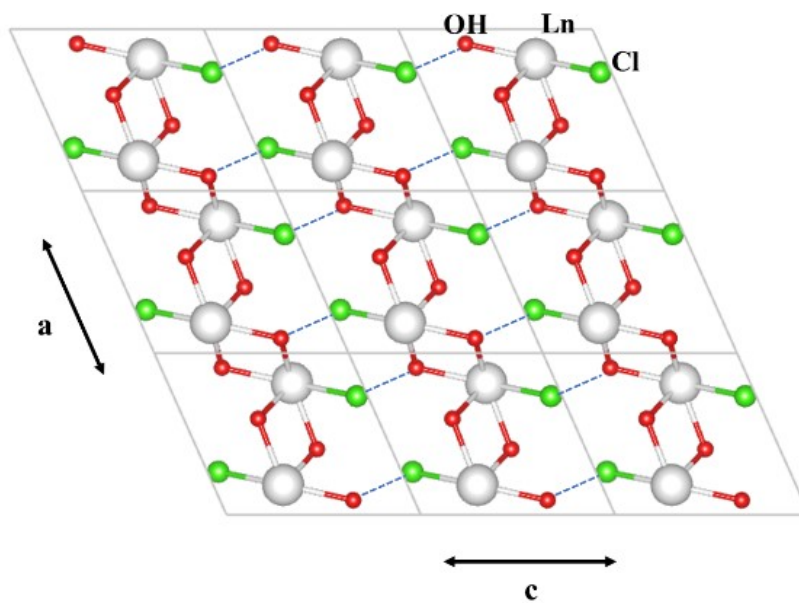


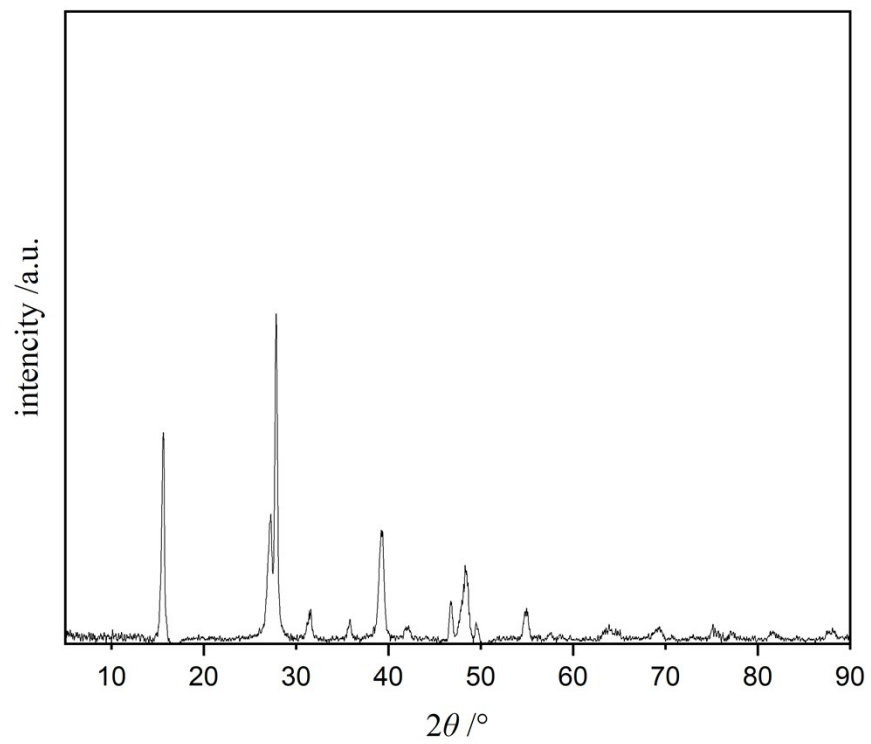
## **A synthetic method of lanthanum hydroxychloride suitable for the industrialization and its thermal decomposition properties**

*Jincheng Guo, Hao Tian\*, Yu Pei, Shaochun Hou, Yuanjiang Wang, Yumei Xia, Hao, Xihong*

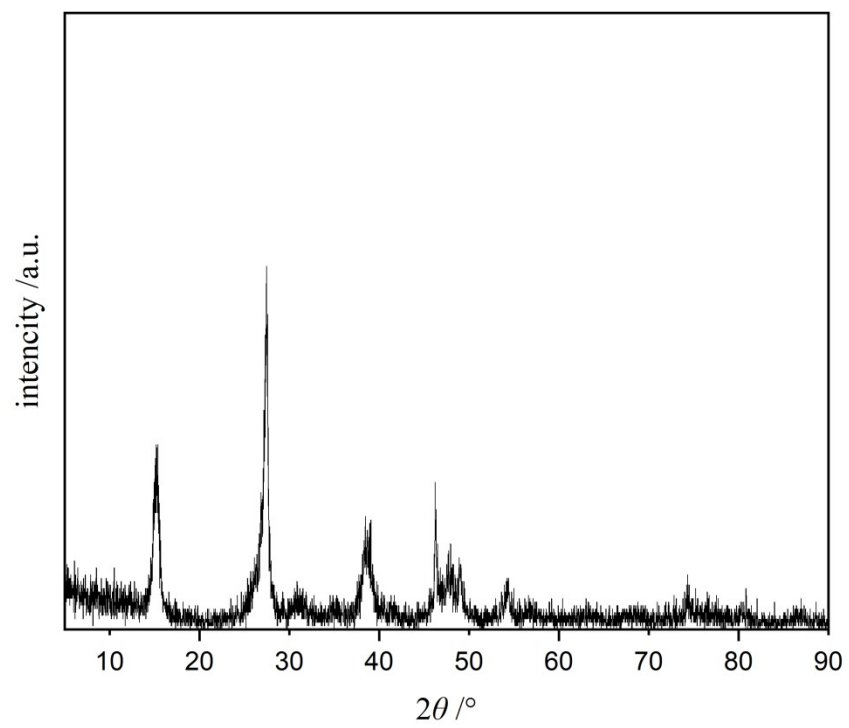
Supplementary data



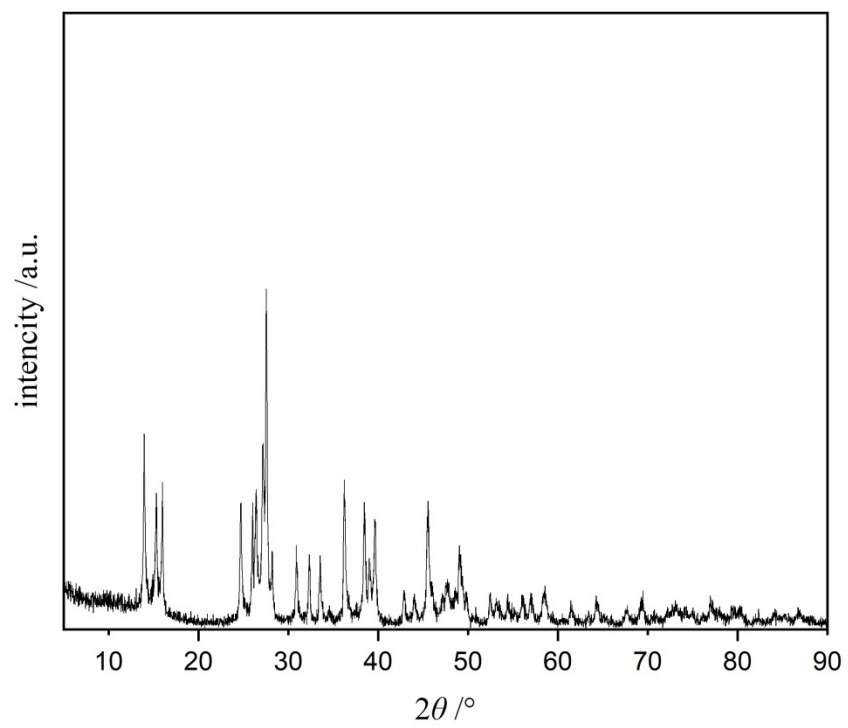
**Fig. S1** The (010) plane view of the crystal structure of Ln(OH)<sub>2</sub>Cl, indicating the OH···Cl hydrogen bonds with blue dashed lines.



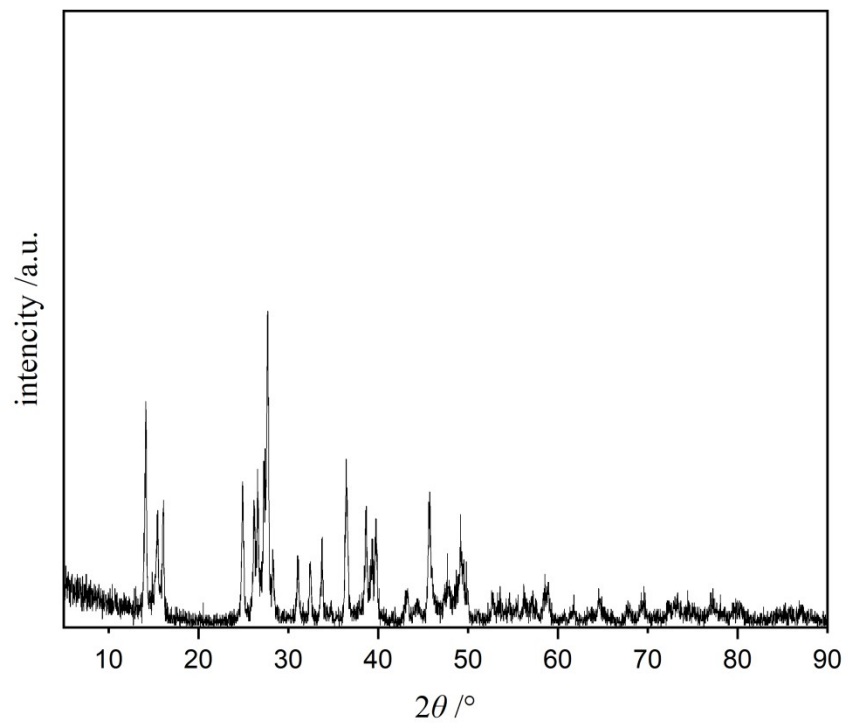
**Fig. S2** XRD pattern of sample 1.



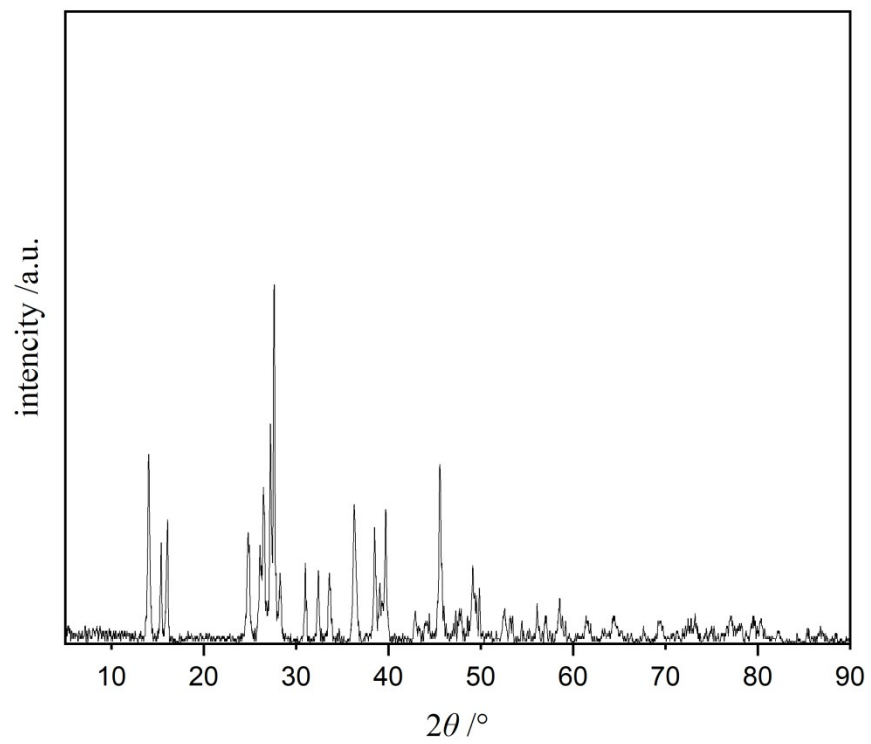
**Fig. S3** XRD pattern of sample 2.



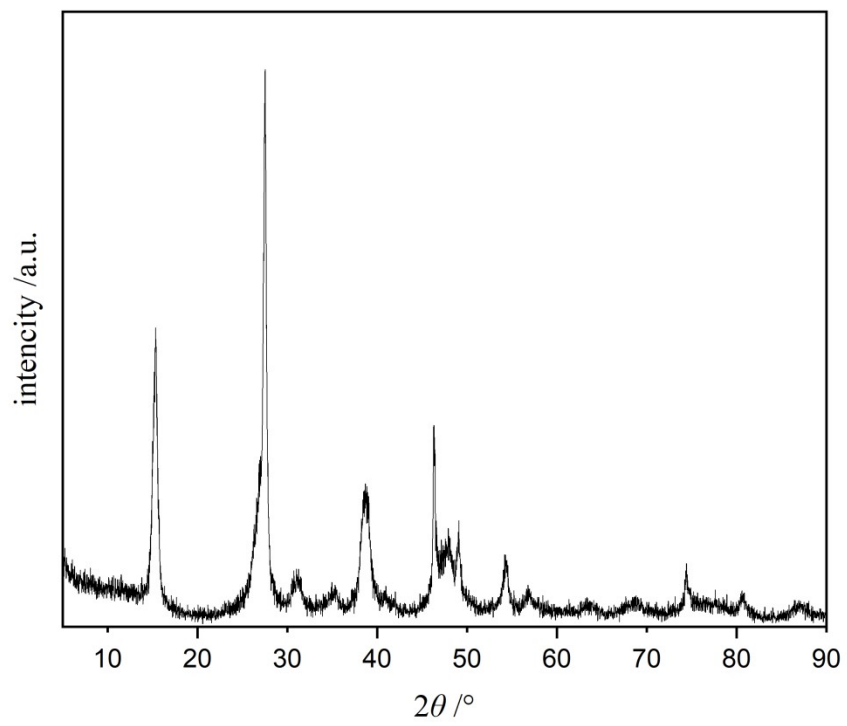
**Fig. S4** XRD pattern of sample 3.



**Fig. S5** XRD pattern of sample 4.

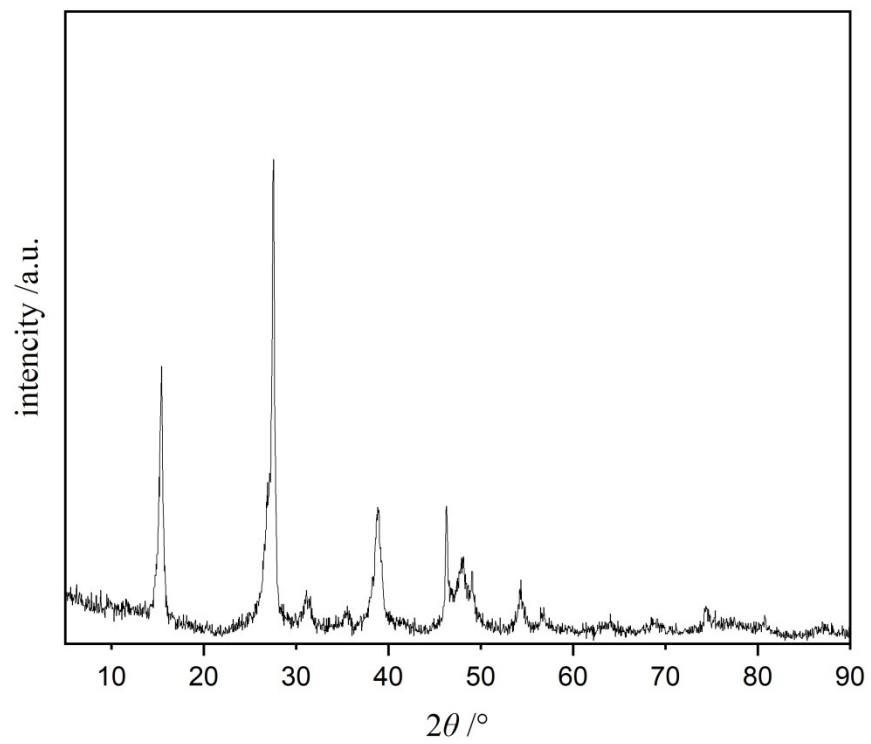


**Fig. S6** XRD pattern of sample 5.

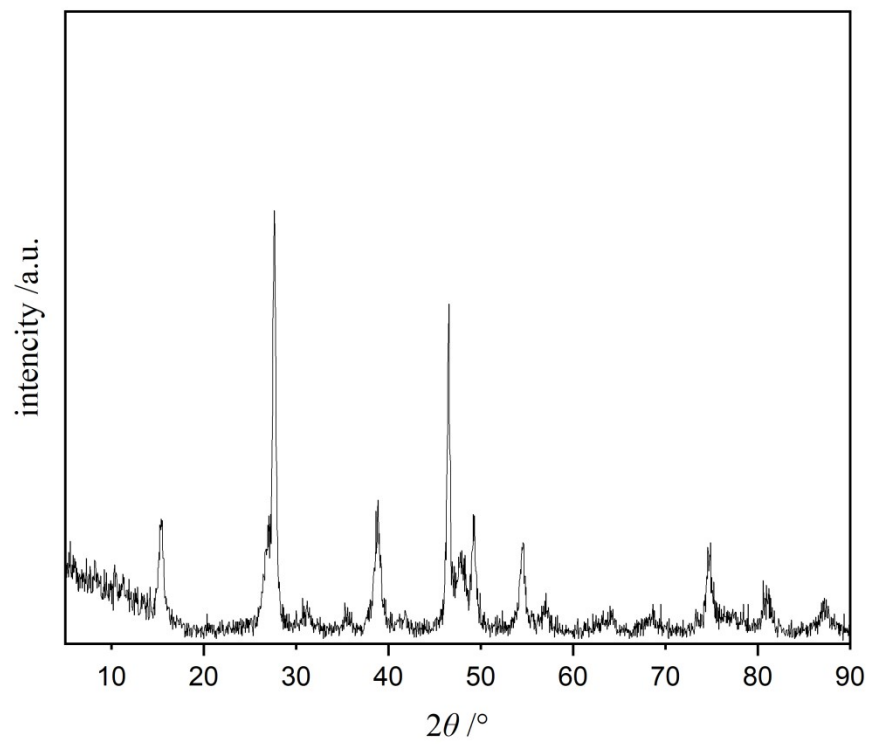


**Fig. S7** XRD pattern of sample 6.

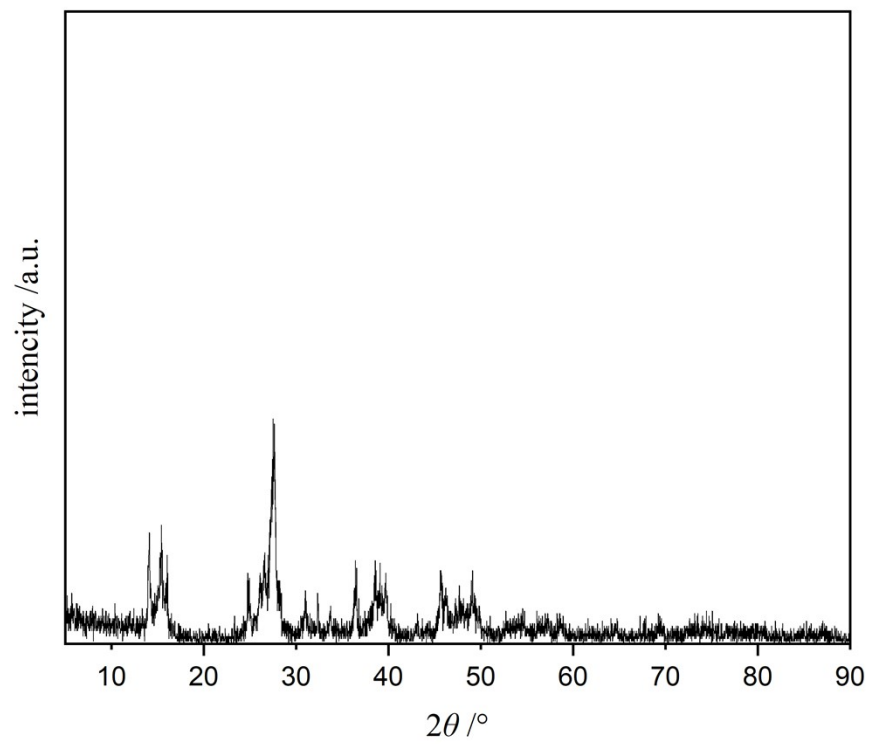




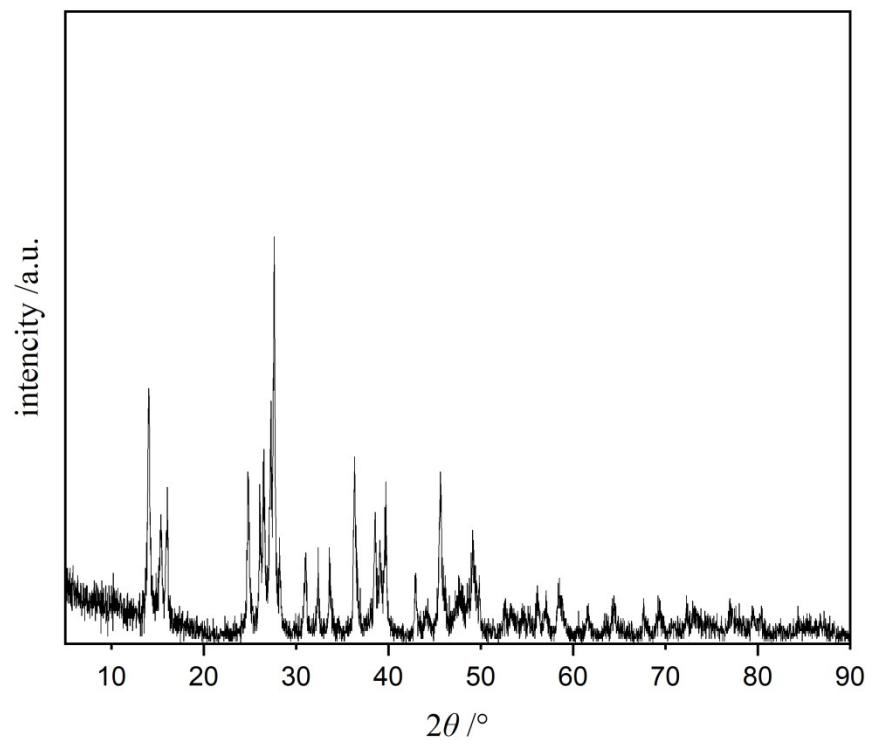
**Fig. S8** XRD pattern of sample 7.



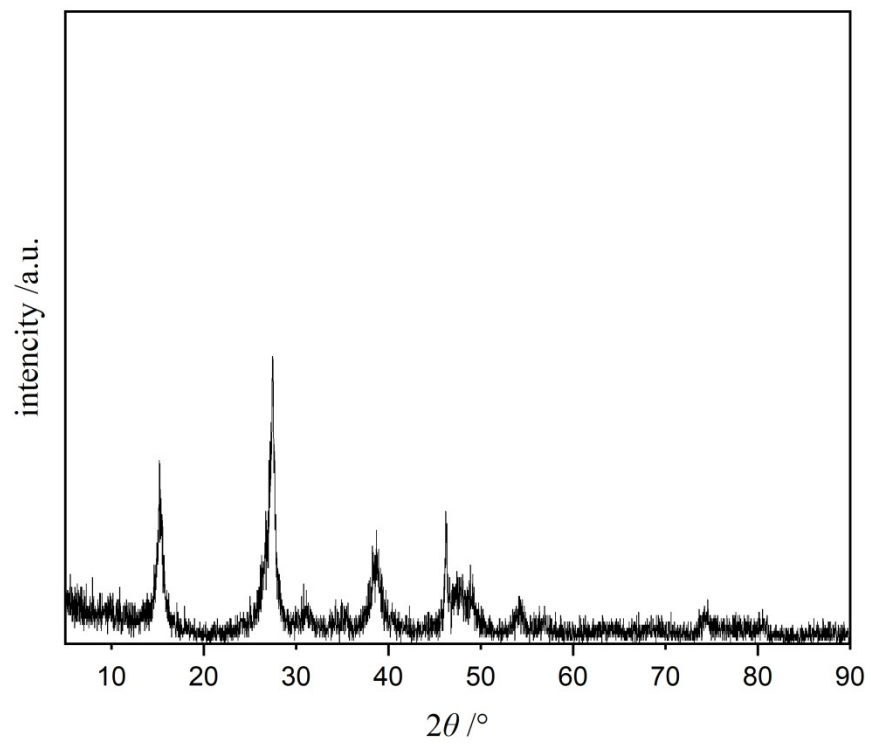
**Fig. S9** XRD pattern of sample 8.



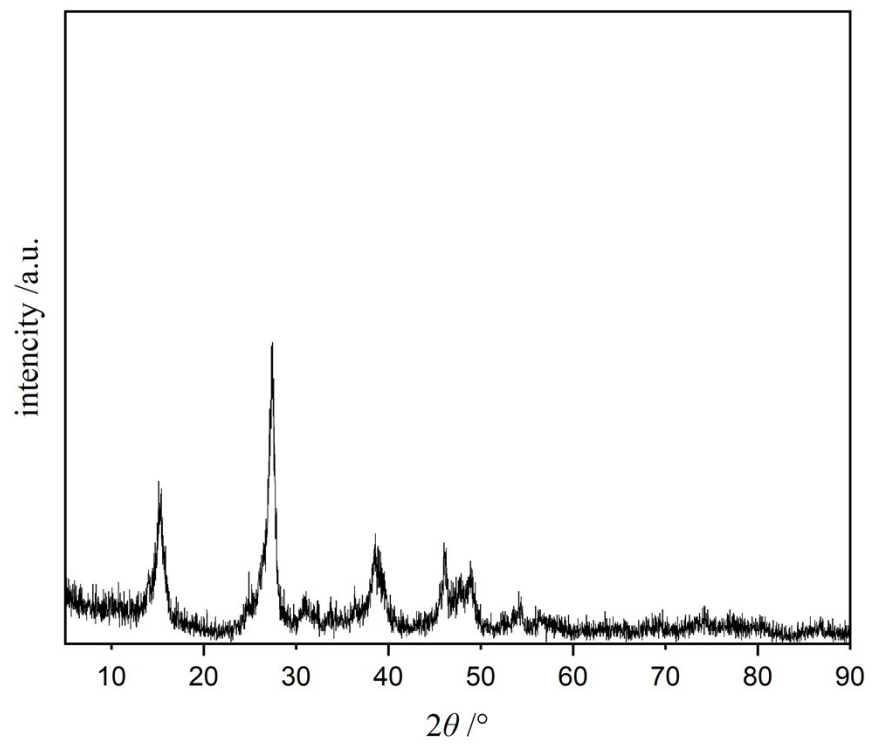
**Fig. S10** XRD pattern of sample 9.



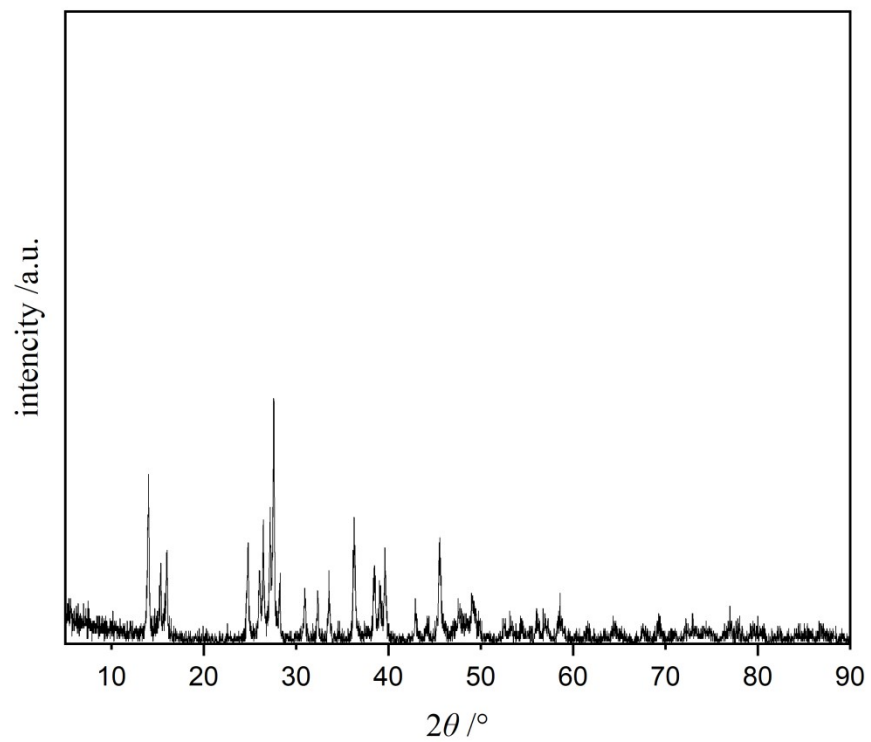
**Fig. S11** XRD pattern of sample 10.



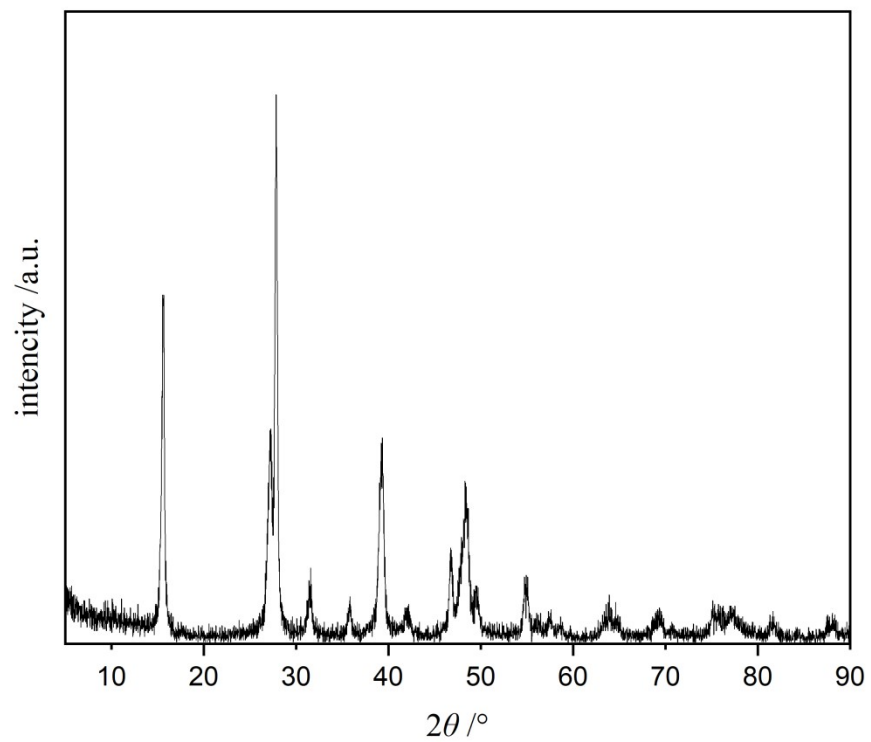
**Fig. S12** XRD pattern of sample 11.



**Fig. S13** XRD pattern of sample 12.

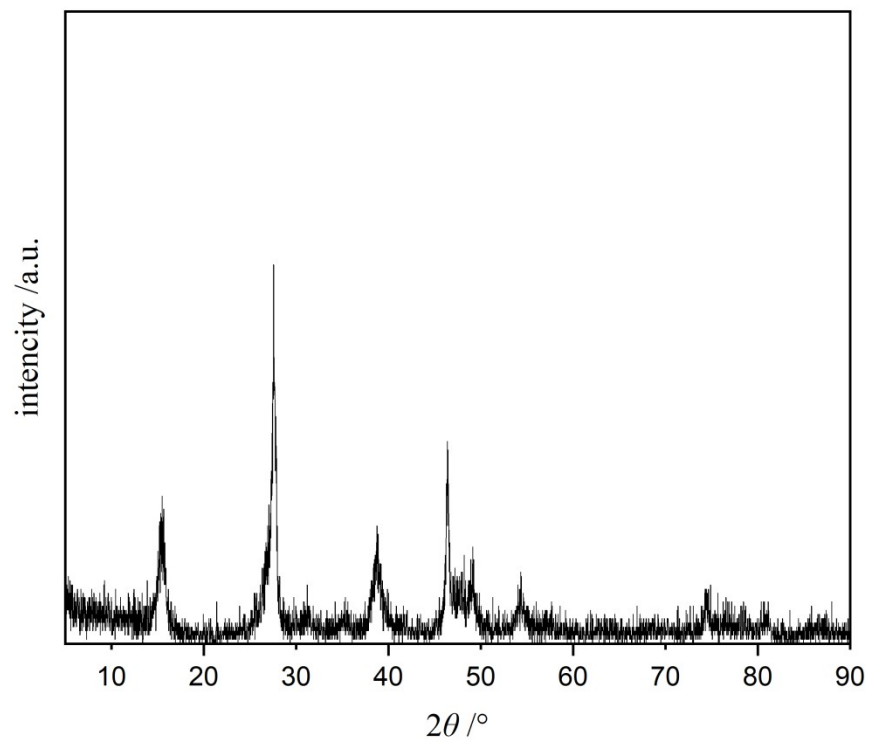


**Fig. S14** XRD pattern of sample 13.

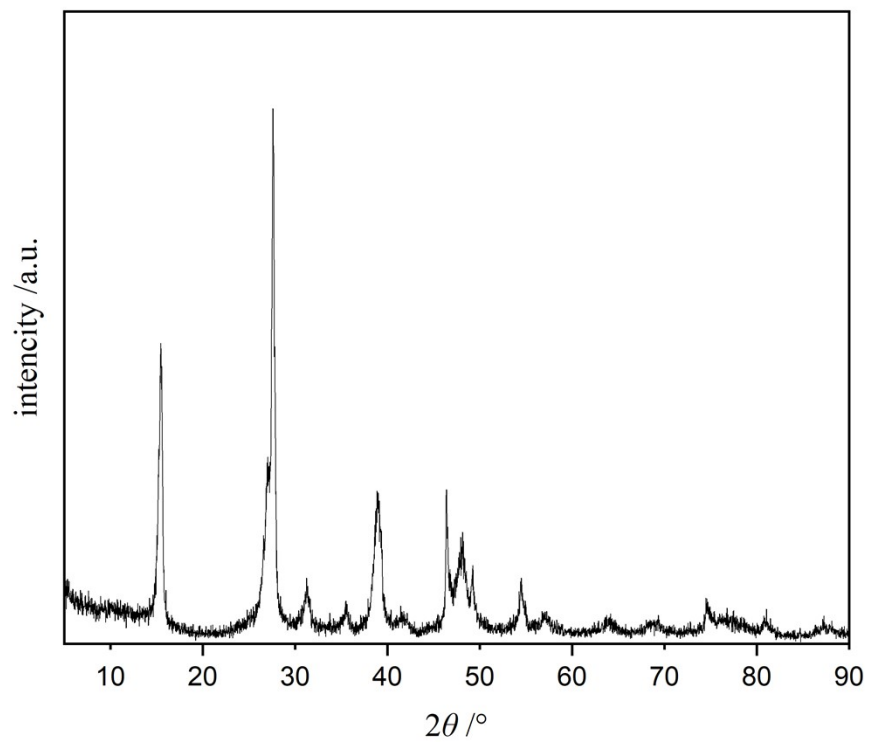


**Fig. S15** XRD pattern of sample 14.





**Fig. S16** XRD pattern of sample 15.



**Fig. S17** XRD pattern of sample 16.