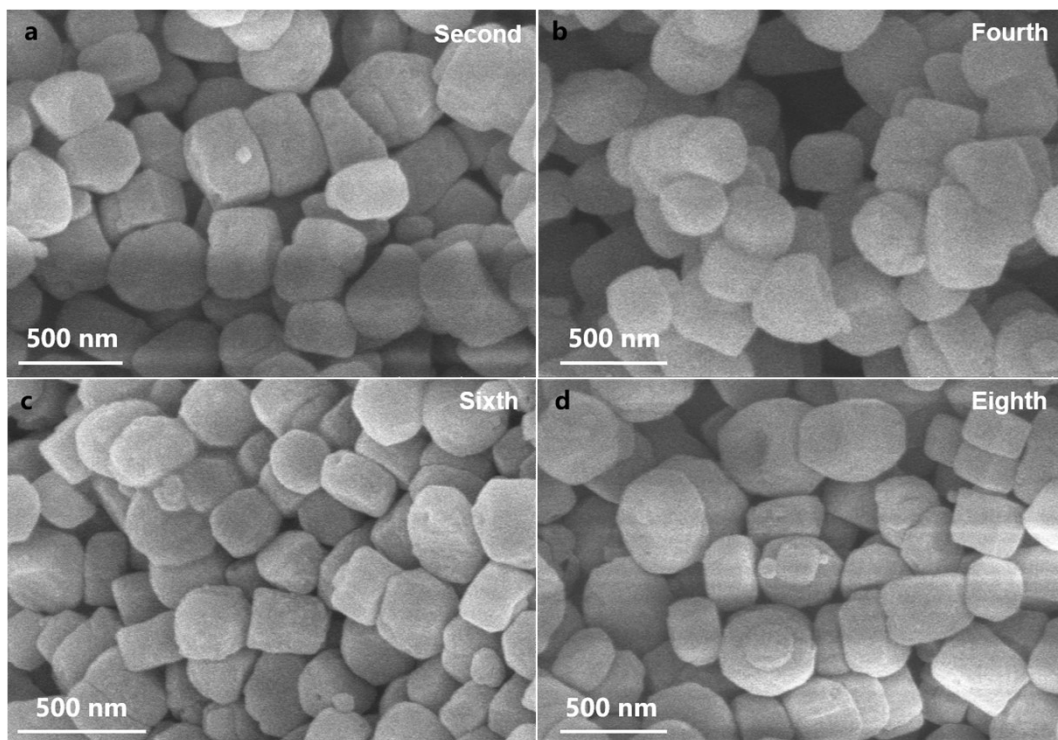
**Schematic S1.** Schematic illustration of the stepwise structural evolution during the synthesis of  $\text{Fe}_2\text{O}_3@\text{H-ZSM-5}@H-ZSM-5$ .



**Fig. S1.** SEM (a) and TEM (b) images of  $\text{Fe}_2\text{O}_3@\text{H-ZSM-5}$ .



**Fig. S2.** Effects of (a) initial pH, (c)  $Fe_2O_3@H-ZSM-5@H-ZSM-5$  dosage, (e) PDS dosage on TC degradation efficiency. Effects of (b) initial pH, (d)  $Fe_2O_3@H-ZSM-5@H-ZSM-5$  dosage, (f) PDS dosage on the value of  $k_{obs}$ .



**Fig. S3.** SEM images of  $\text{Fe}_2\text{O}_3@\text{H-ZSM-5}@\text{H-ZSM-5}$  after the (a) second, (b) fourth, (c) sixth, and (d) eighth catalytic cycles.