

Supporting Information to:

Dramatic promotion of copper-alumina catalysts by sodium for acetone trimerisation

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Product distribution details for all catalysts presented.

Table S1 : Abbreviation used

Light products	propene/propane isobutene/isobutene methane		
IPA	2-propanol	DIBA	2,6-dimethylheptan-4-ol
MIBK	4-methylpentan-2-one	TMB	1,3,5-trimethylbenzene
MIBA	4-methylpentan-2-ol	others	C ₁₂ , unknown products
2-MP	2-methylpentane		
DIBK	2,6-dimethylheptan-4-one		

Table S2 : Product distribution

	Catalyst A		Catalyst B		Catalyst C		Catalyst D		Catalyst E	
	10 min	120 min	10 min	120 min	10 min	120 min	10 min	120 min	10 min	120 min
Acetone Conversion (%)	62.3	38.5	74.3	57.6	69.9	68.7	59.5	59.5	53.3	48
Selectivity (%)										
Light products	23.4	27.0	12.3	13.6	7.1	6.7	6.7	6.6	3.6	3.3
IPA	13.1	37.2	7.2	15.4	8.7	9.0	15.4	15.7	19.8	25.2
MIBK	26.9	25.8	23.7	31.3	25.5	26.3	30.6	31.2	38.6	38.1
MIBA	2.6	3.0	2.2	3.1	2.5	2.5	3.2	3.4	4.1	4.2
2-MP	0.9	0.7	0.5	0.4	0.5	0.5	0.3	0.3	0.3	0.3
DIBK	25.9	5.2	44.7	30.4	45.7	45.1	37.3	36.4	29.0	25.4
DIBA	0.0	0.0	0.0	0.0	1.9	1.9	1.6	1.7	1.3	1.2
TMB	0.6	0.3	0.6	0.7	0.6	0.6	0.6	0.6	0.8	0.7
others	6.6	0.8	8.8	5.1	7.5	7.4	4.3	4.1	2.5	1.6

Table S3 : Yield of the different products

	Catalyst A		Catalyst B		Catalyst C		Catalyst D		Catalyst E	
	10 min	120 min	10 min	120 min	10 min	120 min	10 min	120 min	10 min	120 min
Yield (%)										
Light products	14.6	10.4	9.1	7.8	5.0	4.6	4.0	3.9	1.9	1.6
IPA	8.2	14.3	5.3	8.9	6.1	6.2	9.2	9.3	10.6	12.1
MIBK	16.8	9.9	17.6	18.0	17.8	18.1	18.2	18.6	20.6	18.3
MIBA	1.6	1.2	1.6	1.8	1.7	1.7	1.9	2.0	2.2	2.0
2-MP	0.6	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.1
DIBK	16.1	2.0	33.2	17.5	31.9	31.0	22.2	21.7	15.5	12.2
DIBA	0.0	0.0	0.0	0.0	1.3	1.3	1.0	1.0	0.7	0.6
TMB	0.4	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
others	4.1	0.3	6.5	2.9	5.2	5.1	2.6	2.4	1.3	0.8