

Syntheses, Crystal Structures of A Series of Novel Alkali Metal or Alkaline Earth Metal Phosphites

Xi-Jia Wang, Jian-Han Zhang, Jun-Ling Song, Fang Kong and Jiang-Gao Mao*

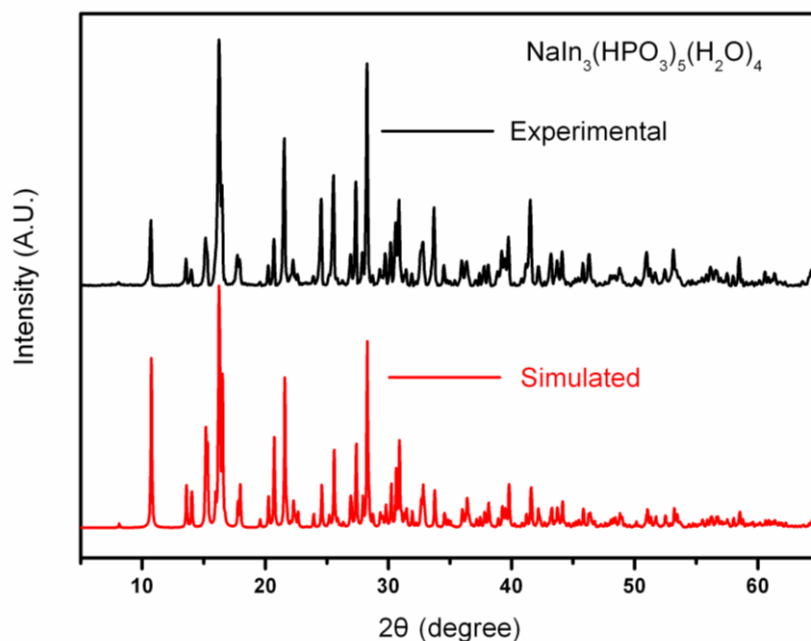
Supporting Information

Figure S1. Simulated and measured XRD powder patterns of (a) $\text{NaIn}_3(\text{HPO}_3)_5(\text{H}_2\text{O})_4$, (b) $\text{RbIn}(\text{HPO}_3)_2$, (c) $\text{CsIn}(\text{HPO}_3)_2$, (d) $\text{Ba}_3\text{Al}_2(\text{HPO}_3)_6$, (e) $\text{Ba}_3\text{Ga}_2(\text{HPO}_3)_6$ and (f) $\text{Ba}_3\text{In}_2(\text{HPO}_3)_6$.

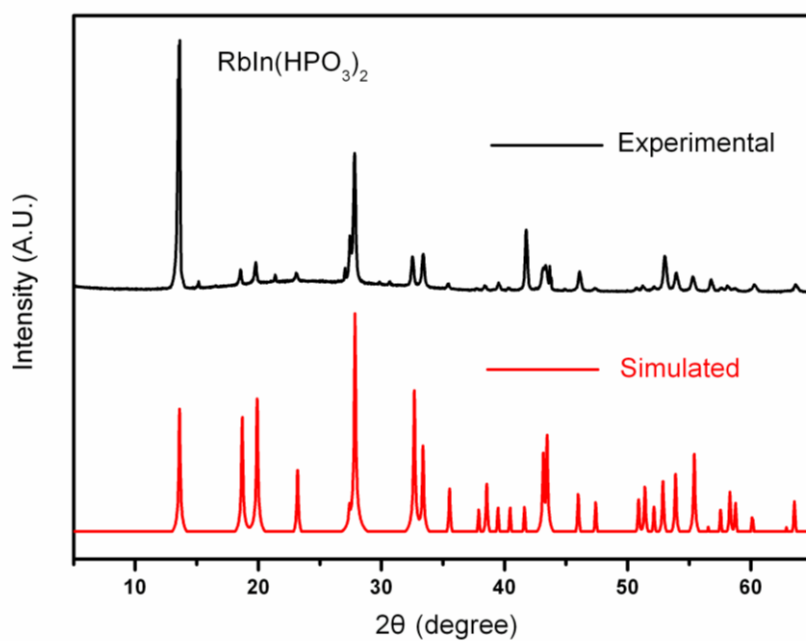
Figure S2. Views of $\text{RbIn}(\text{HPO}_3)_2$ (a) and $\text{CsIn}(\text{HPO}_3)_2$ (b) down the b axis. All H atoms are omitted for clarity.

Figure S3. UV-Vis absorption spectra of $\text{Ba}_3\text{Al}_2(\text{HPO}_3)_6$, $\text{Ba}_3\text{Ga}_2(\text{HPO}_3)_6$ and $\text{Ba}_3\text{In}_2(\text{HPO}_3)_6$

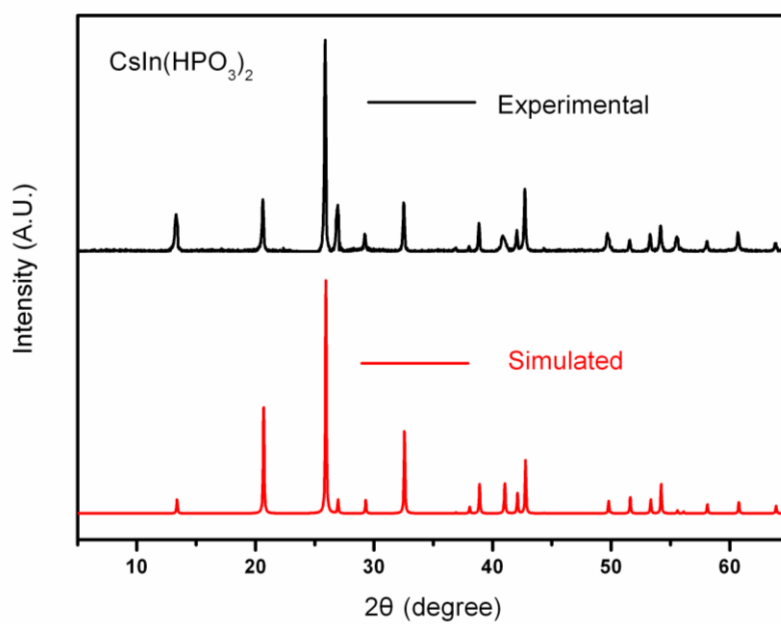
Figure S4. IR spectra of (a) $\text{NaIn}_3(\text{HPO}_3)_5(\text{H}_2\text{O})_4$, (b) $\text{RbIn}(\text{HPO}_3)_2$ (c) $\text{CsIn}(\text{HPO}_3)_2$ (d) $\text{Ba}_3\text{Al}_2(\text{HPO}_3)_6$, (e) $\text{Ba}_3\text{Ga}_2(\text{HPO}_3)_6$ and (f) $\text{Ba}_3\text{In}_2(\text{HPO}_3)_6$.



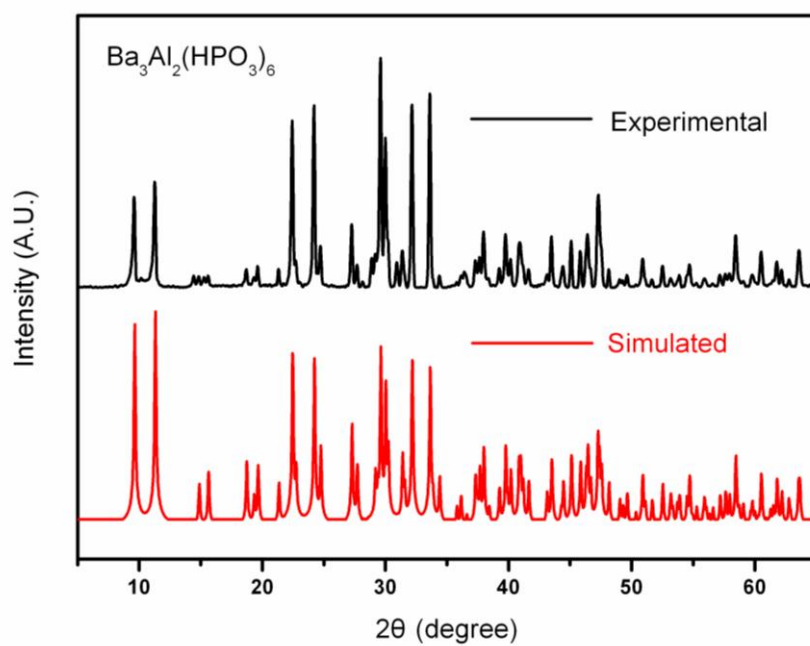
(a)



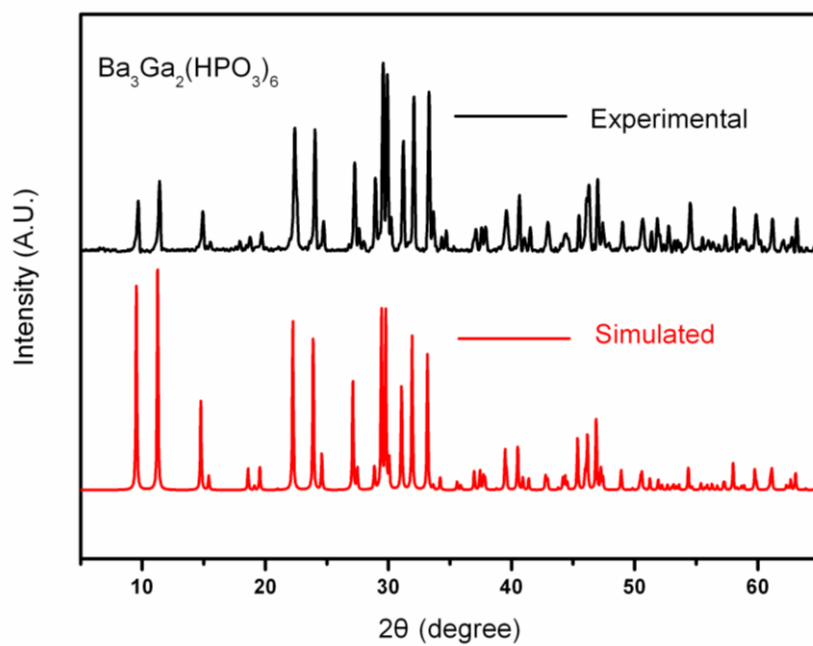
(b)



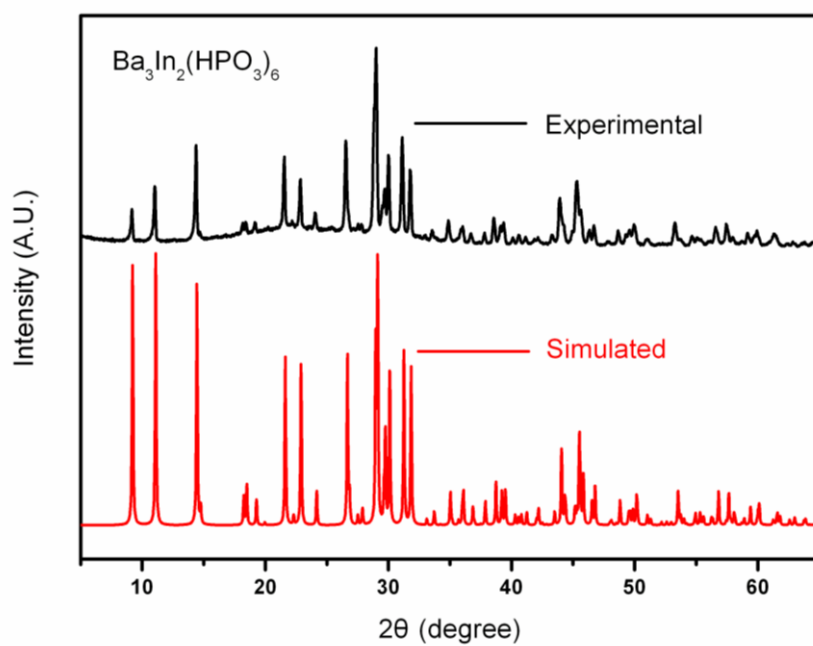
(c)



(d)

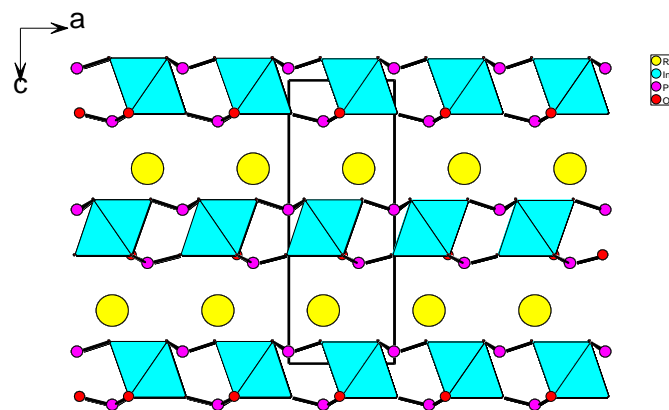


(e)

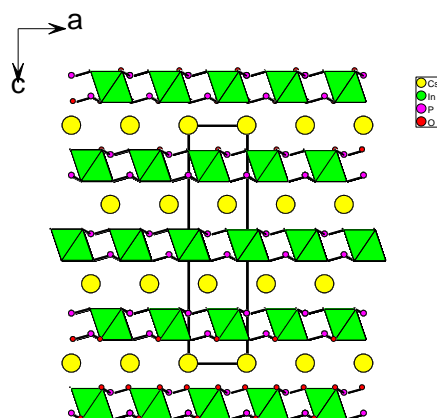


(f)

Figure S1. Experimental and simulated powder X-ray diffraction patterns for (a) $\text{NaIn}_3(\text{HPO}_3)_5(\text{H}_2\text{O})_4$, (b) $\text{RbIn}(\text{HPO}_3)_2$, (c) $\text{CsIn}(\text{HPO}_3)_2$, (d) $\text{Ba}_3\text{Al}_2(\text{HPO}_3)_6$, (e) $\text{Ba}_3\text{Ga}_2(\text{HPO}_3)_6$ and (f) $\text{Ba}_3\text{In}_2(\text{HPO}_3)_6$.



(a)



(b)

Figure S2. Views of RbIn(HPO₃)₂ (a) and CsIn(HPO₃)₂ (b) down the *b* axis. All H atoms are omitted for clarity.

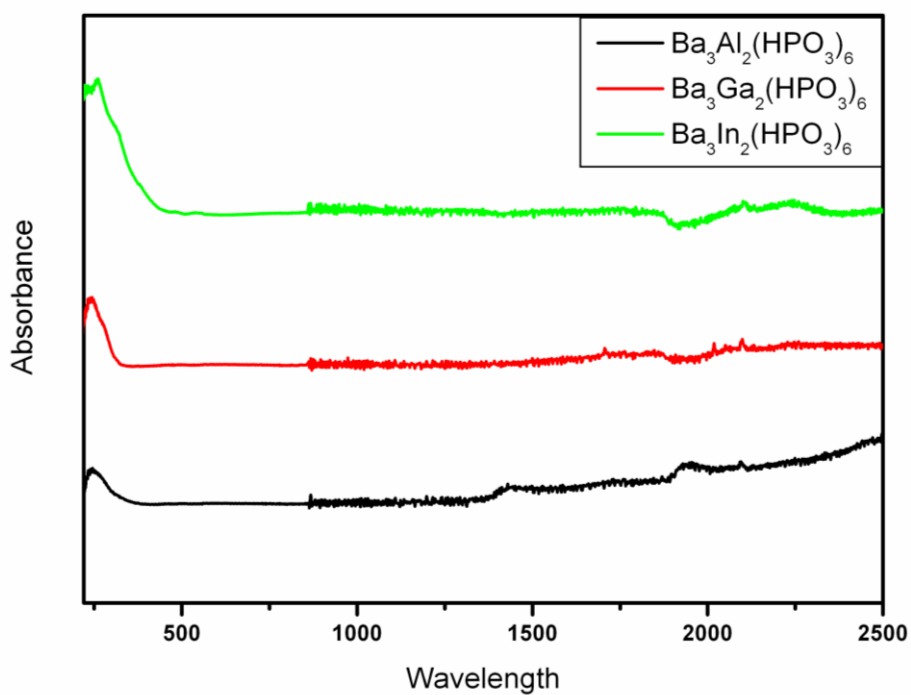
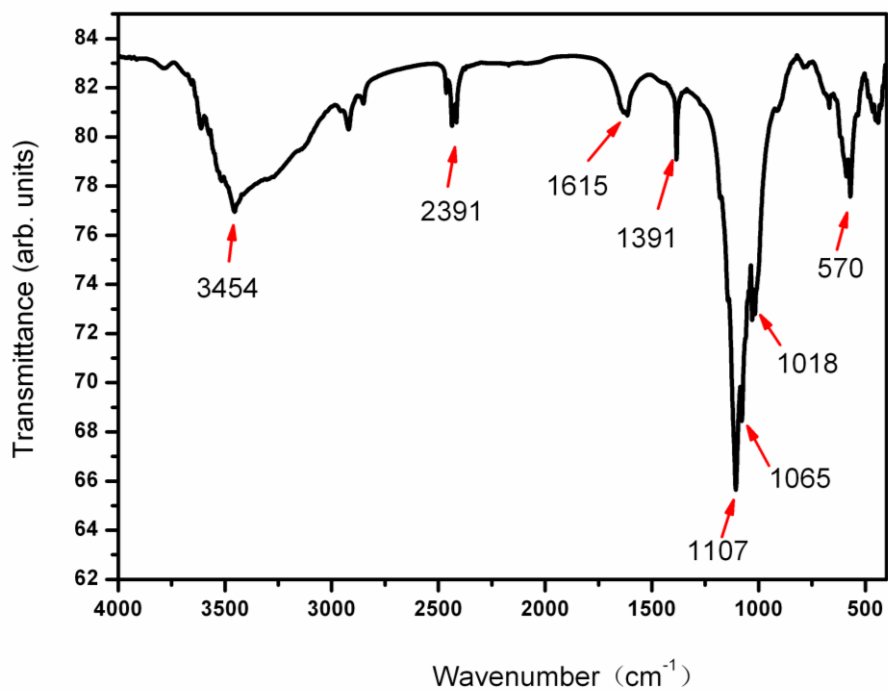
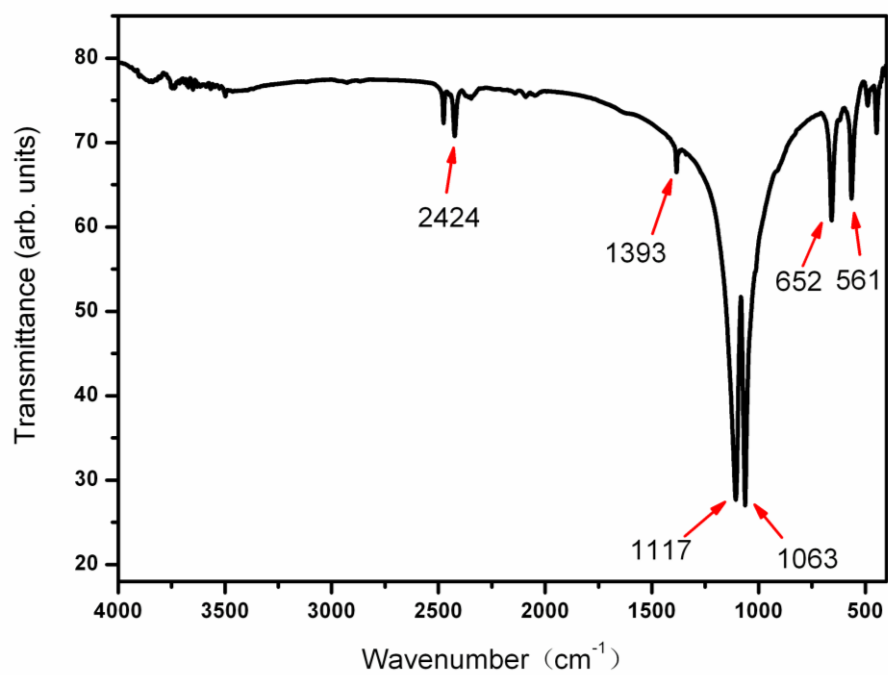


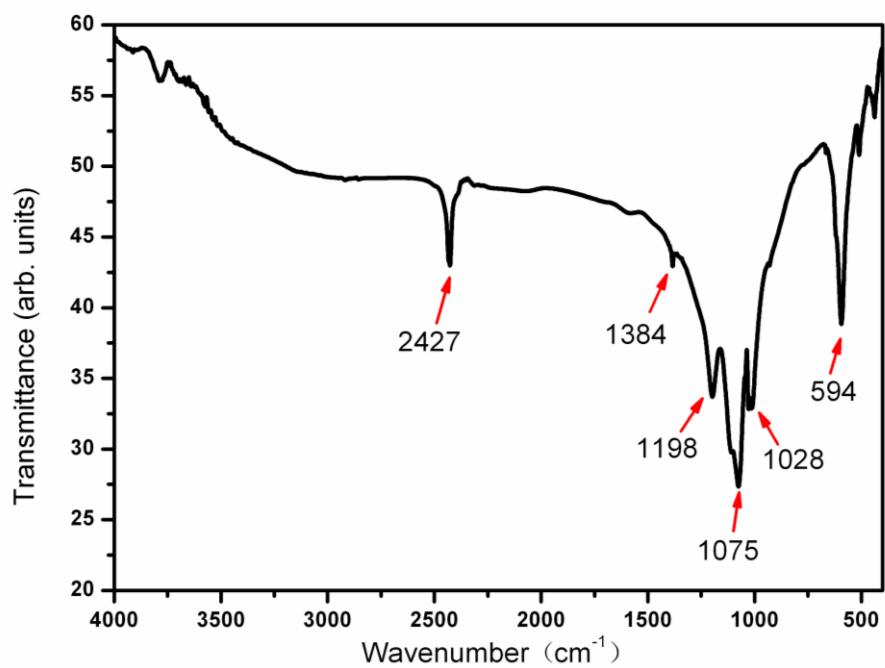
Figure S3. UV absorption spectra of Ba₃Al₂(HPO₃)₆, Ba₃Ga₂(HPO₃)₆ and Ba₃In₂(HPO₃)₆.



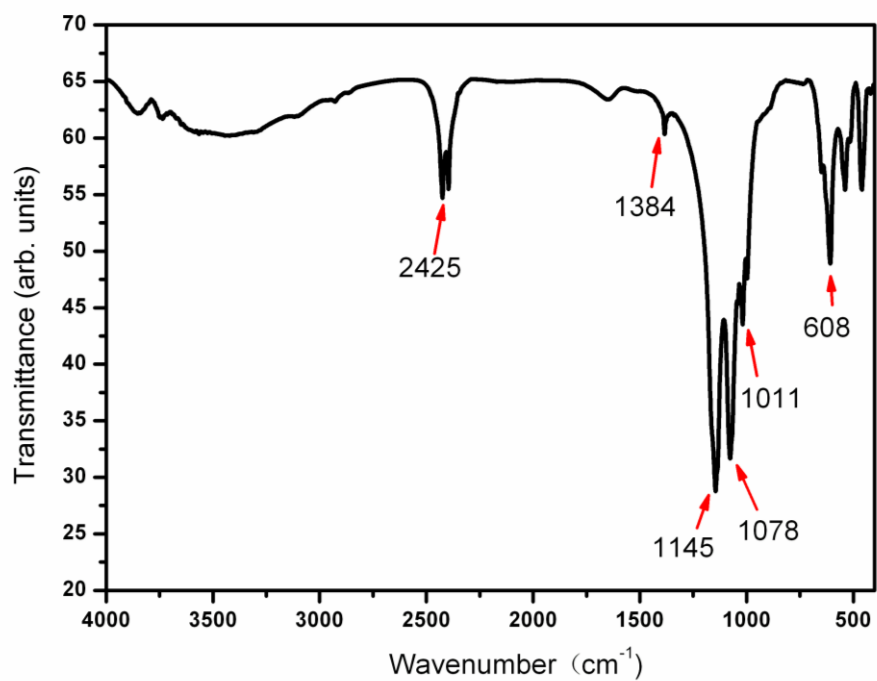
(a)



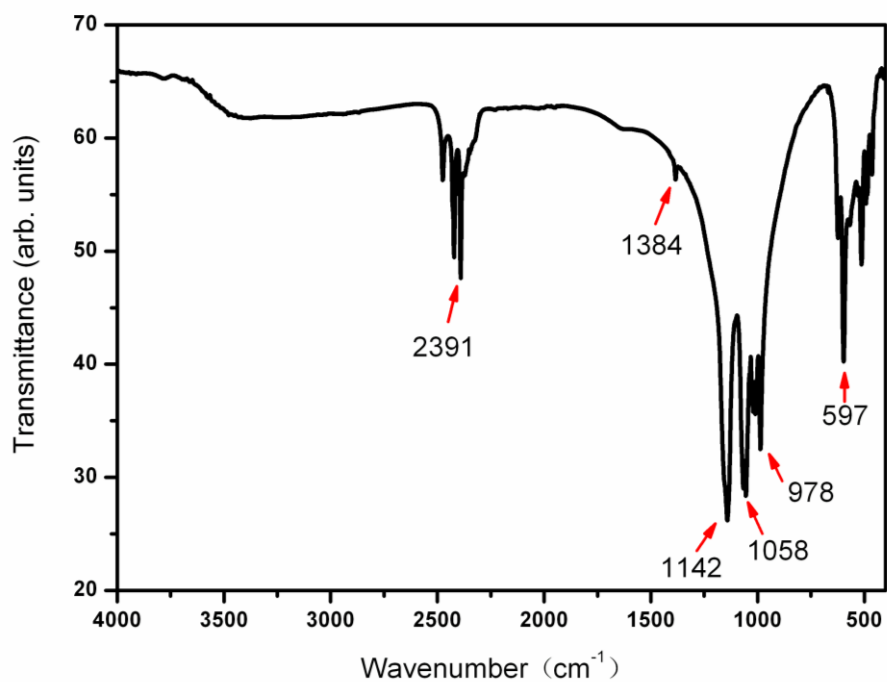
(b)



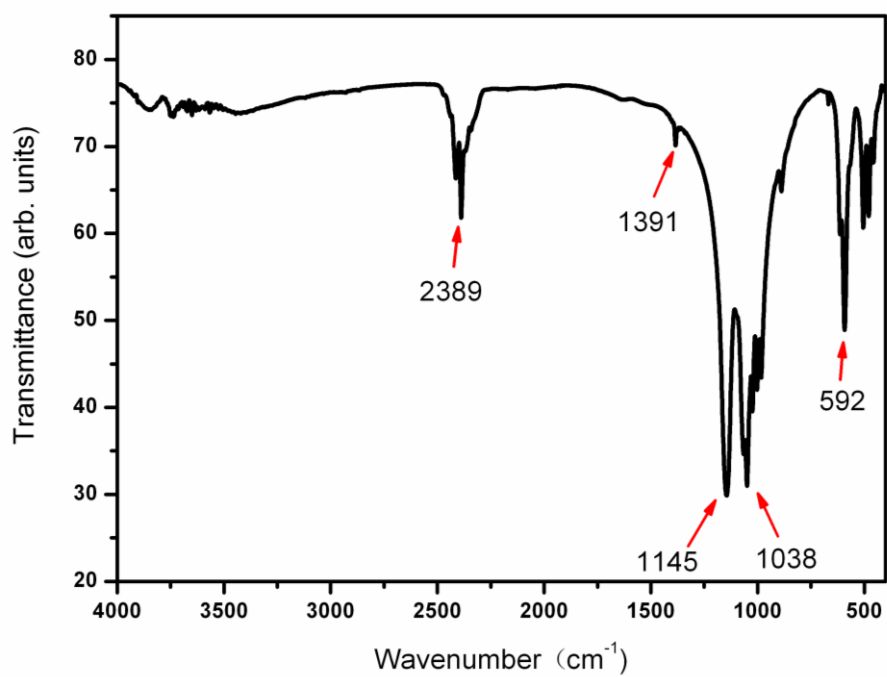
(c)



(d)



(e)



(f)

Figure S4. The infrared spectra of NaIn₃(HPO₃)₅(H₂O)₄ (a), RbIn(HPO₃)₂ (b), CsIn(HPO₃)₂ (c), Ba₃Al₂(HPO₃)₆ (d), Ba₃Ga₂(HPO₃)₆ (e) and Ba₃In₂(HPO₃)₆ (f).