

Supporting Information

Towards the design of mixture of diether and succinate as internal donor in MgCl₂ supported Ziegler Natta catalyst

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Table S1. Results of deconvolution by Flory components

Sample	Site 1		Site 2		Site 3		Site 4	
	F_r^a	M_w^b	F_r	M_w	F_r	M_w	F_r	M_w
Catalyst B	10.17	17.85	45.46	57.66	32.89	124.22	11.48	245.3
Catalyst BD1	10.76	21.24	49.07	65.59	32.62	150.89	7.55	332.95
Catalyst BD2	12.45	25.67	47.71	73.17	31.07	177.96	8.77	463.37
Catalyst BD3	13.65	26.8	46.1	76.8	30.84	174.08	9.5	483.7
Catalyst D	15.77	22.38	41.64	71.57	32.65	189.5	9.94	535.25

^a F_r was the weight percentage of the fraction produced by a certain active centre in catalyst.

^b Weight average molecular weight, in 10^4 g/mol

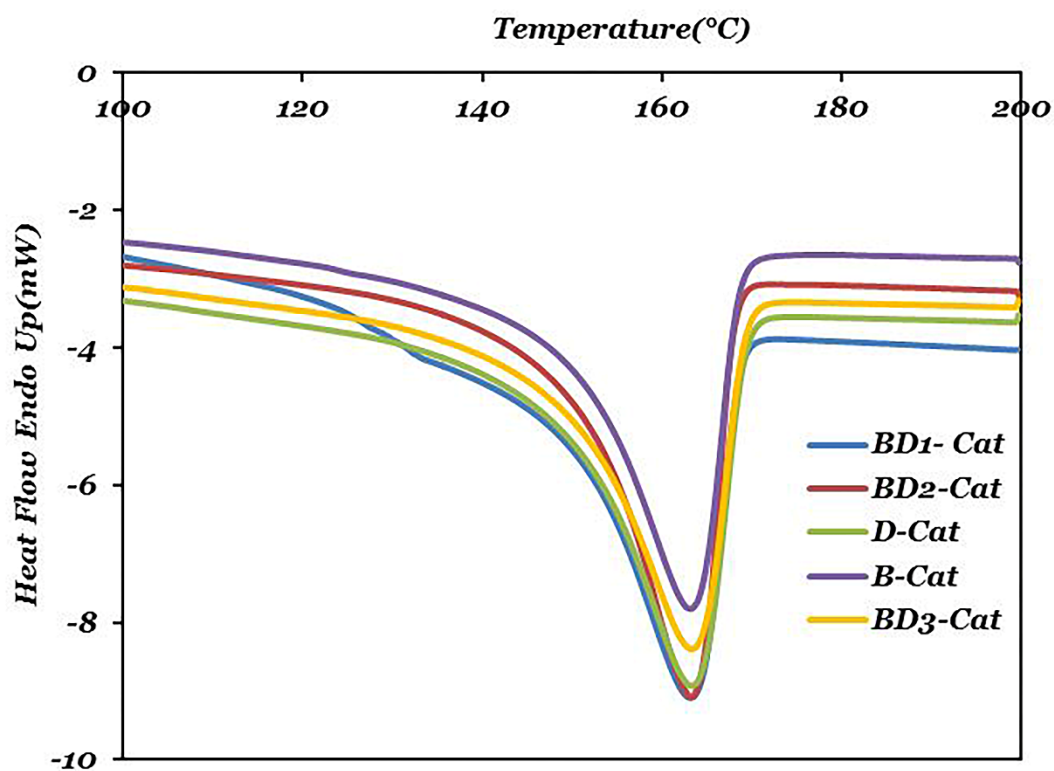


Figure S1. The DSC melting curve of polypropylene prepared by catalysts

Table S2. The optimal range of T_s of each sample prepared by catalysts

Sample	Domain I	Domain II	Domain III	T_s (°C)
Catalyst B	$T_s > 179$	$163 < T_s \leq 179$	$T_s \leq 163$	164
Catalyst BD1	$T_s > 181$	$163 < T_s \leq 181$	$T_s \leq 163$	164
Catalyst BD2	$T_s > 181$	$164 < T_s \leq 181$	$T_s \leq 164$	165
Catalyst BD3	$T_s > 180$	$163 < T_s \leq 180$	$T_s \leq 163$	164
Catalyst D	$T_s > 181$	$164 < T_s \leq 181$	$T_s \leq 164$	165

Table S3. The relative contents of all peaks of all samples after SSA thermal fractionation

Sample	n_1	n_2	n_3	n_4	n_5
Catalyst B	38.78	29.6	17.98	8.57	5.05
Catalyst BD1	54.48	15.33	18.01	7.96	4.19
Catalyst BD2	43.70	24.89	17.70	8.77	4.92
Catalyst BD3	44.31	27.22	18.10	8.48	4.49
Catalyst D	39.81	28.72	18.22	8.43	4.65