

Table S1. Kinetic parameters of the first stage of the $[\text{Co}(\text{NH}_3)_3][\text{Fe}(\text{CN})_6]$ thermolysis process. They were determined using model methods.

Model	Reaction stage	The first stage
Fn-Fn	Fn	E=130.3 kJ/mol, logA=11.6 (A, 1/s), ReactOrder n=0.9
	Fn	E=90.2 kJ/mol, logA=5.8 (A, 1/s), ReactOrder n=3.6
	R ²	0.99943
	F-test	1.323
Fn-Bna	Fn	E=128.9 kJ/mol, logA=11.5 (A, 1/s), ReactOrder n=0.7
	Bna	E=80.3 kJ/mol, logA=5.1 (A, 1/s), ReactOrder n=4.4, AutocatOrder 0.2
	R ²	0.99950
	F-test	1.174
Fn-Cnm	Fn	E=146.8 kJ/mol, logA=13.5 (A, 1/s), ReactOrder n=5.0
	Cnm	E=9.2 kJ/mol, logA=8 (A, 1/s), ReactOrder n=0.3, Log(AutocatPreExp) 7.8, AutocatPower m=0.6
	R ²	0.99809
	F-test	4.448
Fn-An	Fn	E=131.0 kJ/mol, logA=11.7 (A, 1/s), ReactOrder n=0.7
	An	E=83.6 kJ/mol, logA=4.9 (A, 1/s), Dimension n=0.4
	R ²	0.99935
	F-test	1.512
Bna-Fn	Bna	E=117.9 kJ/mol, logA=10.8 (A, 1/s), ReactOrder n=1.4, AutocatOrder 0.6
	Fn	E=135.9 kJ/mol, logA=13.4 (A, 1/s), ReactOrder n=2.3
	R ²	0.99872
	F-test	2.980
Bna-Bna	Bna	E=126.1 kJ/mol, logA=11.4 (A, 1/s), ReactOrder n=1.4, AutocatOrder 0.3
	Bna	E=79.6 kJ/mol, logA=4.9 (A, 1/s), ReactOrder n=3.7, AutocatOrder 0.2
	R ²	0.99950
	F-test	1.156

Bna-Cnm	Bna	E=127.9 kJ/mol, logA=11.5 (A, 1/s), ReactOrder n=0.7, AutocatOrder 0.2
	Cnm	E=75.6 kJ/mol, logA=4.3 (A, 1/s), ReactOrder n=3.9, AutocatOrder 0.01, AutocatPower m=0.01
	R ²	0.99956
	F-test	1.302
Bna-An	Bna	E=121.8 kJ/mol, logA=11.7 (A, 1/s), ReactOrder n=3.5, AutocatOrder 0.6
	An	E=33.7 kJ/mol, logA=0.1 (A, 1/s), Dimension n=0.6
	R ²	0.99906
	F-test	2.184
Cnm-Fn	Cnm	E=129.7 kJ/mol, logA=11.6 (A, 1/s), ReactOrder n=4.2, Log(AutocatPreExp) 2.2, AutocatPower m=3.8
	Fn	E=49.9 kJ/mol, logA=2.2 (A, 1/s), ReactOrder n=2.75
	R ²	0.99942
	F-test	1.357
Cnm-Bna	Cnm	E=122.7 kJ/mol, logA=10.4 (A, 1/s), ReactOrder n=5.1, Log(AutocatPreExp) 1.5, AutocatPower m=1.1
	Bna	E=189 kJ/mol, logA=18.8 (A, 1/s), ReactOrder n=2.1, AutocatOrder 0.3
	R ²	0.99937
	F-test	1.474
Cnm-Cnm	Cnm	E=121.2 kJ/mol, logA=10.3 (A, 1/s), ReactOrder n=5.3, Log(AutocatPreExp) 1.6, AutocatPower m=1.3
	Cnm	E=186.6 kJ/mol, logA=17.7 (A, 1/s), ReactOrder n=2.1, Log(AutocatPreExp) 0.7, AutocatPower m=0.2
	R ²	0.99937
	F-test	1.484
Cnm-An	Cnm	E=128.5 kJ/mol, logA=11.4 (A, 1/s), ReactOrder n=1.8, Log(AutocatPreExp) 0.9, AutocatPower m=1.96
	An	E=142.2 kJ/mol,

		logA=7.6 (A, 1/s), Dimension n=1.22
	R ²	0.99945
	F-test	1.286
An-Sb	An	E=127.7 kJ/mol, logA=11.4 (A, 1/s), Dimension n=1.2
	Sb	E=74.5 kJ/mol logA=4.5 (A, 1/s) Reactorder n=4.0 Autocat Order 0.1 LogOrder q=0.1
	R ²	0.99955
	F-test	1.051
An-Fn	An	E=127.7 kJ/mol, logA=11.4 (A, 1/s), Dimension n=1.2
	Fn	E=76.3 kJ/mol, logA=4.7 (A, 1/s), ReactOrder n=3.7
	R ²	0.99956
	F-test	1.014
An-Bna	An	E=127.5 kJ/mol, logA=11.4 (A, 1/s), Dimension n=1.2
	Bna	E=74.9 kJ/mol, logA=4.6 (A, 1/s), ReactOrder n=3.9, AutocatOrder 0.01
	R ²	0.99955
	F-test	1.041
An-Cnm	An	E=127.9 kJ/mol, logA=11.4 (A, 1/s), Dimension n=1.2
	Cnm	E=75.9 kJ/mol, logA=4.3 (A, 1/s), ReactOrder n=3.7, Log(AutocatPreExp) 0.01, AutocatPower m=0.01
	R ²	0.99956
	F-test	1.023
An-An	An	E=128.9 kJ/mol, logA=11.6 (A, 1/s), Dimension n=1.2
	An	E=8.4 kJ/mol, logA=4.8 (A, 1/s), Dimension n=0.4
	R ²	0.99940
	F-test	1.388
Sb-Fn	Sb	E=127.8 kJ/mol logA=11.5 (A, 1/s) Reactorder n=0.9 Autocat Order 0.01 LogOrder q=0.2
	Fn	E=76.3 kJ/mol, logA=4.7 (A, 1/s), ReactOrder n=0.8
	R ²	0.999956
	F-test	1.017

Sb-Bna	Sb	E=126.0 kJ/mol logA=11.4 (A, 1/s) Reactorder n=1.5 Autocat Order 0.2 LogOrder q=0.1
		E=75.2 kJ/mol, logA=4.4 (A, 1/s), ReactOrder n=3.3, AutocatOrder 0.1
	R ²	0.99950
	F-test	1.158
Sb-Cnm	Sb	E=124.1 kJ/mol logA=11.5 (A, 1/s) Reactorder n=3.1 Autocat Order 0.5 LogOrder q=0.1
		E=73 kJ/mol, logA=1.8 (A, 1/s), ReactOrder n=3.1, Log(AutocatPreExp) 5.9, AutocatPower m=0.3
	R ²	0.99920
	F-test	1.865
Sb-An	Sb	E=136.7 kJ/mol logA=13.9 (A, 1/s) Reactorder n=5.5 Autocat Order 0.7 LogOrder q=0.2
		E=42 kJ/mol, logA=2.6 (A, 1/s), Dimension n=0.2
	R ²	0.99869
	F-test	3.057
Sb-Sb	Sb	E=124.5 kJ/mol logA=11.6 (A, 1/s) Reactorder n=3.3 Autocat Order 0.5 LogOrder q=0.1
		E=69.4 kJ/mol logA=4.3 (A, 1/s) Reactorder n=4.5 Autocat Order 0.1 LogOrder q=0.9
	R ²	0.99922
	F-test	1.814
Fn-Sb	Fn	E=129.6 kJ/mol, logA=11.7 (A, 1/s), ReactOrder n=5.7
		E=140.9 kJ/mol logA=14.7 (A, 1/s) Reactorder n=0.8 Autocat Order 1.1 LogOrder q=0.1
	R ²	0.99735
	F-test	6.180
Bna-Sb	Bna	E=92.8 kJ/mol, logA=8.6 (A, 1/s), ReactOrder n=3.4, AutocatOrder 0.8

	Sb	E=53.1 kJ/mol logA=4.2 (A, 1/s) Reactorder n=4.6 Autocat Order 0.1 LogOrder q=10
		R ² 0.99824
	F-test	4.107
	Cnm	E=127.3 kJ/mol logA= 11.1 (A, 1/s) Reactorder n=1.2 Log(AutocatPreExp) 0.4 Autocat Power m=0.8
		E=77.6 kJ/mol logA=4.8 (A, 1/s) Reactorder n=3.7 Autocat Order 0.4 LogOrder q=0.8
	Sb	R ² 0.99957
Cnm-Sb	F-test	1.000

Table S2. Kinetic parameters of the second stage of the [Co(NH)₃]₆[Fe(CN)₆] thermolysis process. They were determined using model methods.

Reaction step	The second stage
Fn	E=371.1 kJ/mol, logA=20.0(A, 1/s), ReactOrder n=0.6
R ²	0.99609
F-test	5.379
Bna	E=344.8 kJ/mol, logA=19(A, 1/s), ReactOrder n=1.7, AutocatOrder 0.5
R ²	0.99867
F-test	1.830
Cnm	E=345.7 kJ/mol logA= 18.2 (A, 1/s) Reactorder n=2.8 Log(AutocatPreExp) 1.6 Autocat Power m=1.7
R ²	0.99928
F-test	1.000
An	E=350.6 kJ/mol, logA=18.9(A, 1/s), Dimension n=1.4
R ²	0.99757
F-test	3.341
Sb	E=344.9 kJ/mol logA=19 (A, 1/s) Reactorder n=1.9 Autocat Order 0.1 LogOrder q=0.5
R ²	0.99870
F-test	1.795