

# Electronic Supplementary Information

## Double Surfactant-Directed Controllable Synthesis of $\text{Sb}_2\text{S}_3$ Crystals With Comparable Electrochemical Performances

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**Table S1.** Abbreviation of various products, the initial and cyclic capacity of smples.

	Pg2-1	Pg6-0	Pg1-1	Pg1-2	Pg0-6	Pg0-0
PVP/glucose(quality)	2:1	6:0	1:1	1:2	0:6	0:0
An initial capacity(mAh g <sup>-1</sup> )	914	629	933	813	570	430
The capacity after 10 cycles (mAh g <sup>-1</sup> )	151	124	41	4	1	1

In this work, all of the products are named as Pgx-y for convenience. P and g denotes the abbreviation of PVP and glucose respectively. x-y denotes the mass ratio of PVP and glucose.

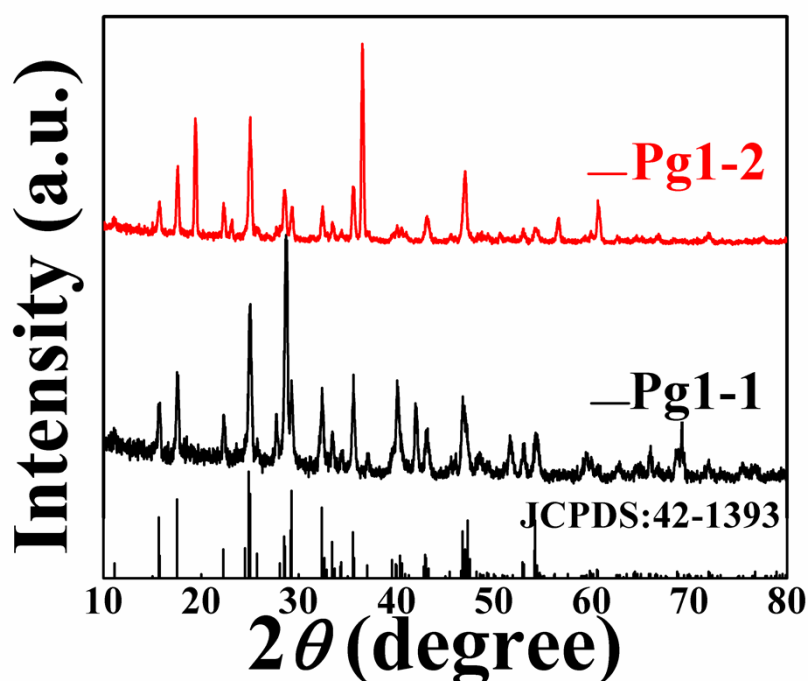


Fig. S1. XRD patterns of the samples obtained by a solvothermal reaction with different mass ratio of the double surfactant (PVP : glucose), (a, b) 1 : 2 and (c, d) 1 : 1.

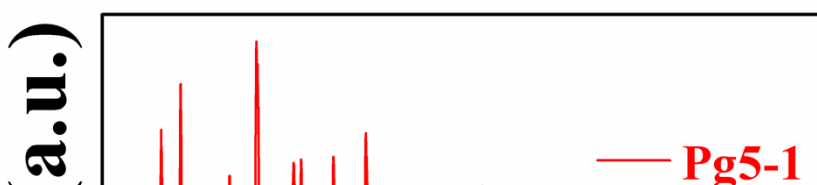


Fig. S2. XRD patterns of the samples obtained by a solvothermal reaction with different mass ratio of the double surfactant (PVP : glucose), (a, b) 5 : 1 and (c, d) 1 : 5.

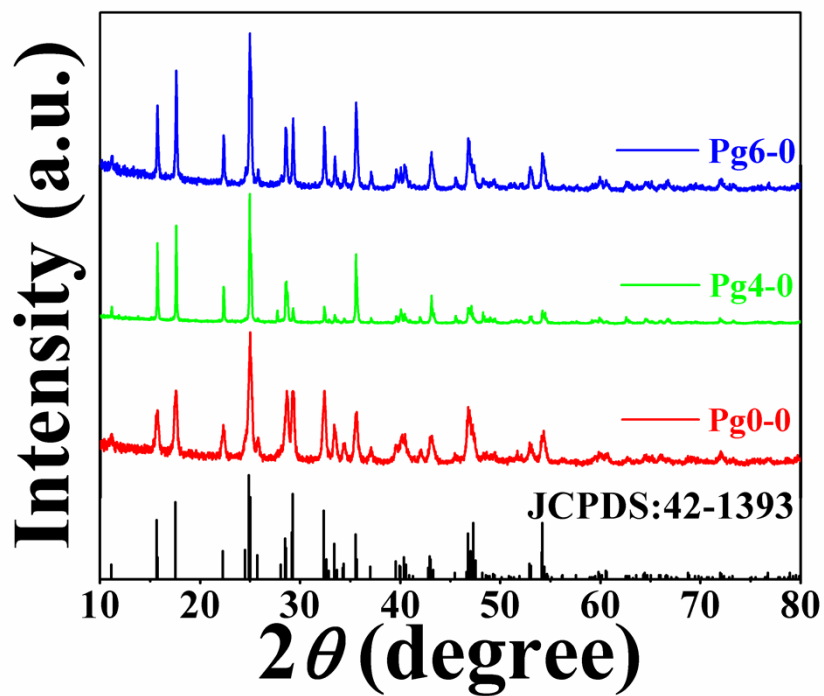


Fig. S3. XRD patterns of the samples obtained by a solvothermal reaction in a mixed solvent at 180 °C for 8 h for different concentrations of PVP. a) 0 g (Pg0-0); b) 0.4 g (Pg4-0); c) 0.6 g (Pg6-0).

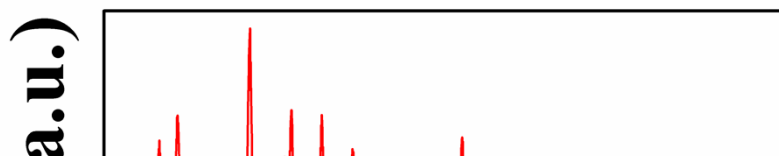


Fig. S4. XRD patterns of the samples obtained by a solvothermal reaction in a mixed solvent at 180 °C for 8 h for different concentrations of glucose. a) 0.3 g (Pg0-3); b) 0.6 g (Pg0-6).

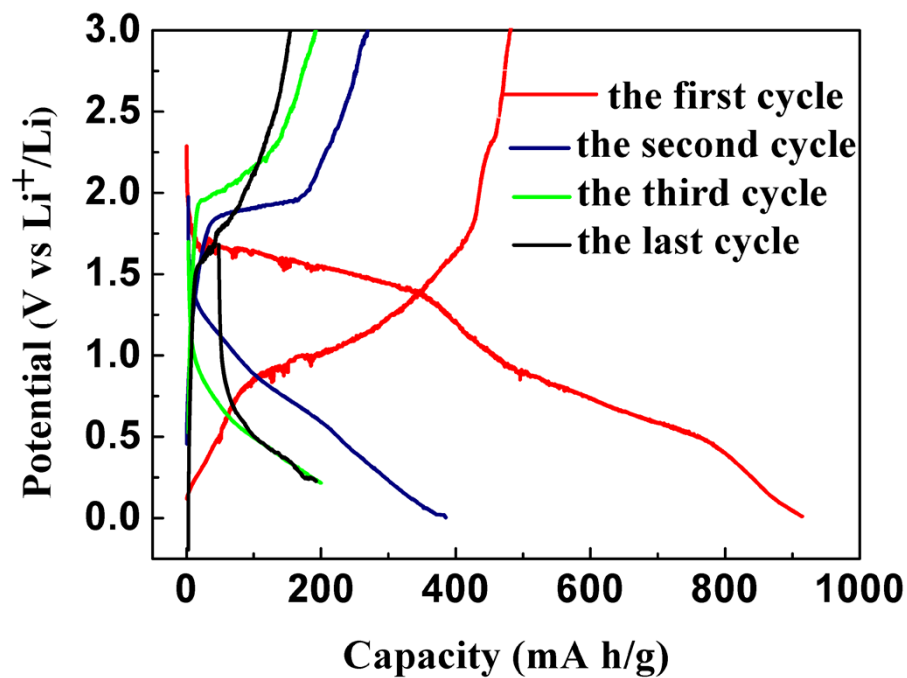


Fig S5. The charge-discharge curves of Pg2-1 for the second cycle and the further cycles.