

Supporting information

CO₂ adsorption property of amine-modified amorphous TiO₂ nanoparticles with a high surface area

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Keywords: titanium dioxide, amorphous, nanoparticles, ethylenediamine modification, CO₂ adsorption

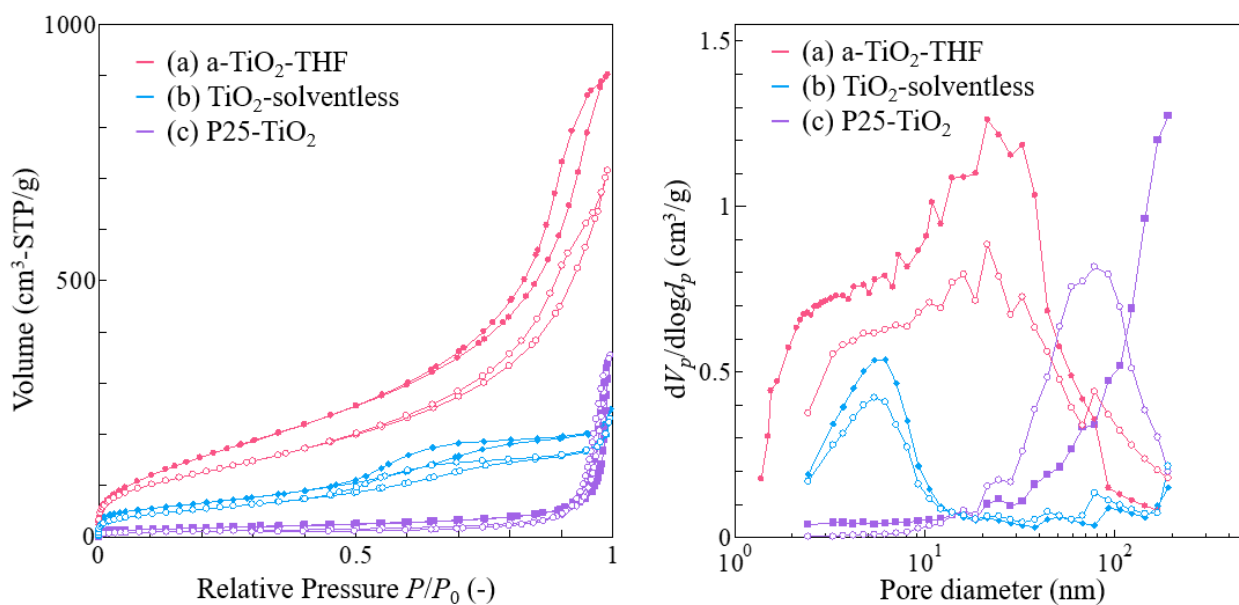


Figure S1 N₂ adsorption/desorption isotherms and pore size distributions of TiO₂ samples (closed symbols) before amine-modification (open symbols) after amine-modification

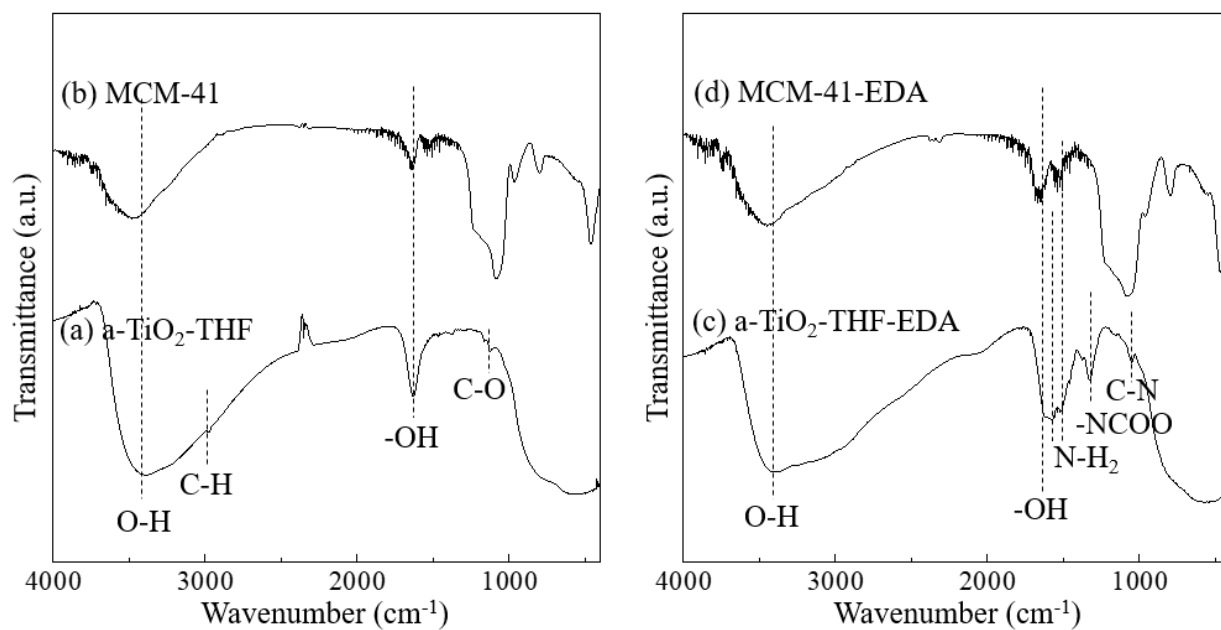


Figure S2 FT-IR spectra of amorphous TiO₂ sample and mesoporous SiO₂ MCM-41 (a) (b) before amine-modification, and (c) (d) after amine-modification.

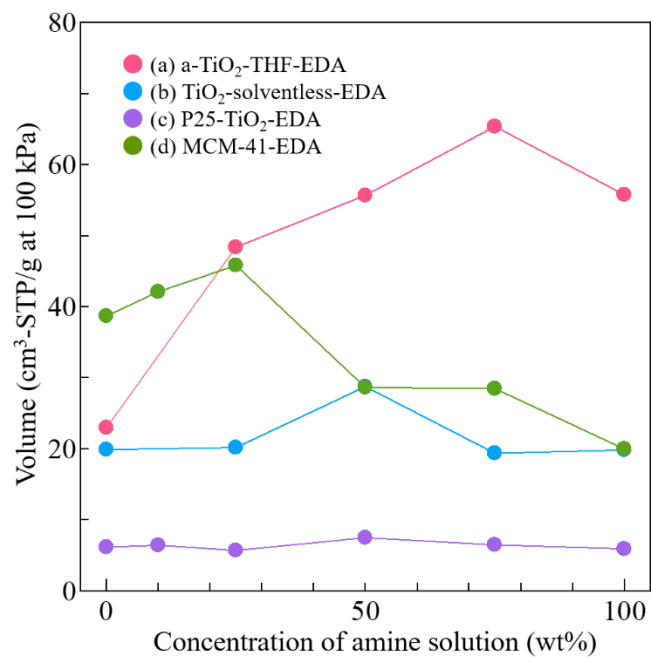


Figure S3 CO₂ adsorption volume at 100 kPa at 0°C of amine-modified samples synthesized by using various ethylenediamine/ethanol concentration

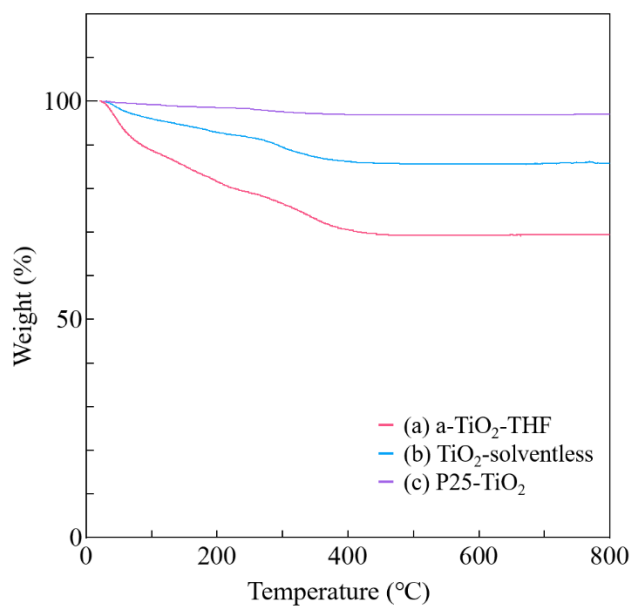


Figure S4 TG curves at 25-800°C of amine-modified TiO₂ samples.

Table S1 BET surface area and pore volume of TiO₂ samples

Sample	S_{BET}	V_{micro}	V_{meso}	V_{macro}	V_{total}
		(< 2 nm)	(2-50 nm)	(> 50 nm)	
	(m ² /g)	(cm ³ /g)	(cm ³ /g)	(cm ³ /g)	(cm ³ /g)
a-TiO ₂ -THF	617	0.064	1.346	0.172	1.582
a-TiO ₂ -THF-EDA	472	0.032	0.894	0.210	1.134
TiO ₂ -solventless	241	0.006	0.304	0.046	0.356
TiO ₂ -solventless-EDA	201	0.016	0.255	0.059	0.330
P25-TiO ₂	63	0.002	0.099	0.386	0.486
P25-TiO ₂ -EDA	40	0.001	0.123	0.378	0.502
MCM-41	978	0.246	0.249	0.009	0.504
MCM-41-EDA	360	0.001	0.132	0.016	0.148