

Supplementary Materials:

Experimental Procedure

To a solution of aldehyde (0.5 mmol) in acetic anhydride (1.5 mmol) was added tetrabutylammonium tribromide (TBATB) (0.05 mmol) and the reaction mixture was stirred at room temperature. Aliquots (5 μ L) were removed at appropriate time points, quenched by adding it to a saturated solution of $NaHCO_3$ (50 μ L). The reaction mixture was extract with ethyl acetate (100 μ L) and injected into gas chromatography (Model GC 2000) using capillary TIPO BP-1 column (Length 30m x diameter 0.25 mm). Percentage of product formed was calculated from the chromatogram using Chromcard 32 software.

Supplementary Table S1: The experimental values of the ‘percentage of un-reacted substrates at different time intervals’ for 9 chosen chemical systems (for details see the text).

S. No.	Chemical Systems	Reaction time (min)	% of unreacted substrate
1	C_6H_5CHO	0	100
		11	99.1
		26	98
		34	97.2
		48	96.4
		60	94.4
		78	91.7
2	$4-(CH_3)C_6H_4CHO$	0	100
		1	98.5
		2	97.7
		5	94.8
		10	89.9
		15	86.17
3	$4-(Cl)C_6H_4CHO$	0	100
		10	99.75
		20	99
		30	97.1
		40	96.8
		50	96.1
		60	95.8
4	$2-(NO_2)C_6H_4CHO$	0	100
		240 (4h)	99.75
		360 (6h)	99.65
		480 (8h)	99.25
		600 (10h)	98.5
		900 (15h)	96.4

(Supplementary Table S1 continuing)

S. No.	Chemical Systems	Reaction time (min)	% of unreacted substrate
5	$3-(NO_2)C_6H_4CHO$	0	100
		240 (4h)	99.5
		360 (6h)	99.1
		480 (8h)	91.7
		600 (10h)	88.6
		900 (15h)	72
6	$4-(NO_2)C_6H_4CHO$	0	100
		240 (4h)	99.5
		360 (6h)	99
		480 (8h)	94.3
		600 (10h)	92.2
		900 (15h)	76.2
7	$4-(OMe)C_6H_4CHO$	0	100
		0.5 (30 sec)	97.2
		1.25 (75 sec)	90.4
		1.5 (90sec)	89.12
		3 (180 sec)	80
8	$3,4-(OMe)_2C_6H_3CHO$	0	100
		1	97.9
		2	94.6
		3	90.5
		4	84.1
		5	81.3
		6	74
9	$3,4,5-(OMe)_3C_6H_2CHO$	0	100
		1	98.4
		2	96.5

(Supplementary Table S1 continuing)

S. No.	Chemical Systems	Reaction time (min)	% of unreacted substrate
	3,4,5 – (OMe) ₃ C ₆ H ₂ CHO	3	94.5
		4	93.7
		6	87.4
		8	82.9
		10	77.3