Supporting Information

Mesoporous semiconducting TiO_2 with rich active sites as a remarkable substrate for surface-enhanced Raman scattering

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Table S1 The BET surface area, pore size distribution and XPS information of different TiO_2 NPs.

Samples	BET surface area (m^2/g)	Pore size distribution (nm)	O_V/O_T
TiO_2	127	----	0.79
1P-mTiO_2	147	2~3	0.87
2P-mTiO_2	158	2~4	0.96
3P-mTiO_2	174	2~5	1.18
4P-mTiO_2	136	1~6	0.80
5P-mTiO_2	132	1~6	0.77
3P-mTiO_2 (400 °C)	138	1~2	0.78
3P-mTiO_2 (500 °C)	125	----	0.76

O_T: lattice oxygen, O_V: vacancy oxygen; O_V/O_T: the XPS peak area ratio of O_V and O_T. (Except for special instructions, all samples were obtained at 450 °C calcination temperature.)

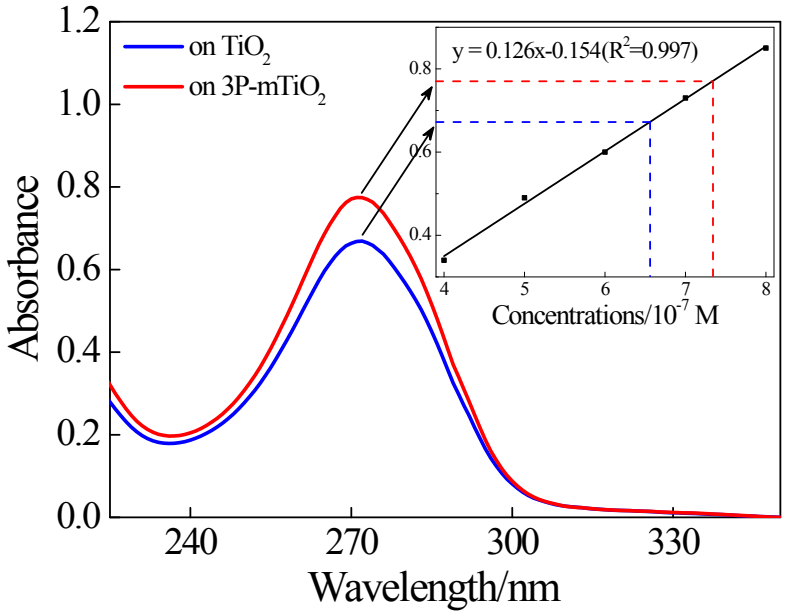

Fig. S1 UV absorption spectra of residual solution after adsorption of 4-MBA (1×10^{-3} M) on TiO_2 and 3P-mTiO_2 NPs (the inset: standard curve of 4-MBA solution).

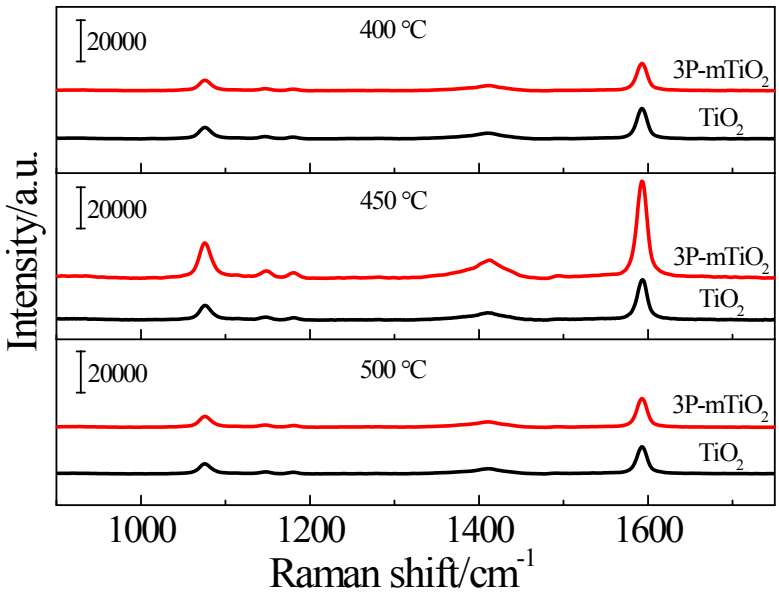

Fig. S2 SERS spectra of 4-MBA molecules adsorbed on TiO_2 and 3P-mTiO_2 NPs calcined at different temperatures.