Supporting Information

A molten salt-based nitridation approach for synthesizing nanostructured InN electrode materials

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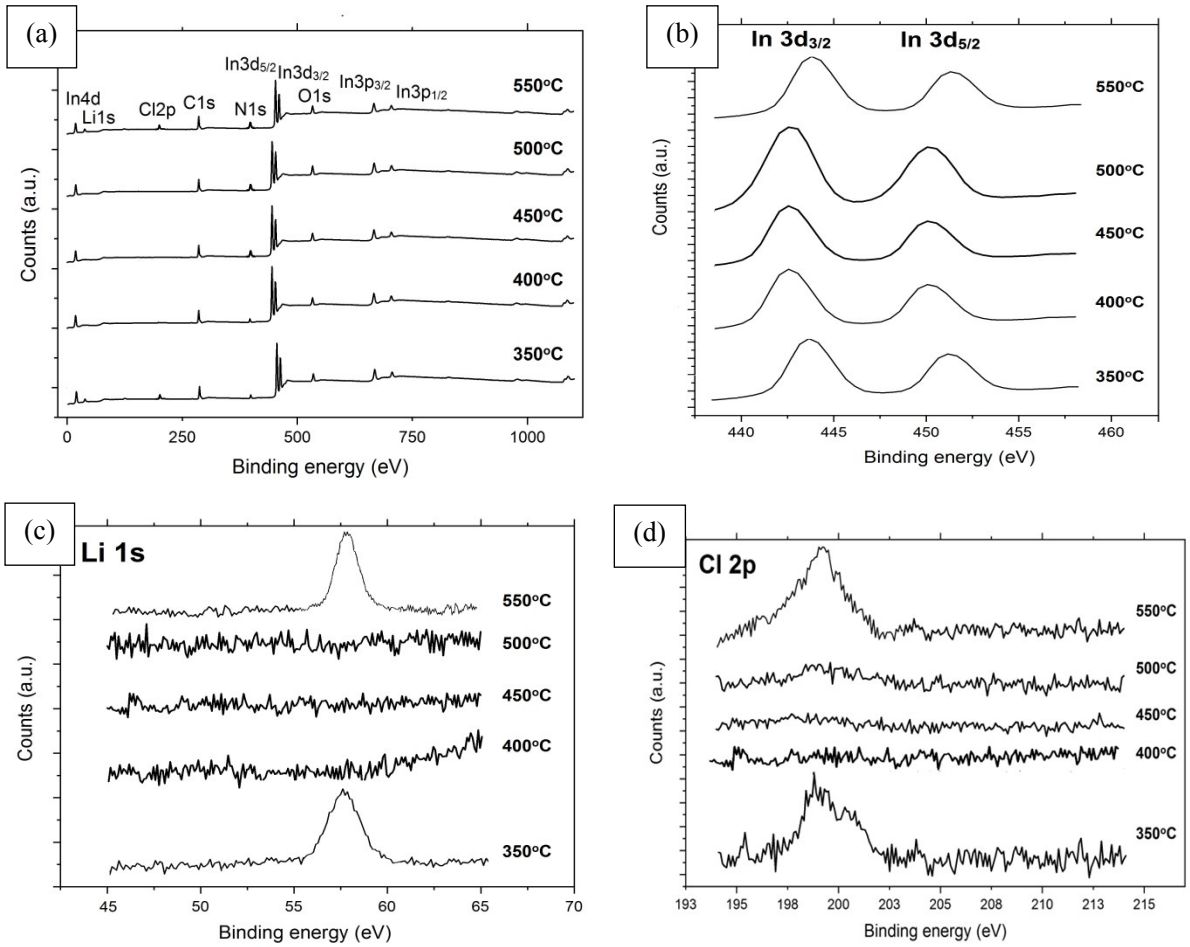
Table S1. The melting points of LiCl-KCl molten salt systems.

Composition of molten salts (molar ratio)		Melting point
LiCl	KCl	
0	100%	770°C
20%	80%	707°C
40%	60%	589°C
60%	40%	353°C
80%	20%	450°C
100%	0	605°C



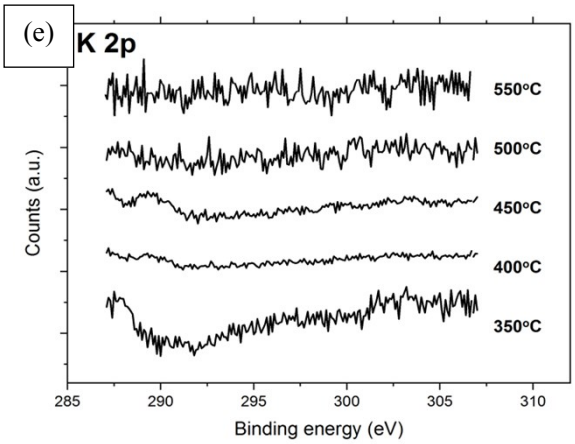


Fig. S1 XPS spectra of InN samples: (a) whole region, (b) In 3d, (c) Li 1s, (d) Cl 2p and (e) K 2p.

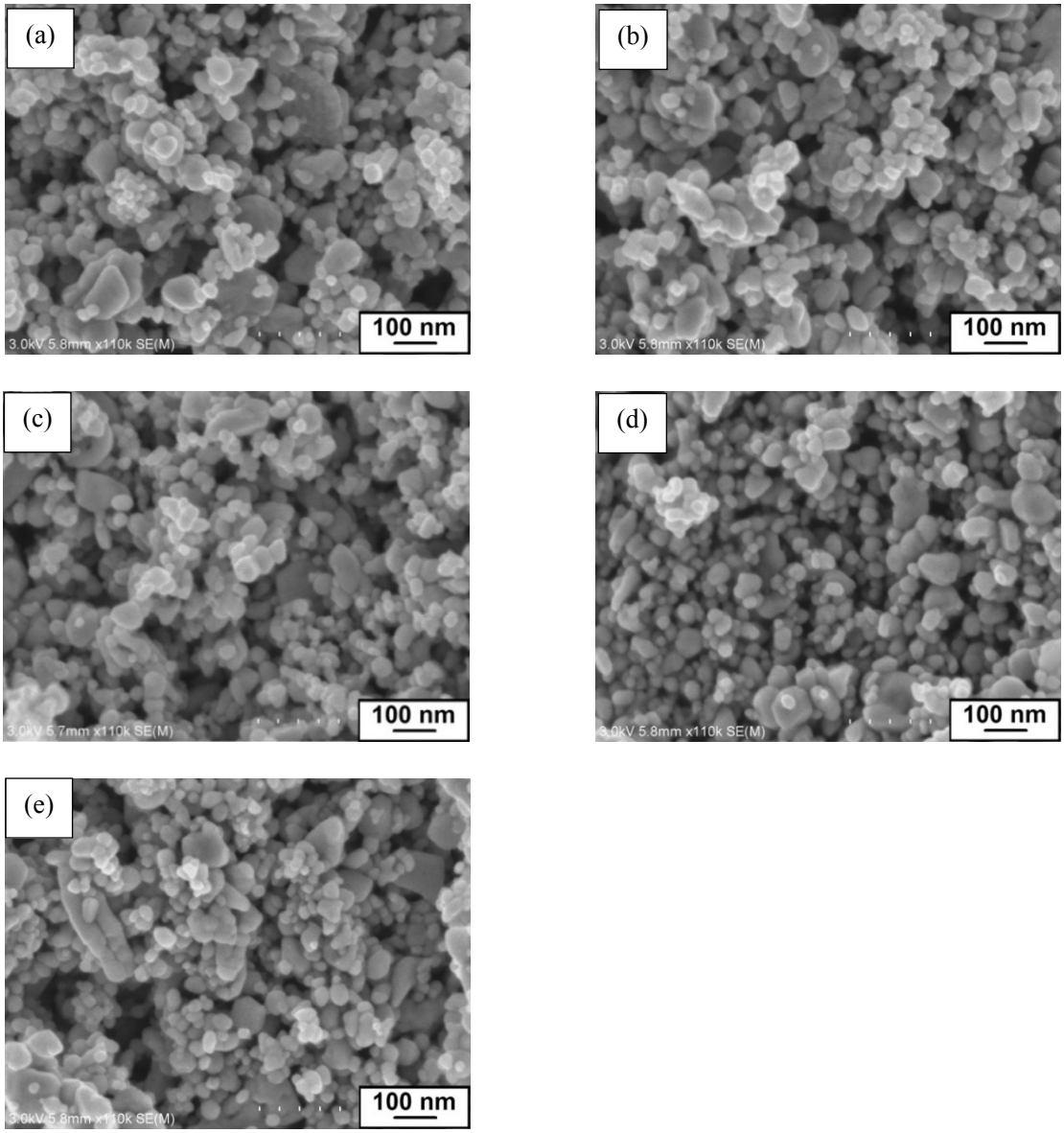


Fig. S2 SEM images of InN crystals prepared by the reaction of $InCl_3$, $LiNH_2$ and LiCl-KCl at (a) 350°C, (b) 400°C, (c) 450°C, (d) 500°C and (e) 550°C.

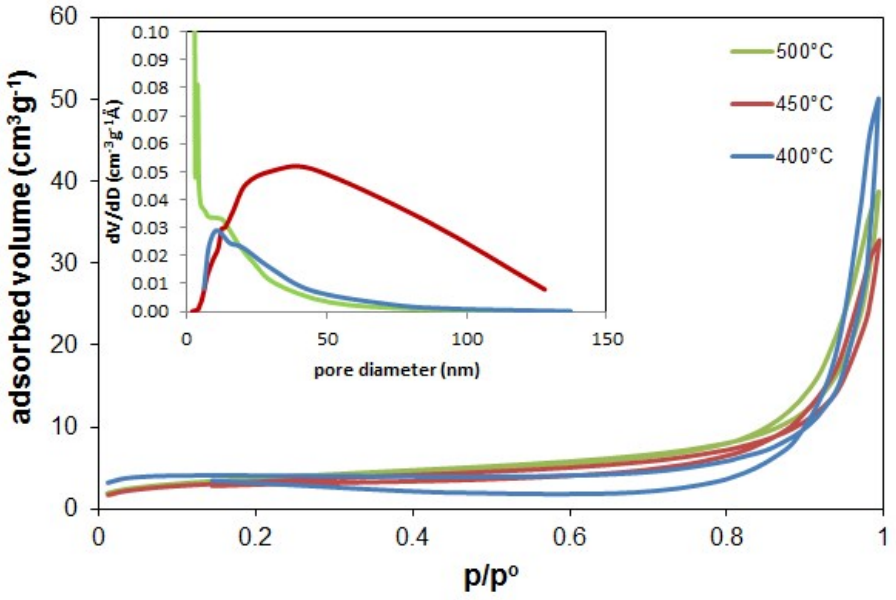


Fig. S3 Brunauer-Emmett-Teller (BET) isotherms and Barret-Joyner-Halenda (BJH) pore-size distribution (inset) of InN synthesized at 400°C, 450°C and 500°C.

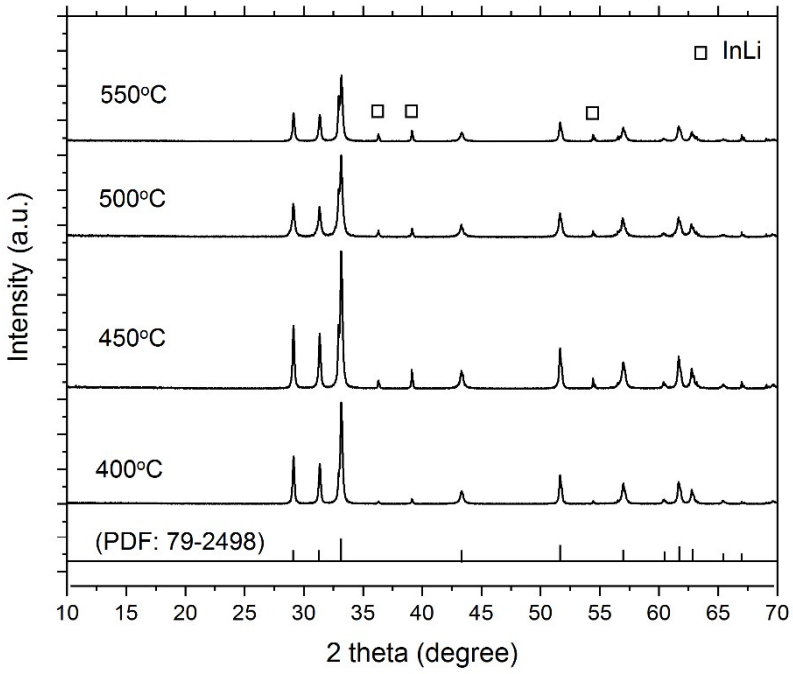
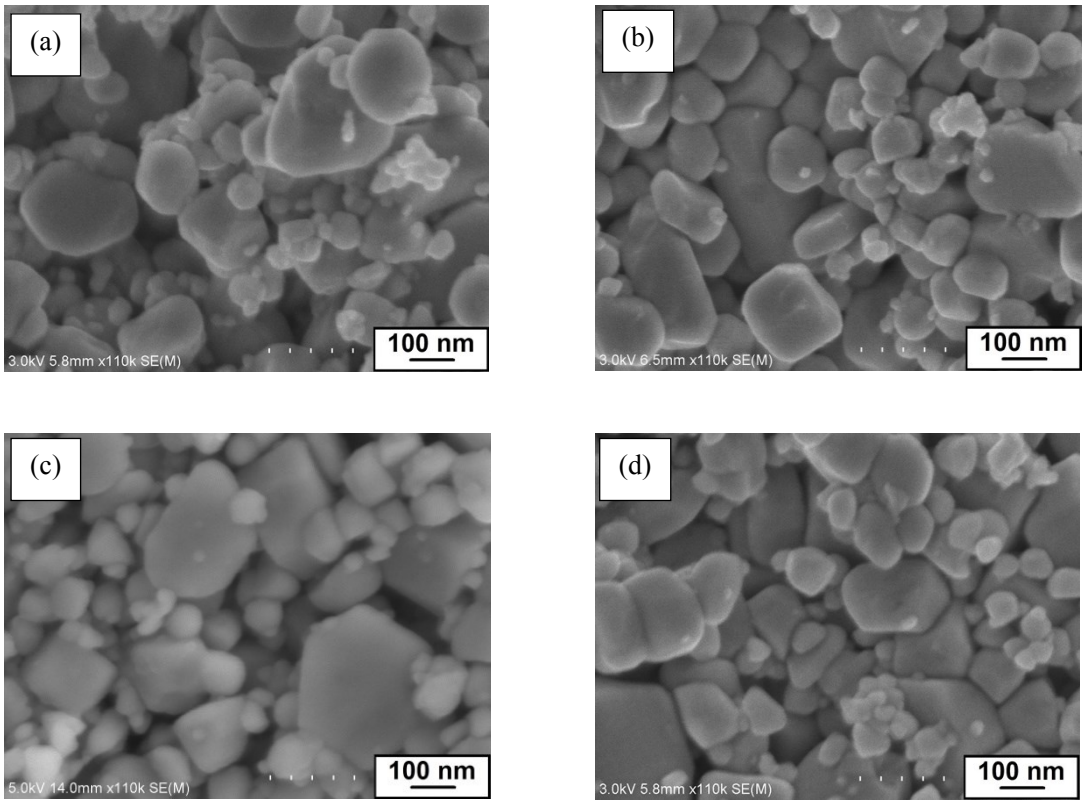


Fig. S4 XRD patterns of InN synthesized using $InCl_3$ and $LiNH_2$ without LiCl-KCl. The reactions were carried out at 400°C, 450°C, 500°C and 550°C.



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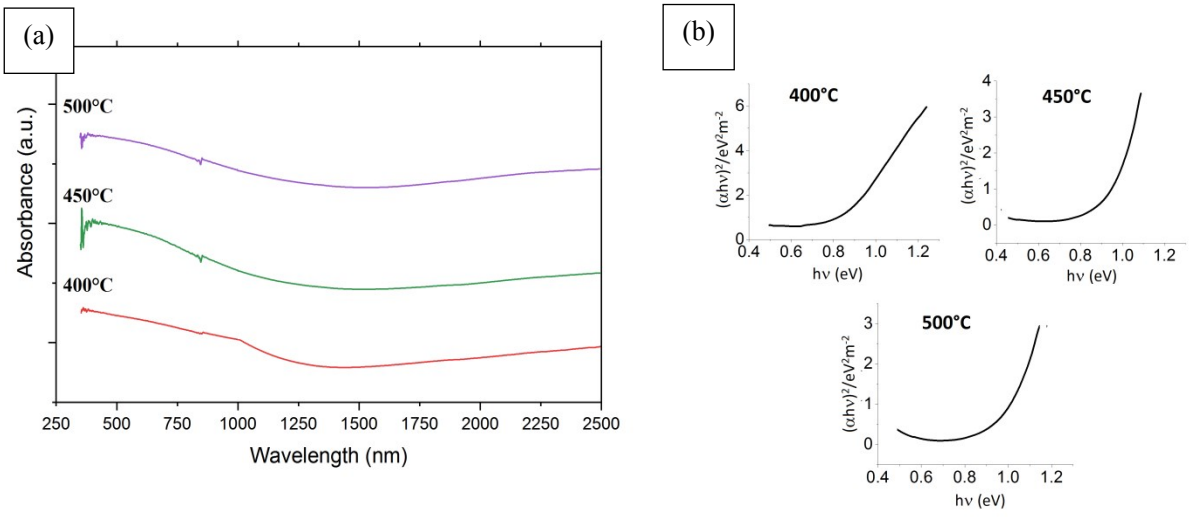


Fig. S6 (a) Absorption spectra and (b) band gap determination of InN thin films.

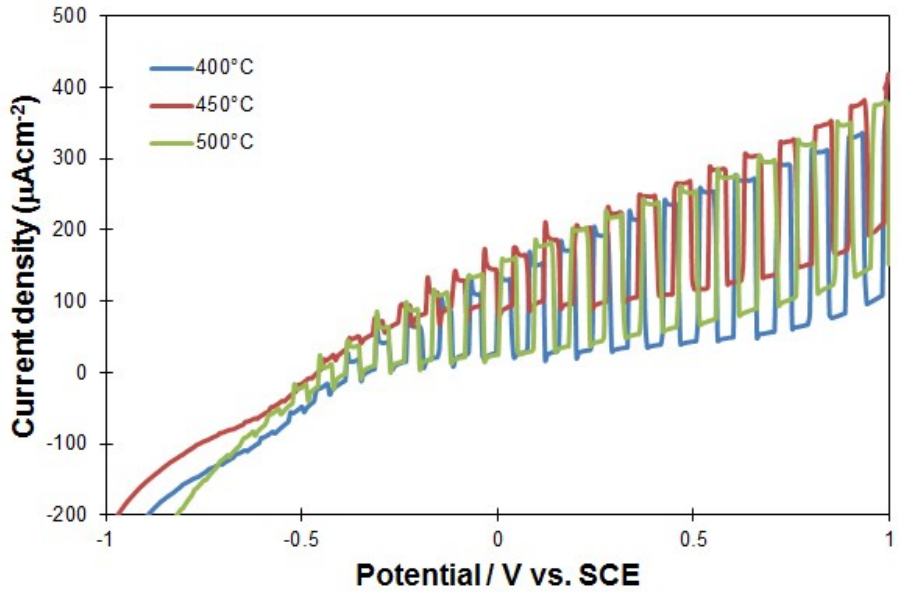
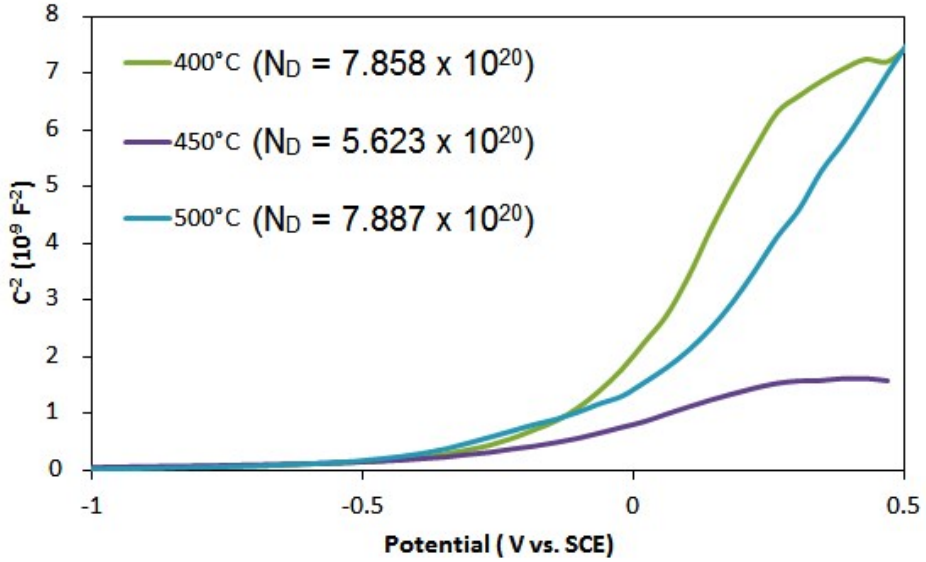


Fig. S7 Current potential curves of the InN electrodes under Xe lamp illumination with 64R cut filter.



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