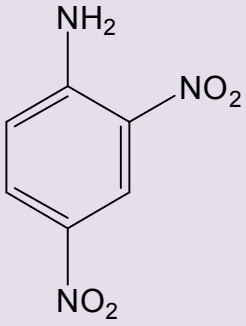
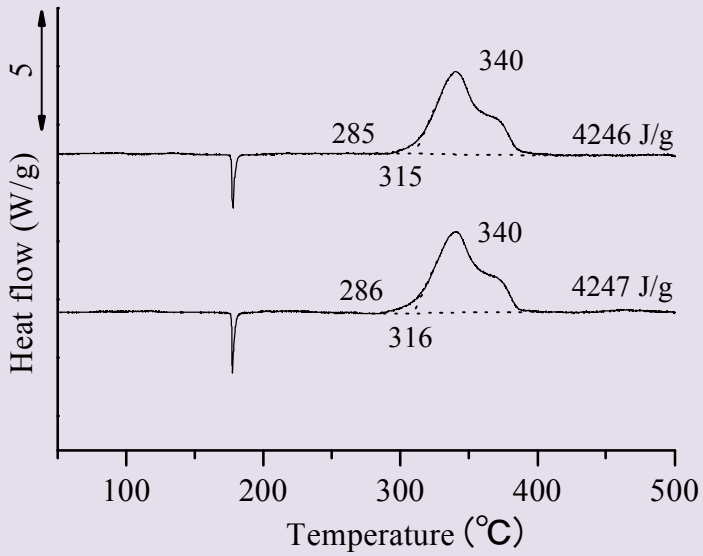
産業技術総合研究所　高エネルギー物質研究グループ
発熱分解エネルギー測定の標準化　　熱分析結果

2,4-dinitroaniline	$C_6H_5N_3O_4$　DNA
	DSC divice : DSC8270B Rigaku Corp. dT/dt: 2 , 5, 10, 20 K/min Atmosphere: Air Vesel : pressure vessel (SUS) Rigaku Corp. Sample : AlfaAesar (> 99%)

a) 2 K/min

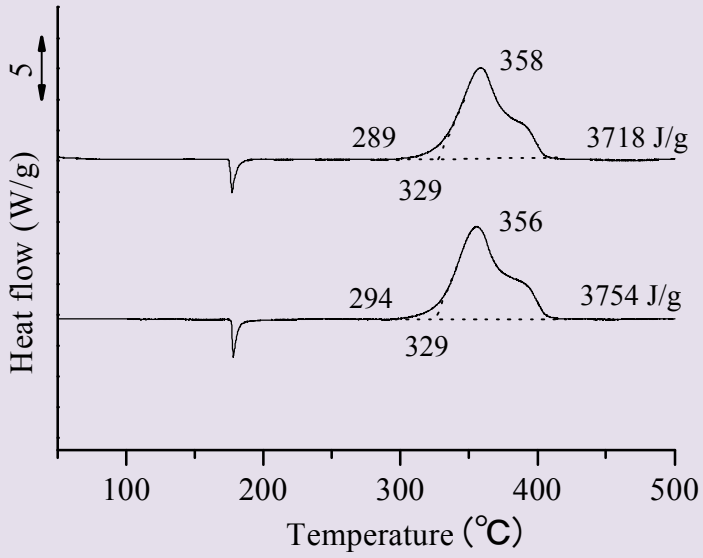
AlfaAesar：AlfaAesar社
(販売　和光純薬工業株式会社)



＜Average＞

T_a :　286 ℃
T_o :　316 ℃
T_{top} :　340 ℃
Q_{DSC} :　4247 J/g

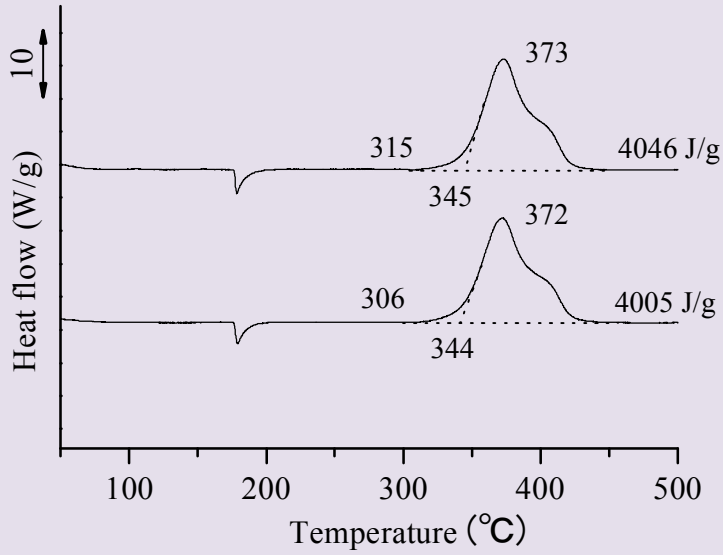
b) 5 K/min



＜Average＞

T_a :　292 ℃
T_o :　329 ℃
T_{top} :　357 ℃
Q_{DSC} :　3736 J/g

c) 10 K/min



＜Average＞

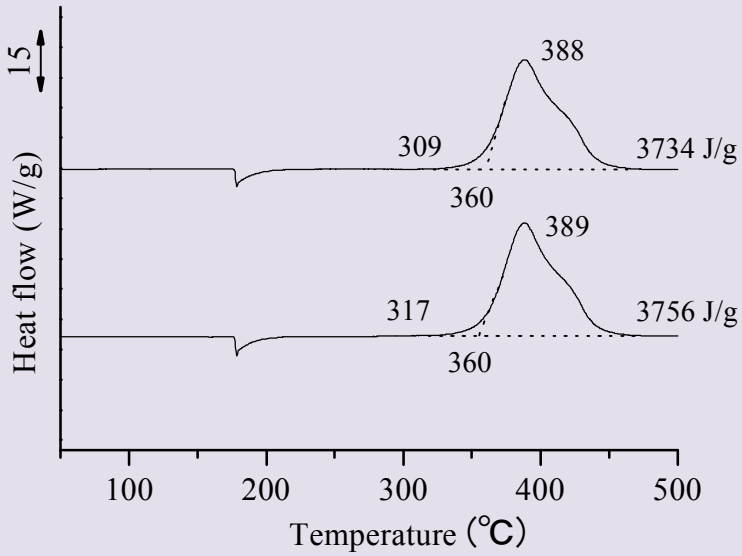
T_a : 311 ℃

T_o : 345 ℃

T_{top} : 373 ℃

Q_{DSC} : 4026 J/g

d) 20 K/min



＜Average＞

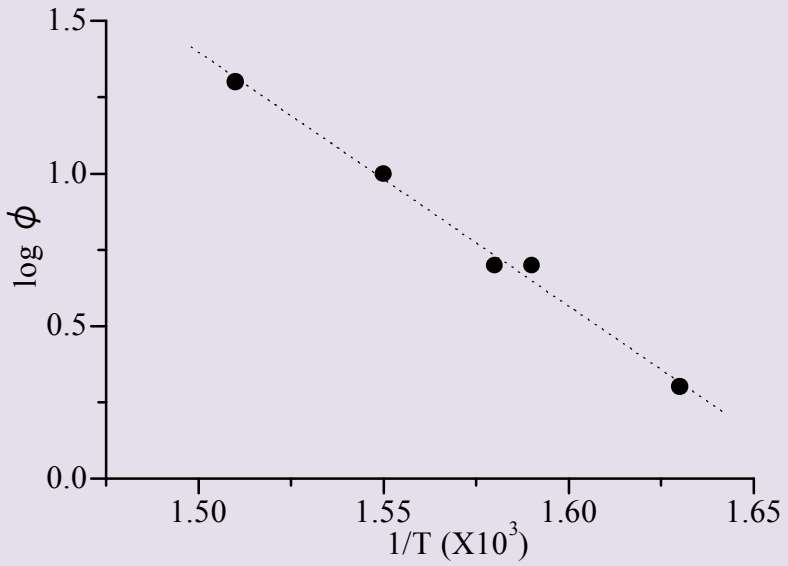
T_a : 313 ℃

T_o : 360 ℃

T_{top} : 389 ℃

Q_{DSC} : 3745 J/g

ASTM PLOT



ΔE : 156 kJ/mol

A : 3.73 x 10^{27}

r : -0.99764

Heat rate φ (K/min)	T_{peak} (℃)	Tm (K)	1/Tm·10^3	log φ
2	340	613	1.63	0.301
	340	613	1.63	0.301
5	358	631	1.58	0.699
	356	629	1.59	0.699
10	373	646	1.55	1.00
	372	645	1.55	1.00
20	388	661	1.51	1.30
	389	662	1.51	1.30