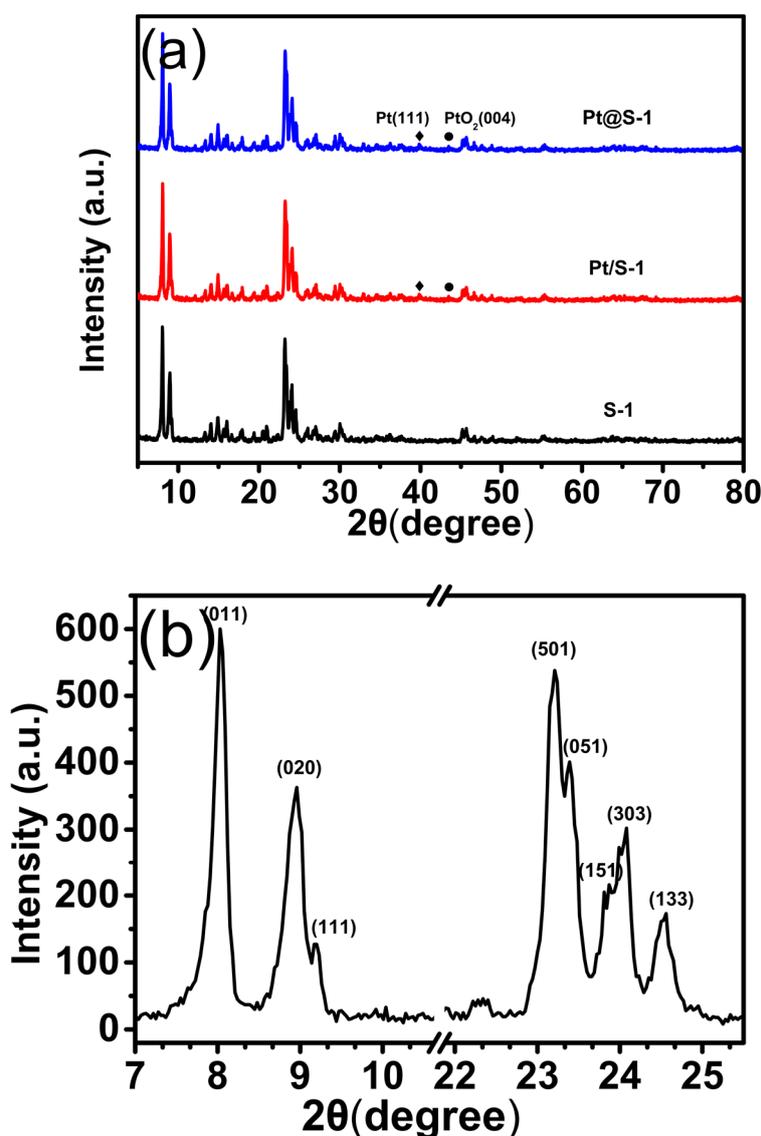
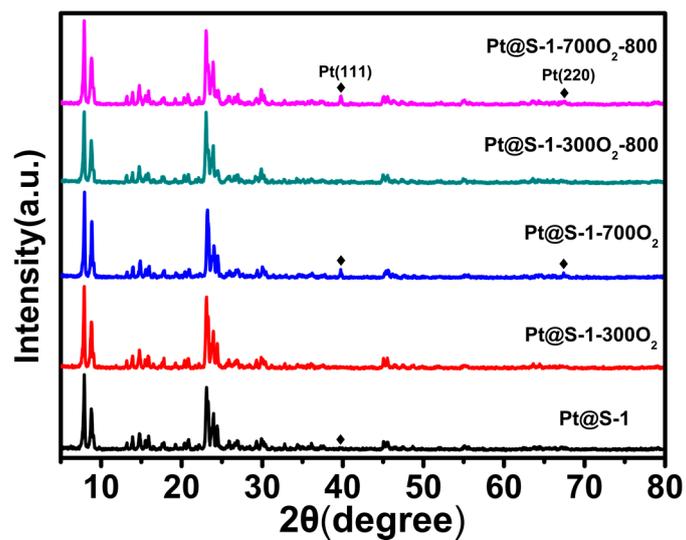


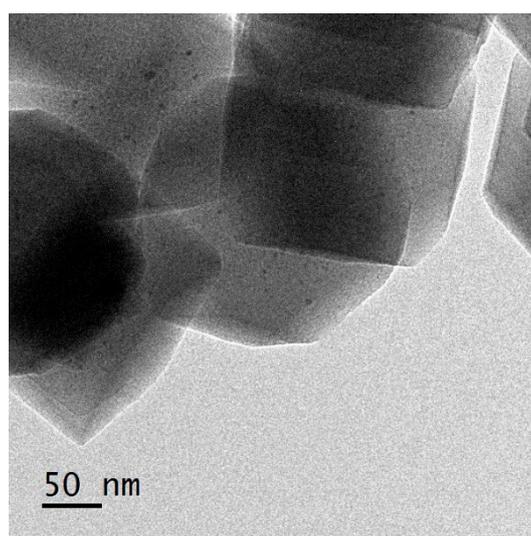
**Supporting Information**
**In situ encapsulated Pt nanoparticles dispersed in low temperature oxygen for partial oxidation of methane to syngas**
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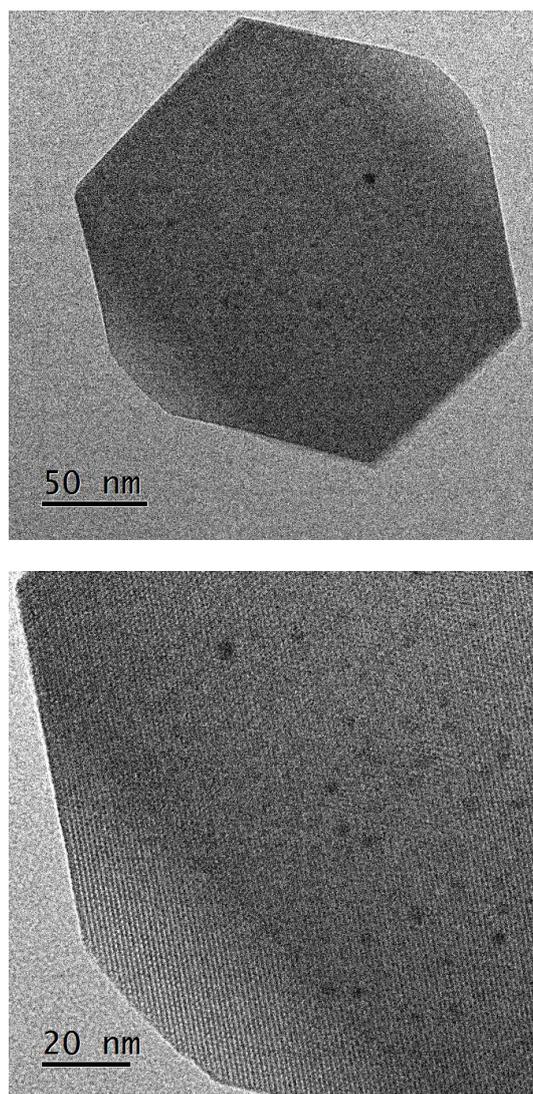
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**Figure S1.** XRD patterns of the as -prepared samples (a), XRD partial enlargement of S-1 zeolite (b).



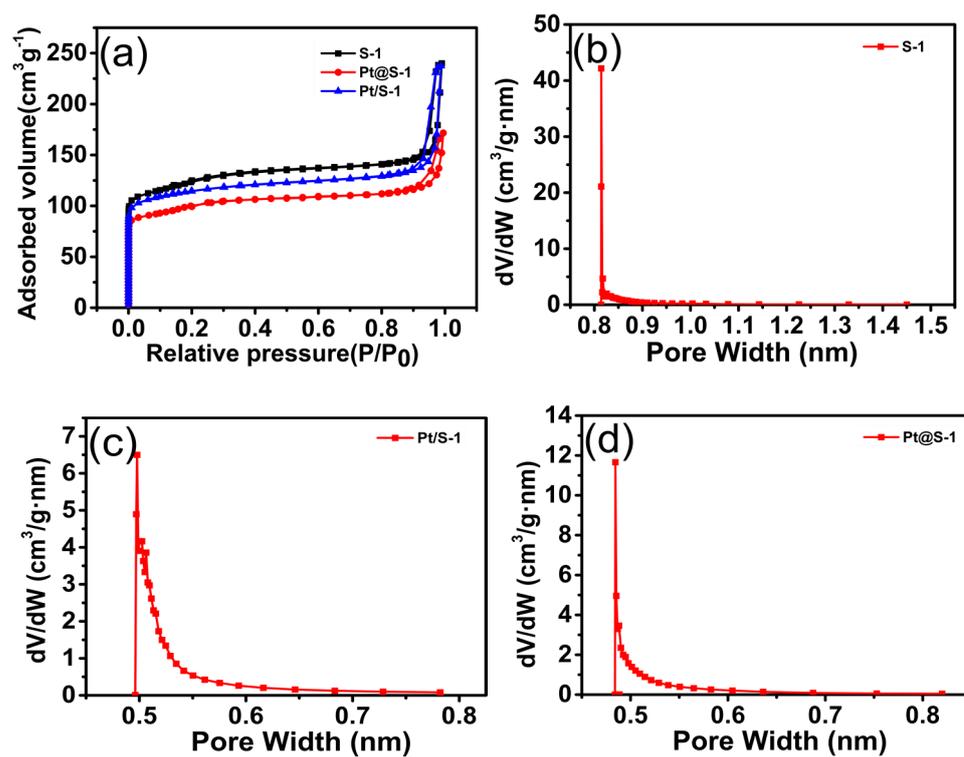
**Figure S2.** XRD patterns of the Pt@S-1 catalyst after oxygen calcination and reaction at different temperatures.



**Figure S3.** TEM images of the fresh Pt@S-1 catalyst.



**Figure S4.** TEM images of the oxygen calcinated Pt@S-1-300O<sub>2</sub> catalyst.



**Figure S5.** N<sub>2</sub> adsorption-desorption isotherms (a) and pore size distribution (b-d) of as-prepared samples.