Supporting Information for:

Engineering surface defects and metal-support interactions on $Pt/TiO_2(B)$ nanobelts to boost catalytic oxidation of CO

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1. Figures

Figure S1

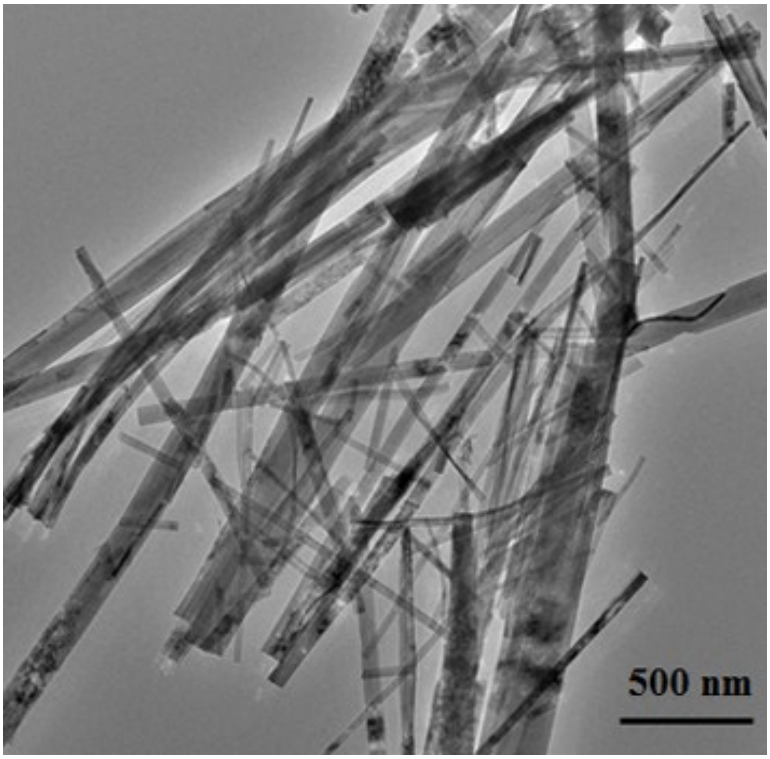

Figure S1. TEM image of the TiO_2(B) powder

Figure S2

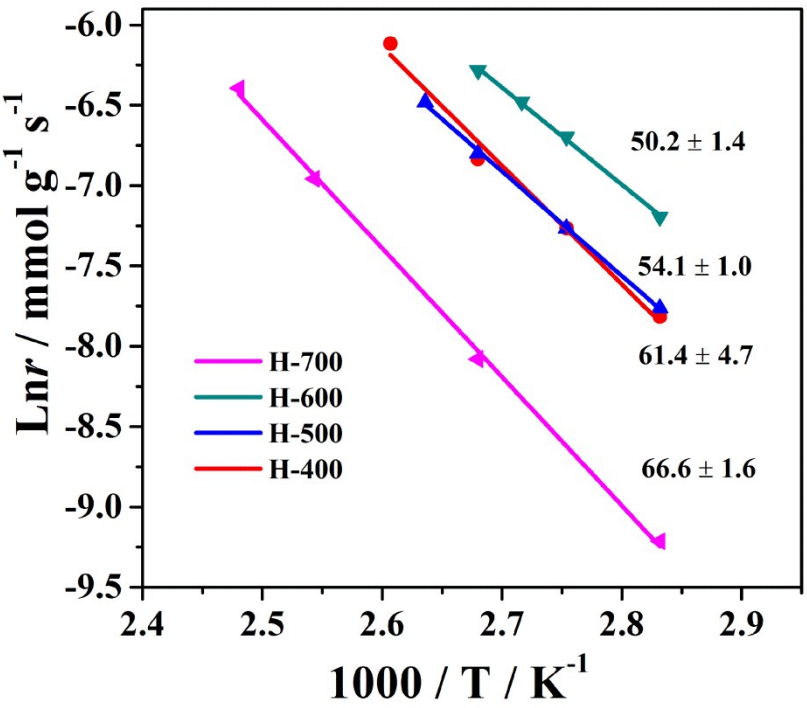

Figure S2. Arrhenius plots of the catalysts upon the catalytic oxidation of CO.

Reaction conditions: W_{Cat} = 40 mg, feeding gas compositions = 0.9 % CO, 24 % O_2, N_2 balance; flow rate = 150 mL min^{-1}. The activation energy is calculated in the conversion range of 0.4-8.8 %. The E_a is obtained through liner fitting the experimental data with 95 % confidence.

Figure S3

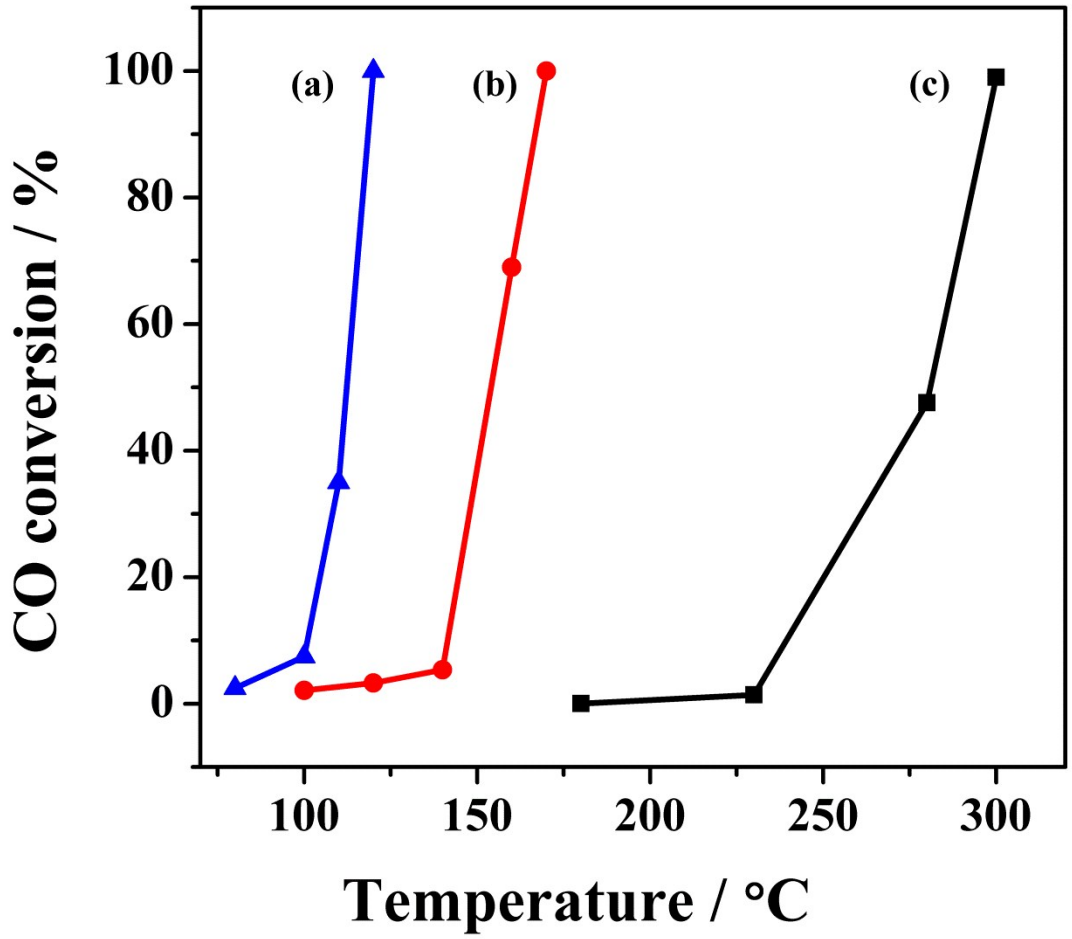

Figure S3. CO conversion of the catalysts via the reaction temperature: (a) H-600, (b) Pt/P25-600 and (c) Pt/P25.

Reaction conditions: W_{Cat} = 40 mg; feeding gas compositions = 0.9 % CO, 24 % O_2

Figure S4

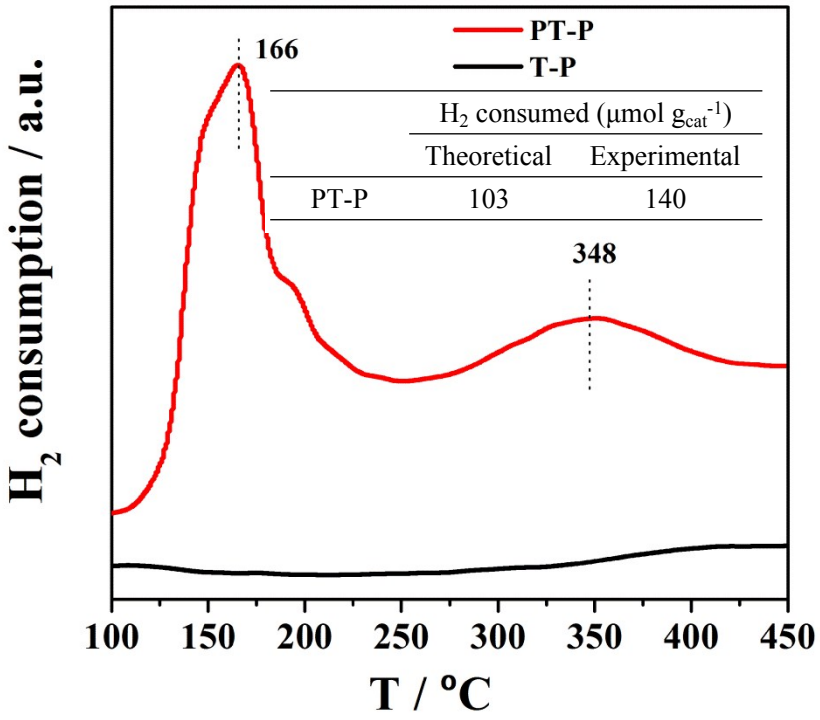

Figure S4. H_2-TPR profiles of the precursors.

Figure S5

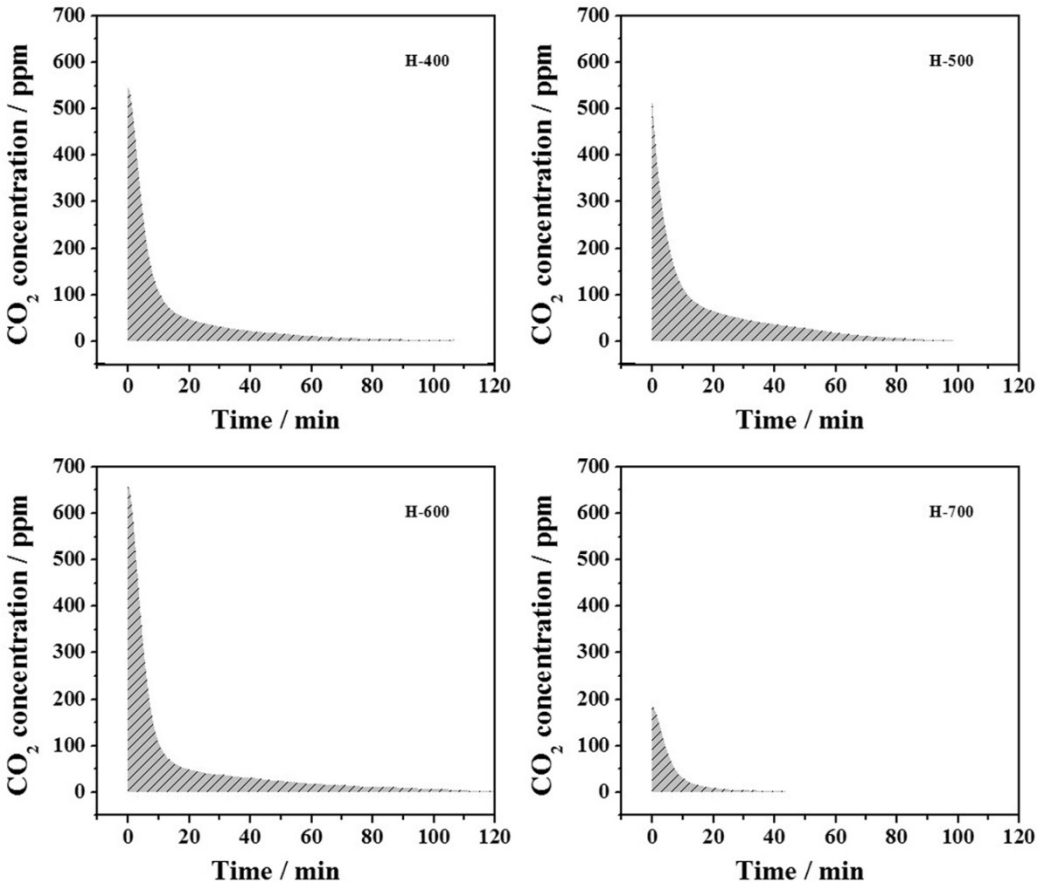

Figure S5. CO_2 concentrations as a function of time during isothermal CO oxidation at 110 °C.

2. Tables

Table S1. Rates of the catalysts for catalytic oxidation of CO.

Catalysts	r_w 10^{-5} mol g_{Pt}^{-1} s^{-1}	Ref.
H-400	9.7 (100 °C)	This work
H-500	11.2 (100 °C)	This work
H-600	18.7 (100 °C) 5.0 (80 °C)	This work
H-700	3.1 (100 °C)	This work
Pt/CeO_2	14.9 (225 °C)	1
5.0 Pt/TiO_2	5.5 (100 °C)	2
2.0 Pt/SiO_2	0.7 (200 °C)	2
2wt%Pt-Rutile-H	2.1 (80 °C)	3
2wt%Pt-TiO_2-101	4.6 (80 °C)	4

Table S2. The summary of CO-TPO peak deconvolution of the catalysts.

Catalysts	Peark areas		
	α	β	γ
H-400	21	72	25
H-500	30	105	54
H-600	96	135	44
H-700	50	-	49

3. References

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