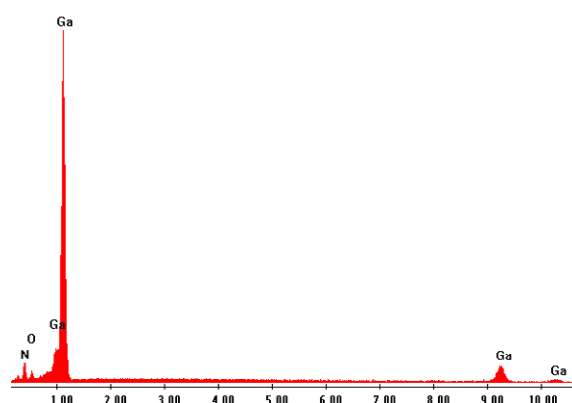
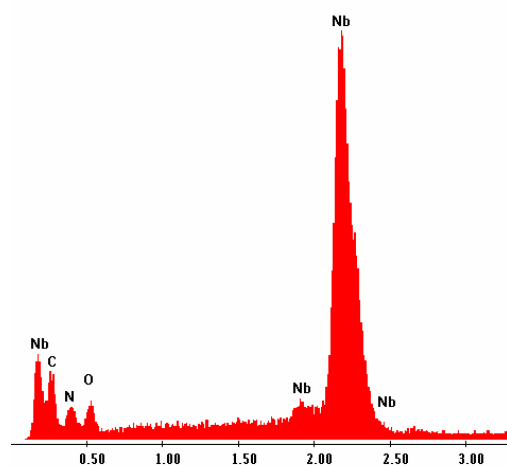
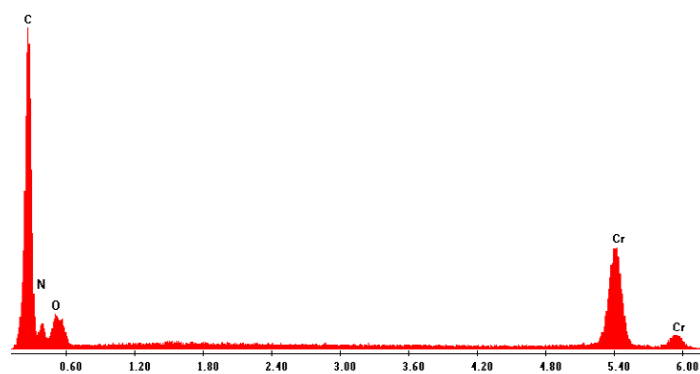




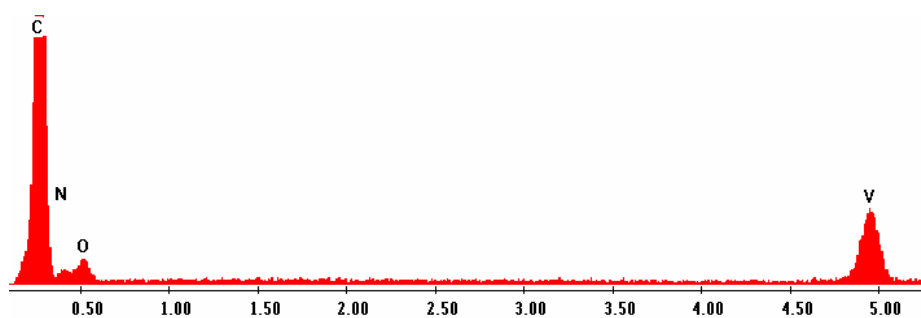
S. 9 EDX pattern of GaN product.



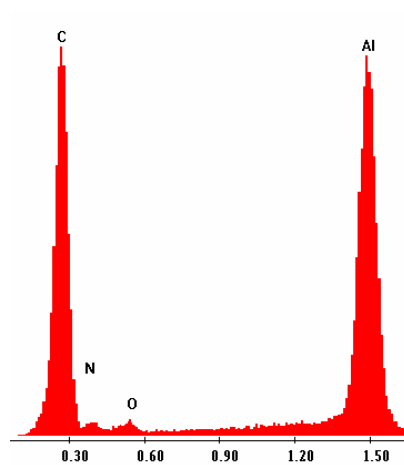
S. 10 EDX pattern of NbN product



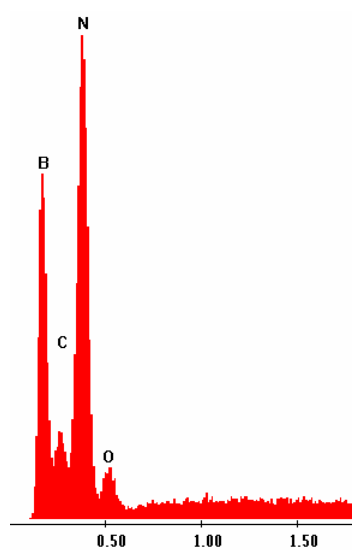
S. 11 EDX pattern of CrN product.



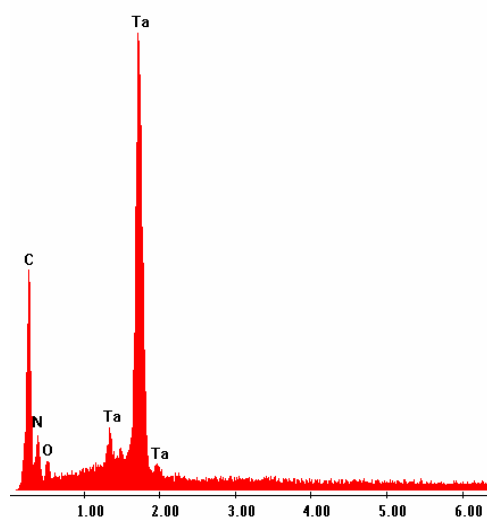
S. 12 EDX pattern of VN product



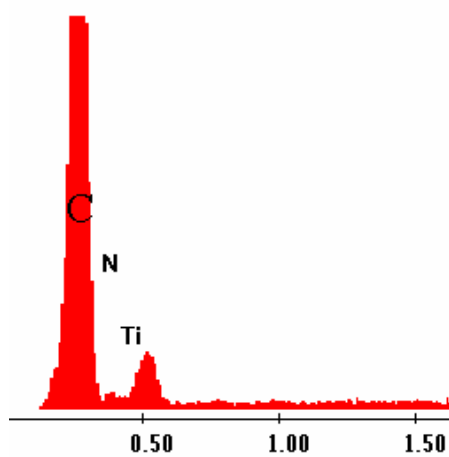
S. 13 EDX pattern of AlN product.



S. 14 EDX pattern of BN product



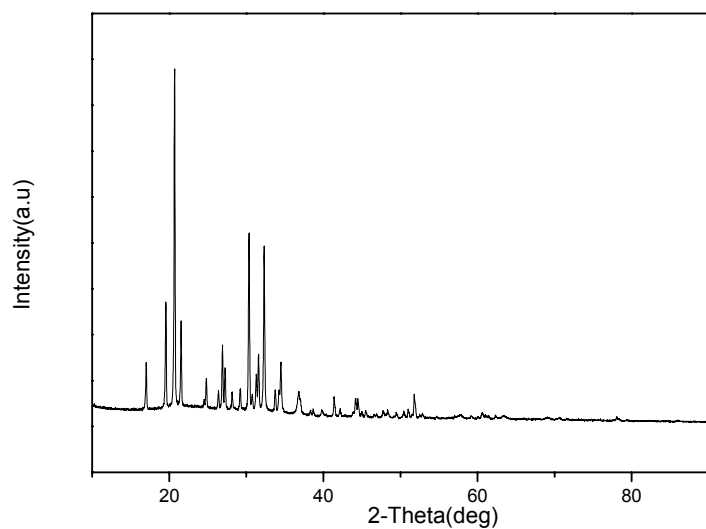
S. 15 EDX pattern of TaN product.



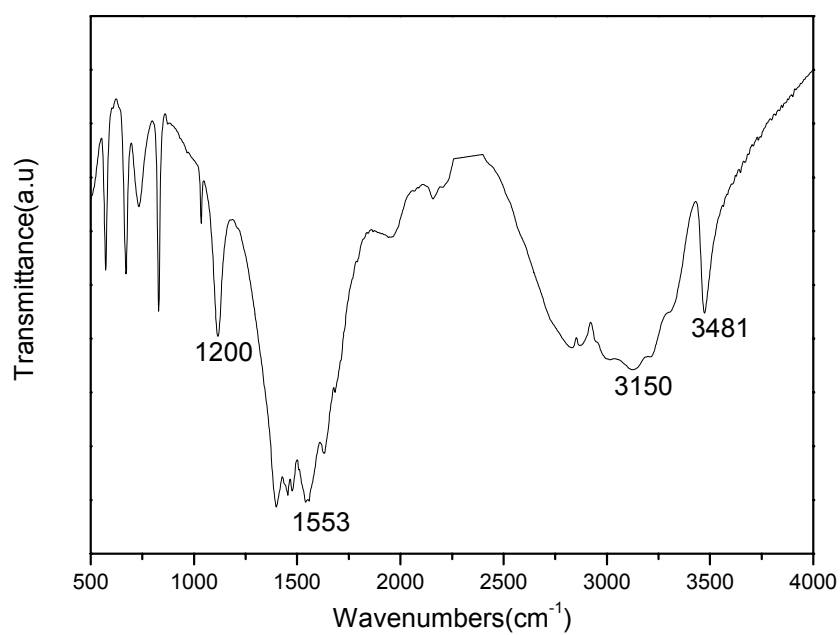
S. 16 EDX pattern of TiN product

H K L	DOBS	DCAL	DOBS-DCAL	2TH.OBS	2TH.CAL	DIF.2TH
201	5.205	5.20479	0.00034	17.021	17.022	-0.001
111	4.532	4.53231	0.00023	19.570	19.571	-0.001
400	4.286	4.28722	-0.00106	20.707	20.701	0.005
211	4.120	4.12013	-0.00007	21.551	21.551	0.000
401	3.584	3.58460	0.00032	24.816	24.818	-0.002
020	3.373	3.37360	0.00028	26.396	26.398	-0.002
120	3.310	3.30996	0.00020	26.913	26.915	-0.002
002	3.269	3.26988	-0.00045	27.255	27.251	0.004
411	3.165	3.16487	0.00045	28.169	28.173	-0.004
202	3.054	3.05462	-0.00038	29.216	29.213	0.004
510		3.05551	-0.00127		29.204	0.012
012	2.942	2.94192	0.00004	30.358	30.358	0.000
112	2.9035	2.89942	0.00411	30.769	30.814	-0.045
320		2.90412	-0.00059		30.763	0.006
600	2.8556	2.85568	-0.00013	31.299	31.298	0.001
221	2.8294	2.82908	0.00031	31.596	31.600	-0.004
511	2.7682	2.76772	0.00044	32.314	32.319	-0.005
321	2.6533	2.65368	-0.00035	33.753	33.749	0.005
312	2.6159	2.61485	0.00103	34.252	34.265	-0.014
601		2.61657	-0.00068		34.242	0.009
402	2.5983	2.59832	0.00002	34.490	34.490	0.000

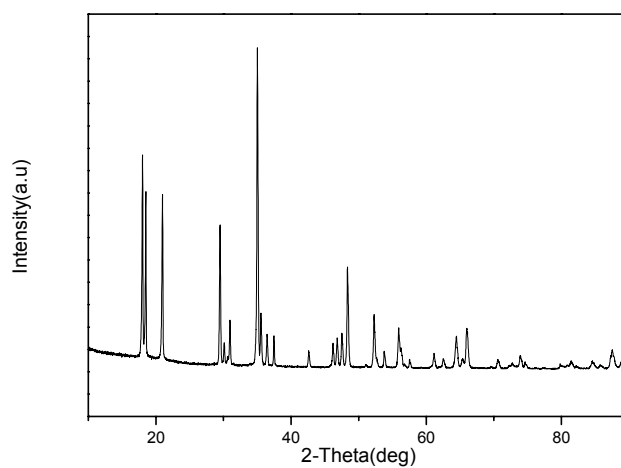
S.17 Tables of the indexing result of $\text{CN}_{2.1}\text{H}_{6.1}\text{O}_{2.4}$ byproduct, $a=17.106(1)\text{\AA}$, $b=6.7342(5)\text{\AA}$, $c=6.5275(5)\text{\AA}$, Volume= $751.95\text{\AA}^3$, space group Pbca(61). The figures of merit are $M(18)=76.7$ and $F(18)=133.7(0.0031, 43)$.



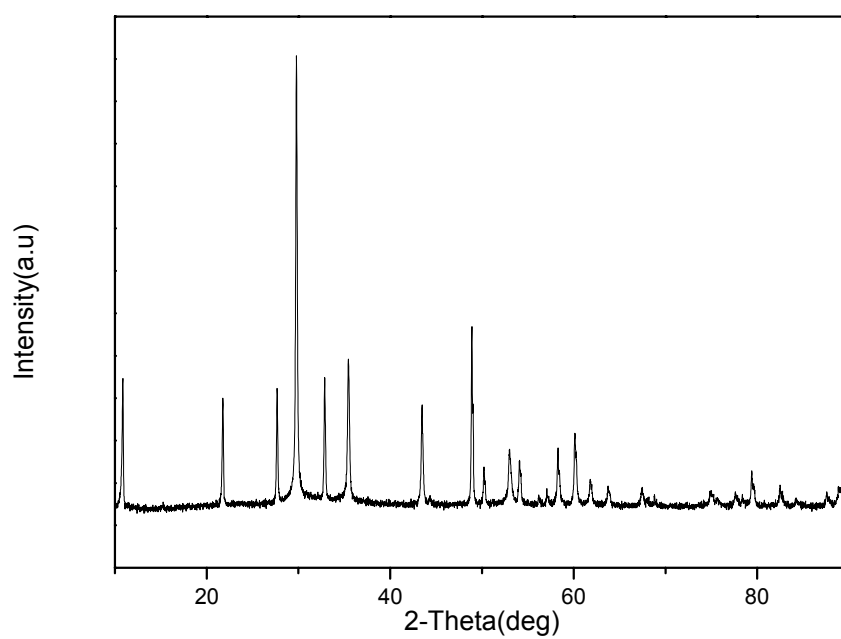
S.18 XRD patterns of the organic byproducts obtained in the synthesis of GaN.



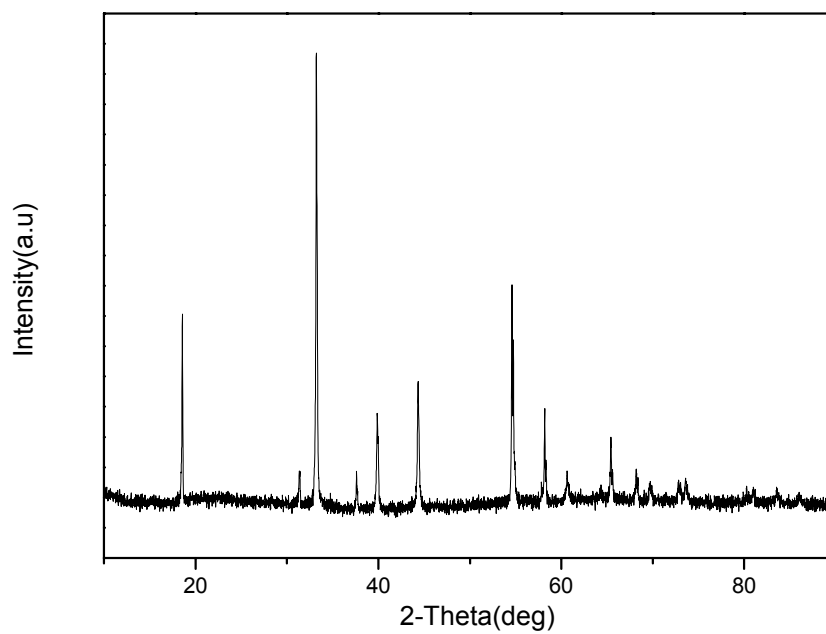
S.19 FTIR spectrum of the transparent byproduct, which has the formula of $\text{CN}_{2.1}\text{H}_{6.1}\text{O}_{2.367}$, obtained in the synthesis of GaN.



S. 20 XRD patterns of $\text{In}_{2.24}(\text{NCN})_3$ obtained by the reaction of In_2O_3 and melamine



S. 21 XRD patterns of $\text{Dy}_2\text{O}_2\text{CN}_2$ obtained by the reaction of Dy_2O_3 and melamine



S. 22 XRD patterns of MnNCN obtained by the reaction of MnO₂ and melamine