Electronic Supplementary Material (ESI) for New Journal of Chemistry

Hemoglobin immobilized within mesoporous TiO_2-SiO_2 material with high loading and enhanced catalytic activity

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Supplementary Information

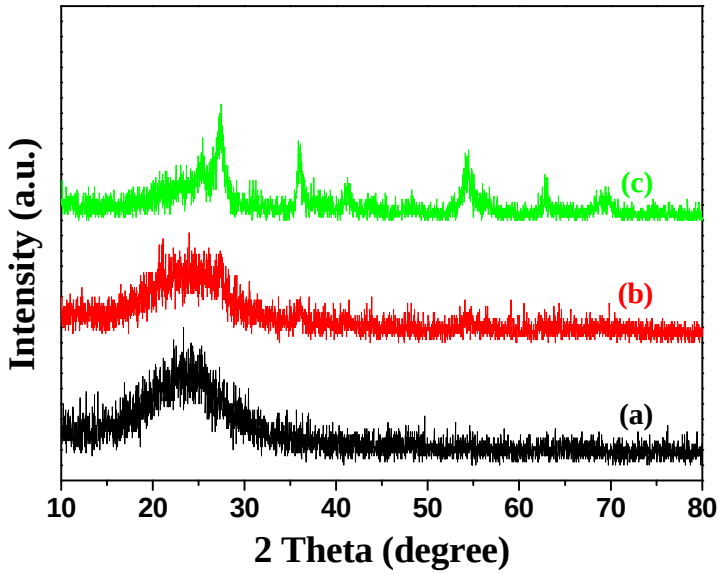

Fig.S1 Wide angle X-ray diffraction patterns of (a) $20TiO_2$-SiO_2, (b) $40TiO_2$-SiO_2 and (c) $60TiO_2$-SiO_2

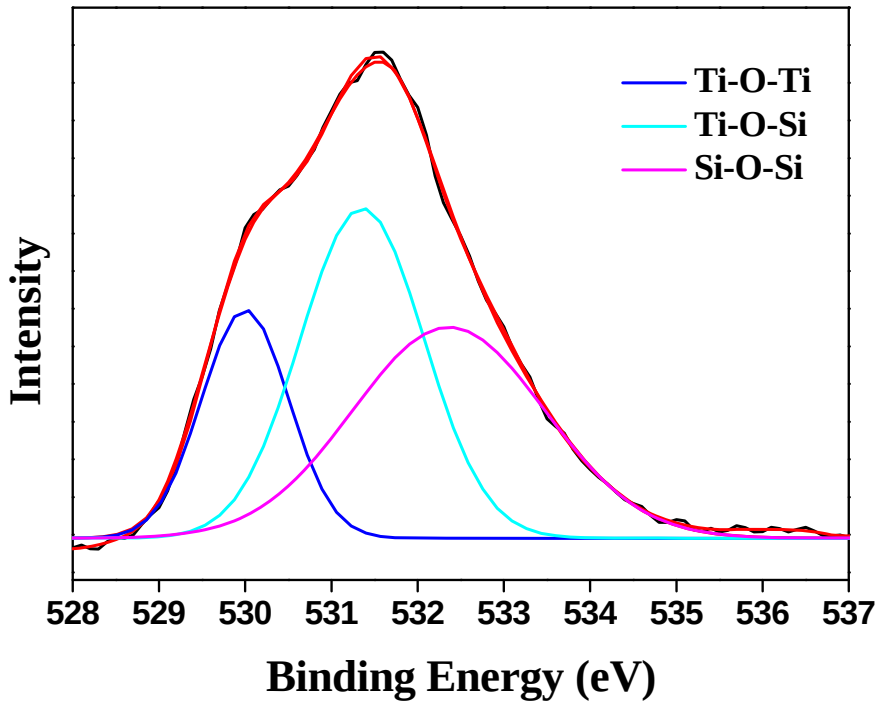

Fig.S2 X-ray photoelectron spectrum (XPS) of $20TiO_2$-SiO_2

Table. S1 The Zeta potential of SiO_2 and $xTiO_2$-SiO_2 suspensions in pH 5.4 PBS

Sample	Zeta potential (mV)
$10SiO_2$	-17.04
$20TiO_2$-SiO_2	-18.76
$40TiO_2$-SiO_2	-20.57
$60TiO_2$-SiO_2	-28.02

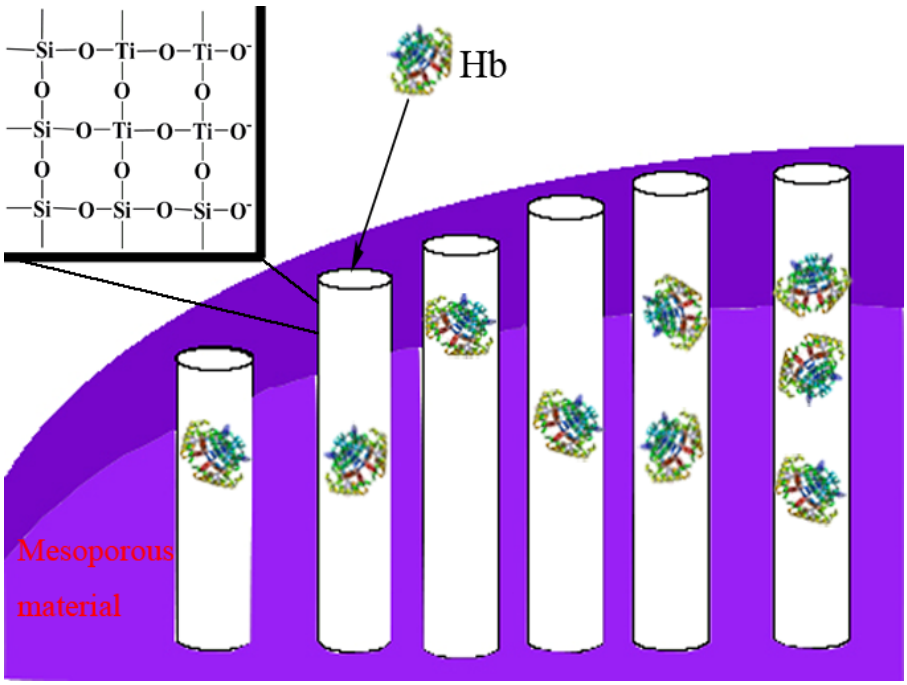

Fig.S3 Schematic illustration of encapsulation of Hb from pH 5.4 PBS into the pore of TiO_2-SiO_2. The wall of TiO_2-SiO_2 mesoporous material consists of Ti and Si which connect with each other by Ti-O-Si bond. As the pore size is larger than the Hb dimension, Hb can be adsorbed within the pore smoothly.

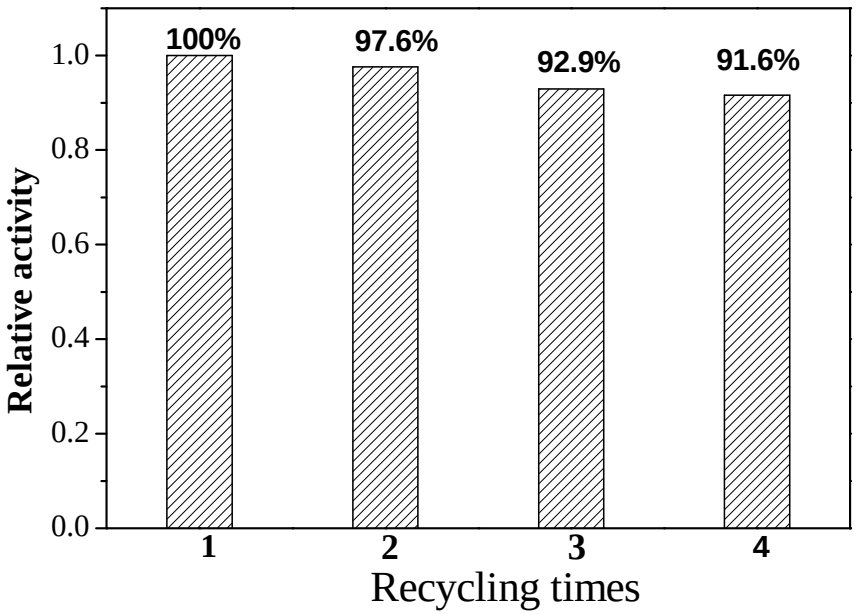

Fig.S4 Relative activity of 40%TiO_2-SiO_2-Hb in four times usage; the reaction possesses 0.0025M BPO and 0.001M OPD catalyzed by 0.01g 40%TiO_2-SiO_2-Hb in $CHCl_3$.