

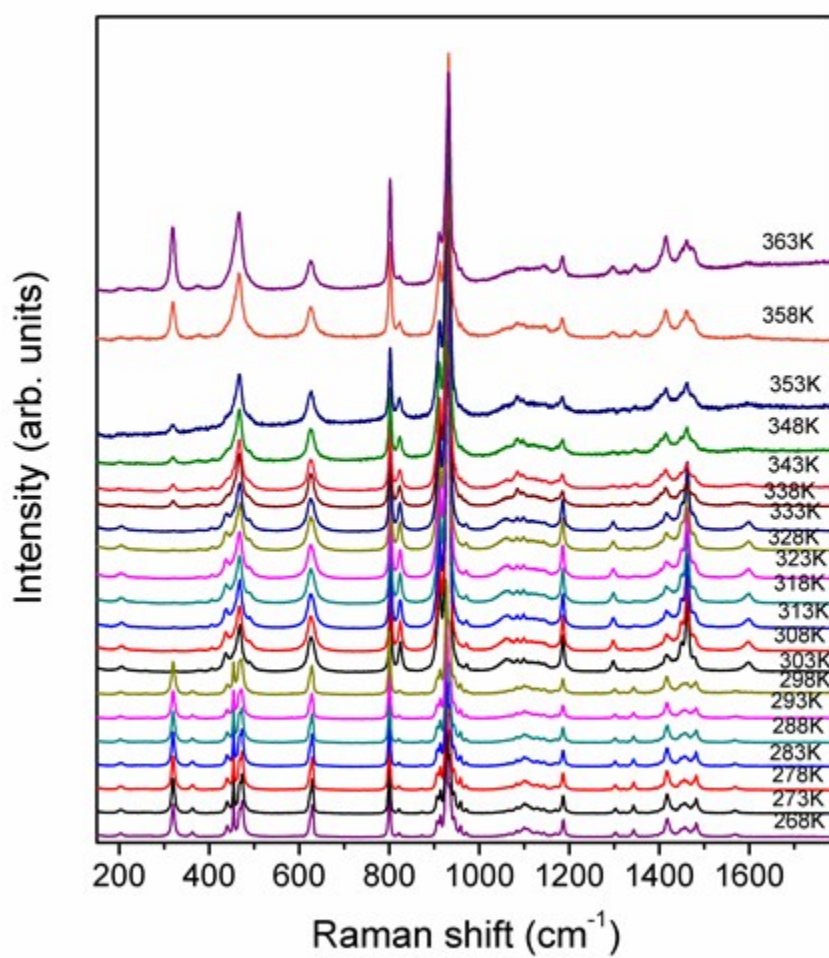
## Electronic Supplementary Information

### Two reversible ferroelectric phase transitions in Diisopropylammonium Perchlorate

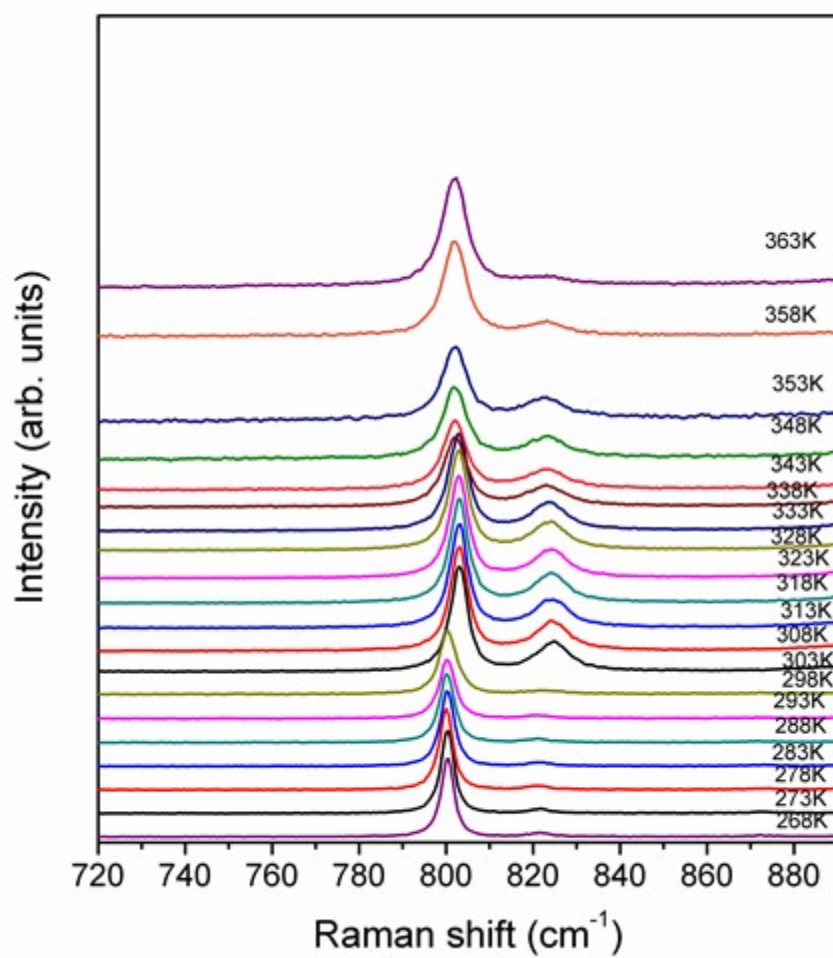
Kaige Gao<sup>a</sup>, Zepeng Cui<sup>a</sup>, Chuang Liu<sup>a</sup>, Jiansheng Zhu<sup>a</sup>, Hong-Ling Cai<sup>a\*</sup>, Xiaoshan Wu<sup>a\*</sup>

**Table S1 Crystal data and structure refinement of DIPAP at 263K, 293K, 343K.**

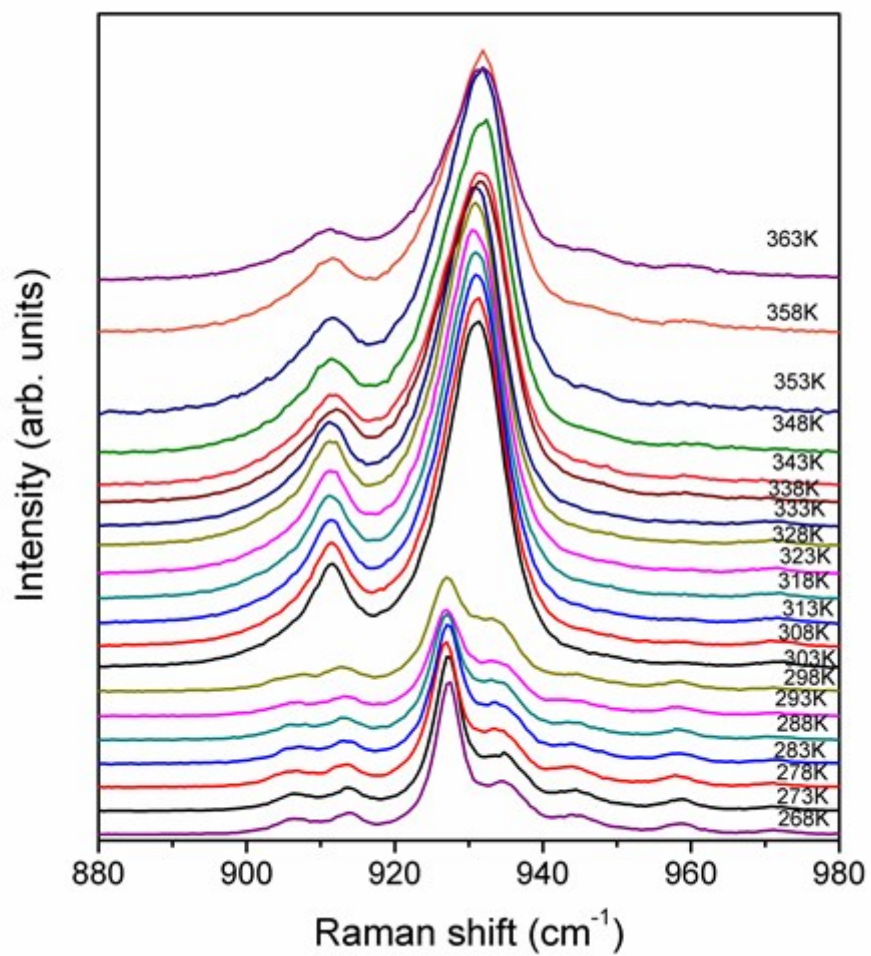
	LTP	ITP	HTP
Temperature	263K	293K	343K
Crystal system	Monoclinic	Triclinic	Monoclinic
Space group	P2 <sub>1</sub> /c	P1	P2 <sub>1</sub> /c
a/Å	17.70	8.15	17.74
b/Å	8.25	8.52	8.72
c/Å	16.06	8.77	16.60
$\alpha$ /deg	90	82.71	90
$\beta$ /deg	116.33	65.14	118.39
$\gamma$ /deg	90	79.90	90
Volume (Å <sup>3</sup> )	2102	543	2260
Z	8	2	8



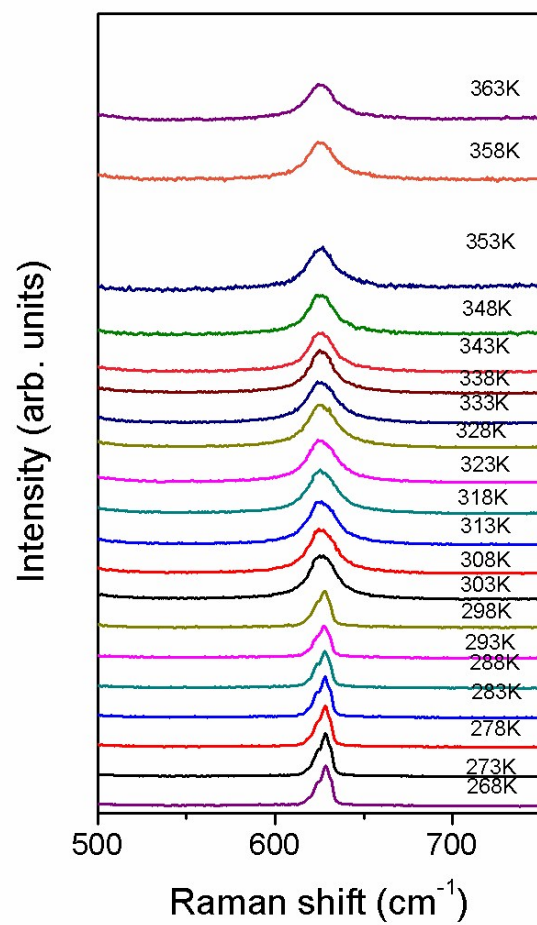
**Fig. S1 Raman spectrum of DIPAP measured at different temperature.**



**Fig. S2 Raman spectrum of DIPAP measured at different temperature.**



**Fig. S3 Raman spectrum of DIPAP measured at different temperature.**



**Fig. S4 Raman spectrum of DIPAP measured at different temperature.**