Supporting Information

Facile Synthesis and Superior Catalytic Activity of Nano-TiN@N-C for Hydrogen Storage in $NaAlH_4$

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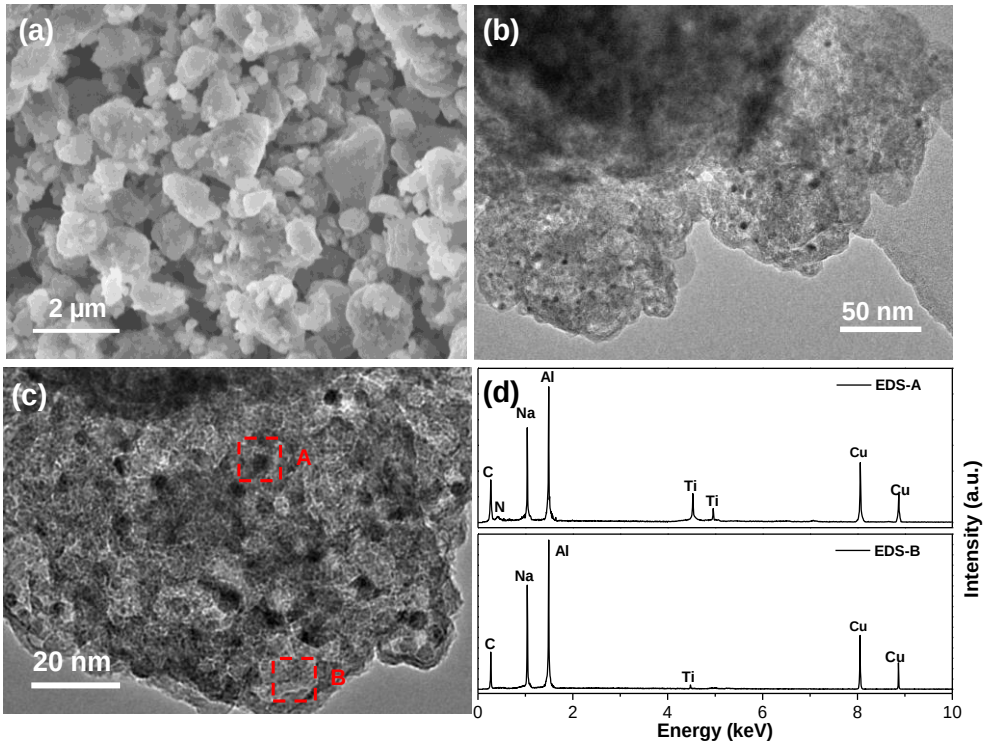

Figure S1 SEM image (a), TEM images (b, c) and EDS patterns (d) of prepared $NaAlH_4$-7 wt% TiN@N-C sample.

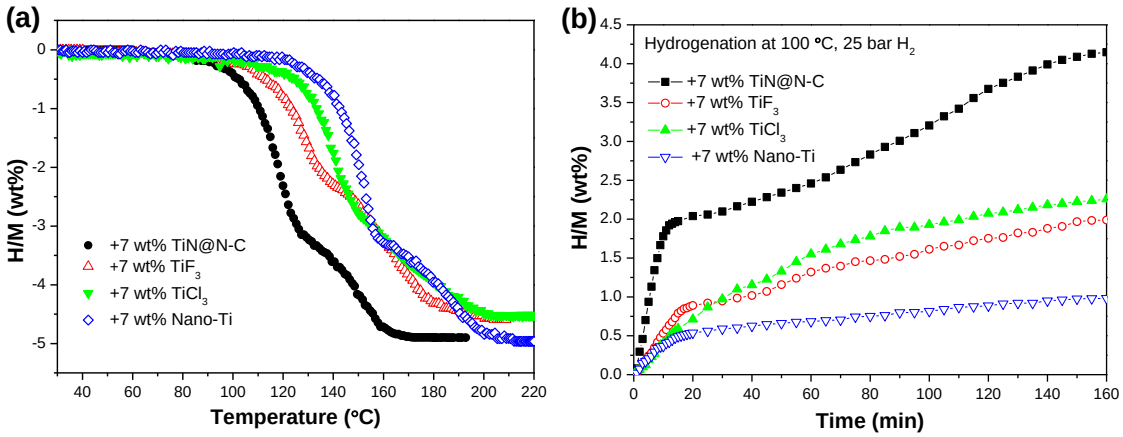

Figure S2 Volumetric release (a) and isothermal hydrogenation curves (b) of $NaAlH_4$ doped with different catalysts.

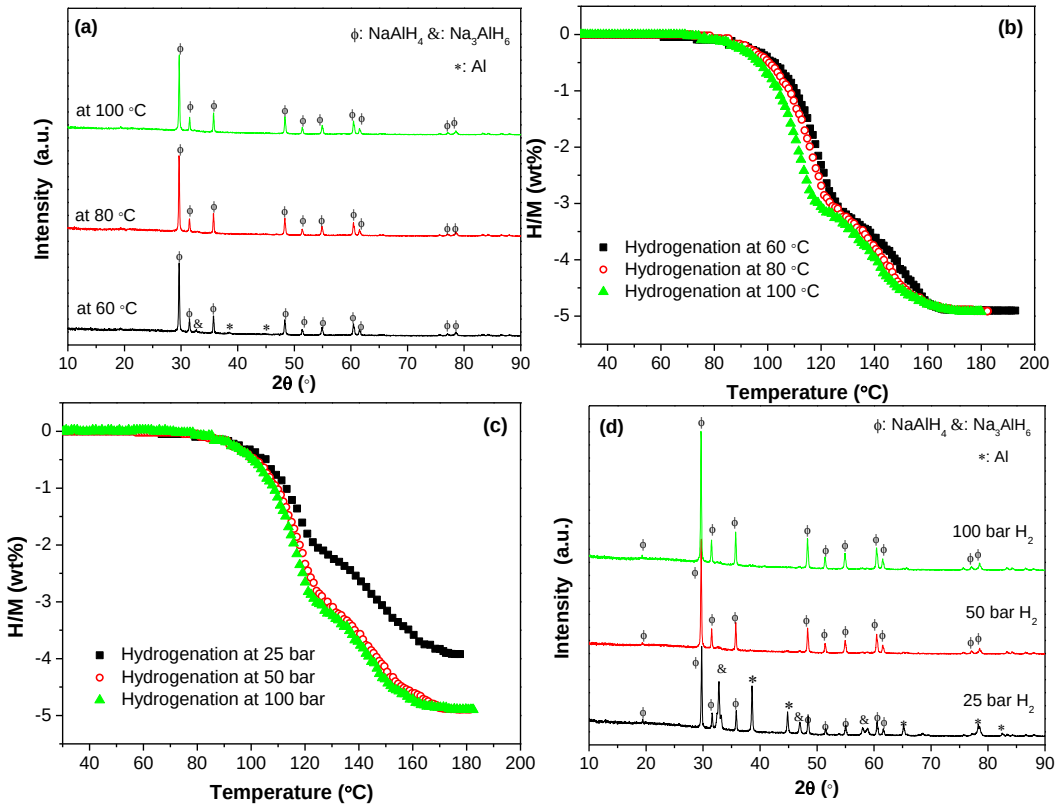

Figure S3 XRD profiles (a, d) and re-dehydrogenation curves (b, c) of $NaAlH_4$-7 wt% TiN@N-C sample hydrogenated isothermally at various conditions.

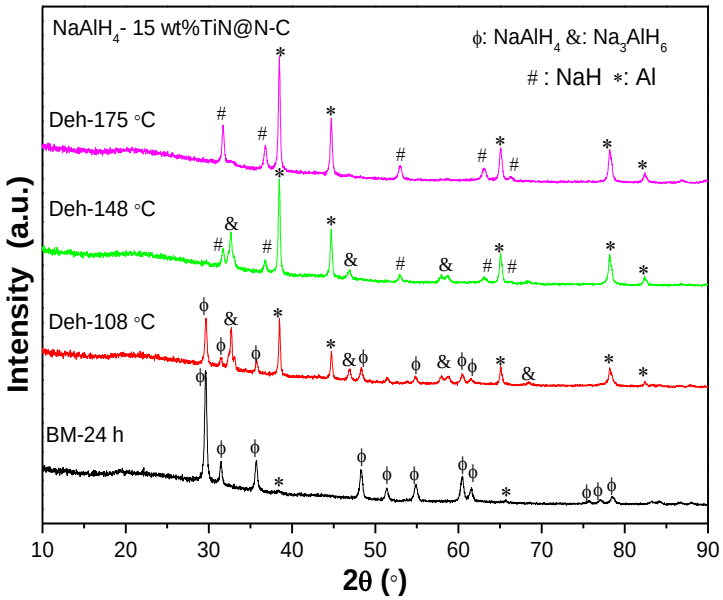

Figure S4 XRD patterns of 15wt% TiN@N-C-containing $NaAlH_4$ samples dehydrogenated at different stages.

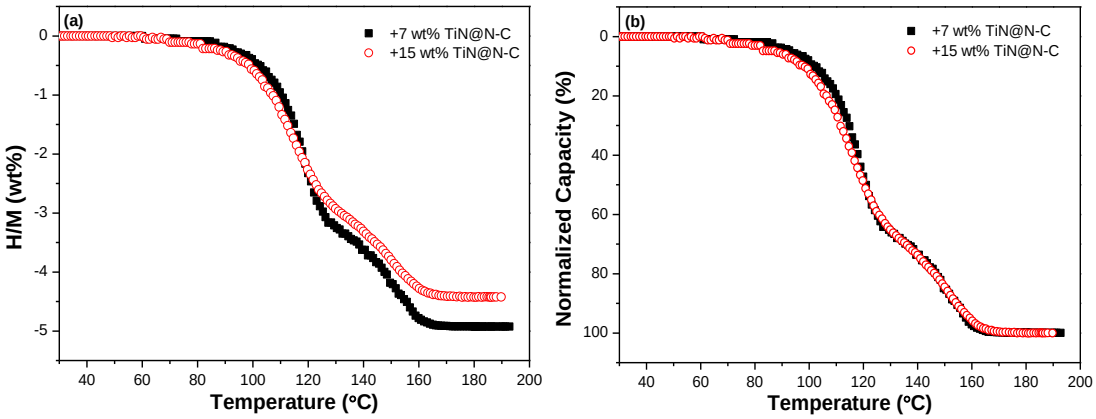

Figure S5 Volumetric release (a) and normalized volumetric release curves (b) of $NaAlH_4$ doped with 7 wt% and 15 wt% TiN@N-C.

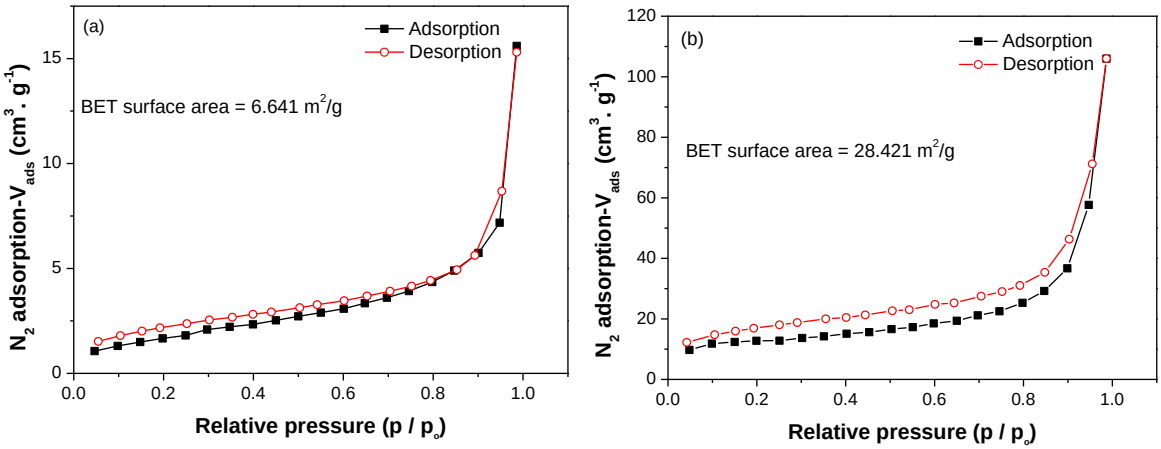

Figure S6. N_2 sorption isotherms of the $NaAlH_4$-7 wt% TiC@N-C samples after ball milling (a) and 25 cycles (b).