

## Supporting Information

### Facile synthesis of nanosized nickel phosphides with controllable phase and morphology

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Table S1 Viscosity of the solvent at room temperature.

Solvent	MeOH	EtOH	EG	GL	DEG
Viscosity (mpa·s)	0.580	1.17	22.1	1412	35.7

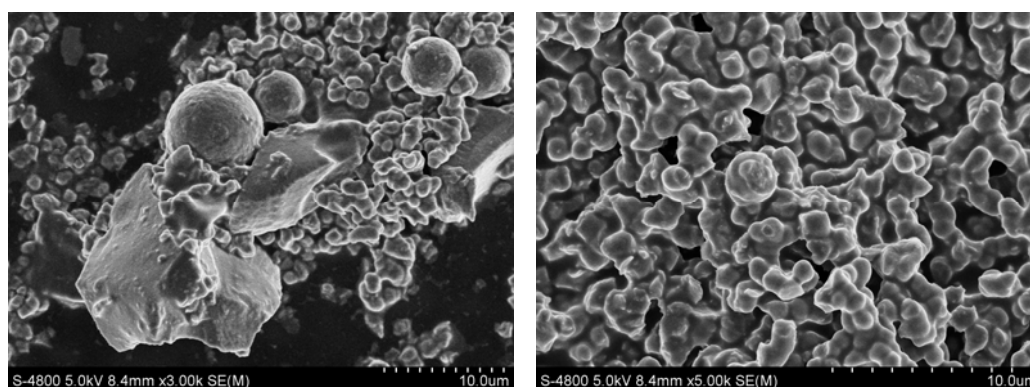


Figure S1 SEM images of red phosphorus.

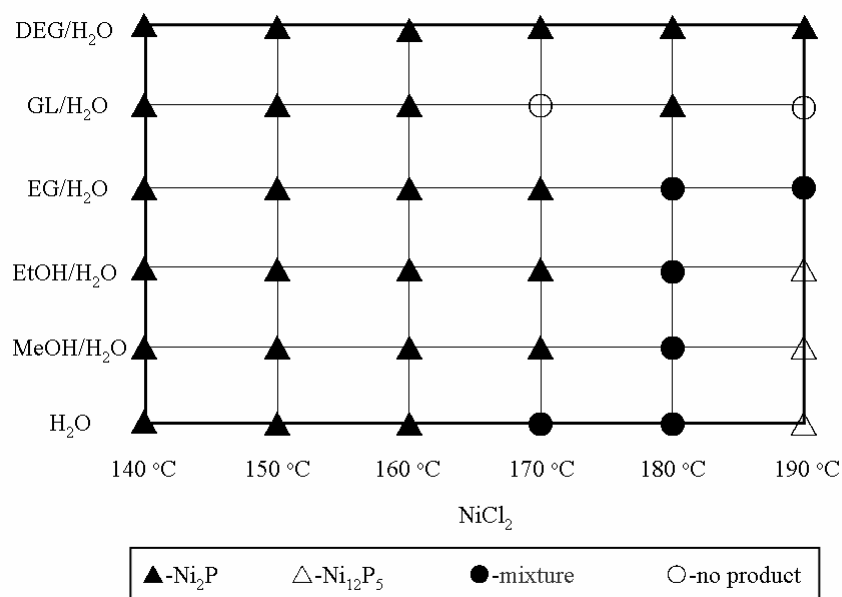


Figure S2 Binary phase diagram of nickel phosphides synthesized by using  $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$  as the nickel source.

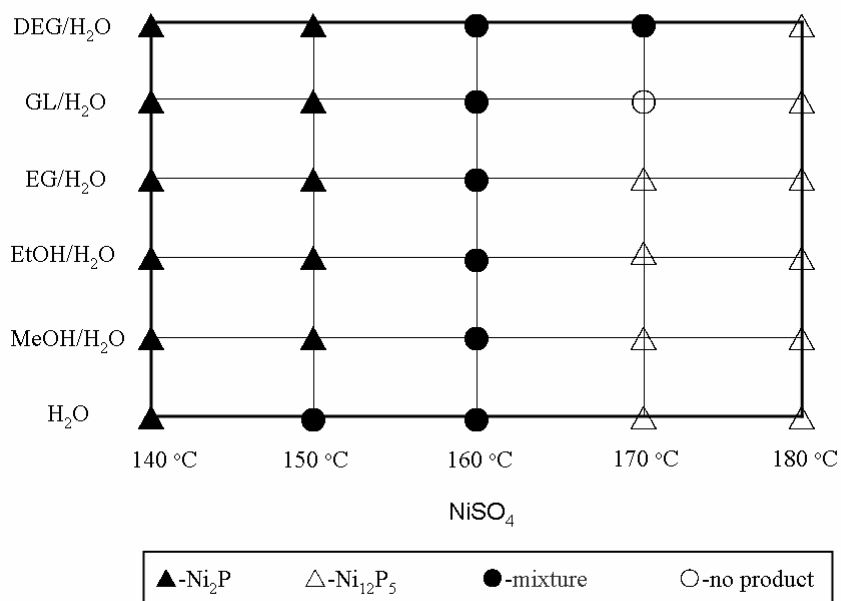


Figure S3 Binary phase diagram of nickel phosphides synthesized by using NiSO<sub>4</sub>·6H<sub>2</sub>O as the nickel source.

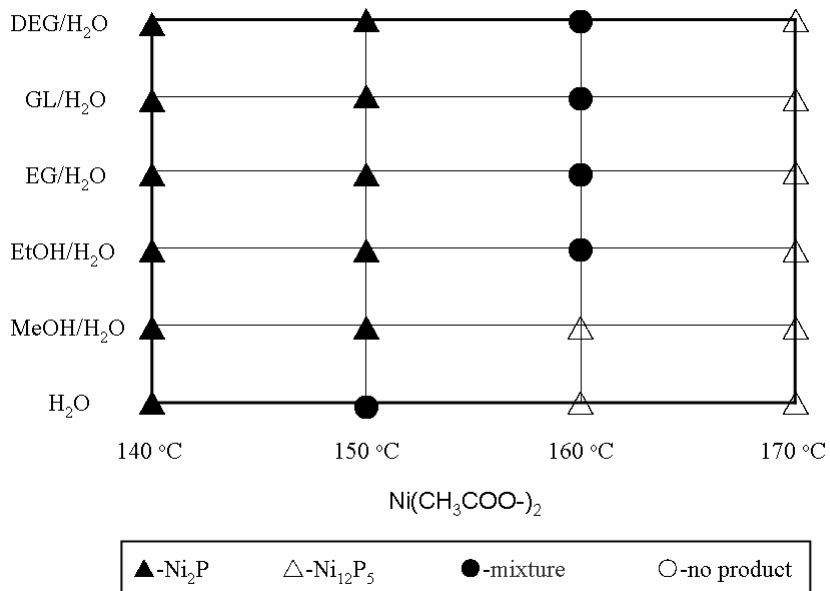


Figure S4 Binary phase diagram of nickel phosphides synthesized by using Ni(CH<sub>3</sub>COO)<sub>2</sub>·4H<sub>2</sub>O as the nickel source.

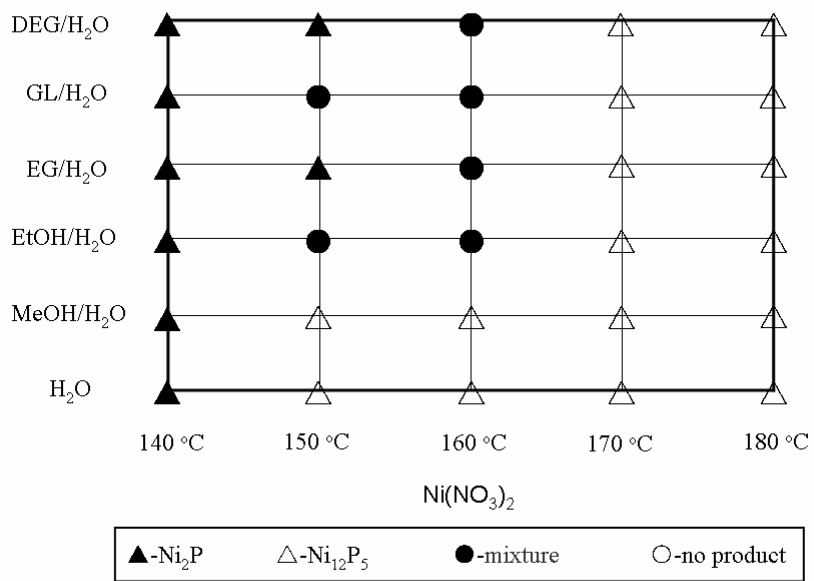


Figure S5 Binary phase diagram of nickel phosphides synthesized by using Ni(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O as the nickel source.