SUPPLEMENTARY MATERIALS

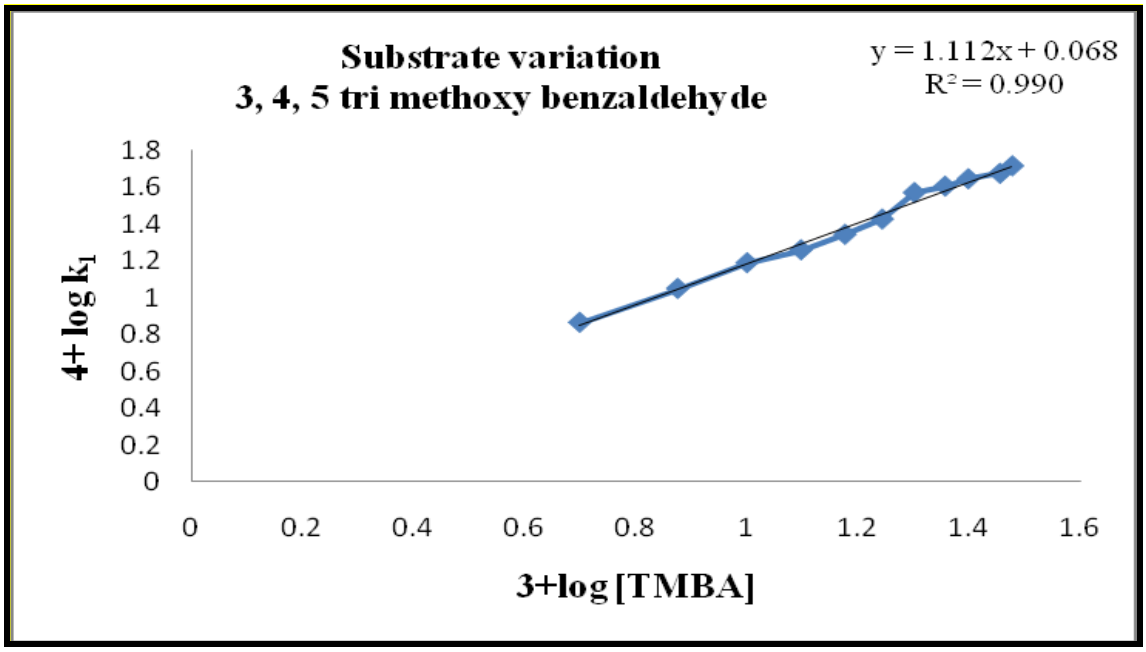
1. Effect on rate by variation of [PFC], [TMBA], [PTSA] and temperature on oxidation

[PFC] × 10^3 mol dm^{-3}	[TMBA] × 10^2 mol dm^{-3}	[PTSA] × 10^1 mol dm^{-3}	Temperature (Kelvin)	$k_1 \times 10^4$ (s^{-1})
0.25	1.00	6.0	303	15.35
0.50	1.00	6.0	303	15.74
0.75	1.00	6.0	303	14.97
1.00	1.00	6.0	303	15.74
1.25	1.00	6.0	303	15.81
1.50	1.00	6.0	303	15.35
1.75	1.00	6.0	303	15.74
2.00	1.00	6.0	303	15.35
2.25	1.00	6.0	303	14.97
2.50	1.00	6.0	303	15.81
1.00	**0.5**	6.0	303	7.29
1.00	**0.75**	6.0	303	11.13
1.00	**1.00**	6.0	303	15.35
1.00	**1.25**	6.0	303	18.04
1.00	**1.50**	6.0	303	21.89
1.00	**1.75**	6.0	303	26.48
1.00	**2.00**	6.0	303	36.85
1.00	**2.27**	6.0	303	39.92
1.00	**2.50**	6.0	303	43.76
1.00	**2.85**	6.0	303	46.83

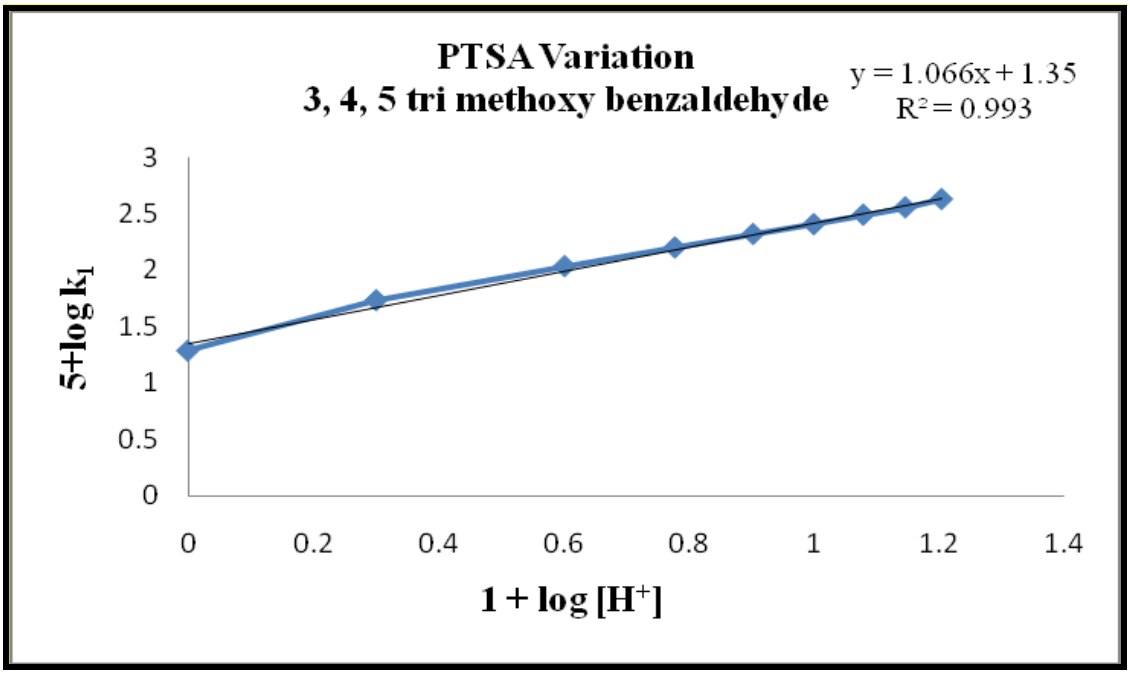
1.00	**3.00**	6.0	303	51.43
1.00	1.00	**0.0**	303	1.92
1.00	1.00	**2.0**	303	5.37
1.00	1.00	**4.0**	303	10.75
1.00	1.00	**6.0**	303	15.74
1.00	1.00	**8.0**	303	20.73
1.00	1.00	**10.0**	303	25.33
1.00	1.00	**12.0**	303	30.71
1.00	1.00	**14.0**	303	35.70
1.00	1.00	**16.0**	303	42.22
1.00	1.00	6.0	**298**	12.28
1.00	1.00	6.0	**303**	15.35
1.00	1.00	6.0	**308**	19.57
1.00	1.00	6.0	**313**	26.87
1.00	1.00	6.0	**318**	39.53
1.00	1.00	6.0	**323**	54.89
1.00	1.00	6.0	303	15.74*

*** Contained 0.001 mol dm^{-3} acrylonitrile.**

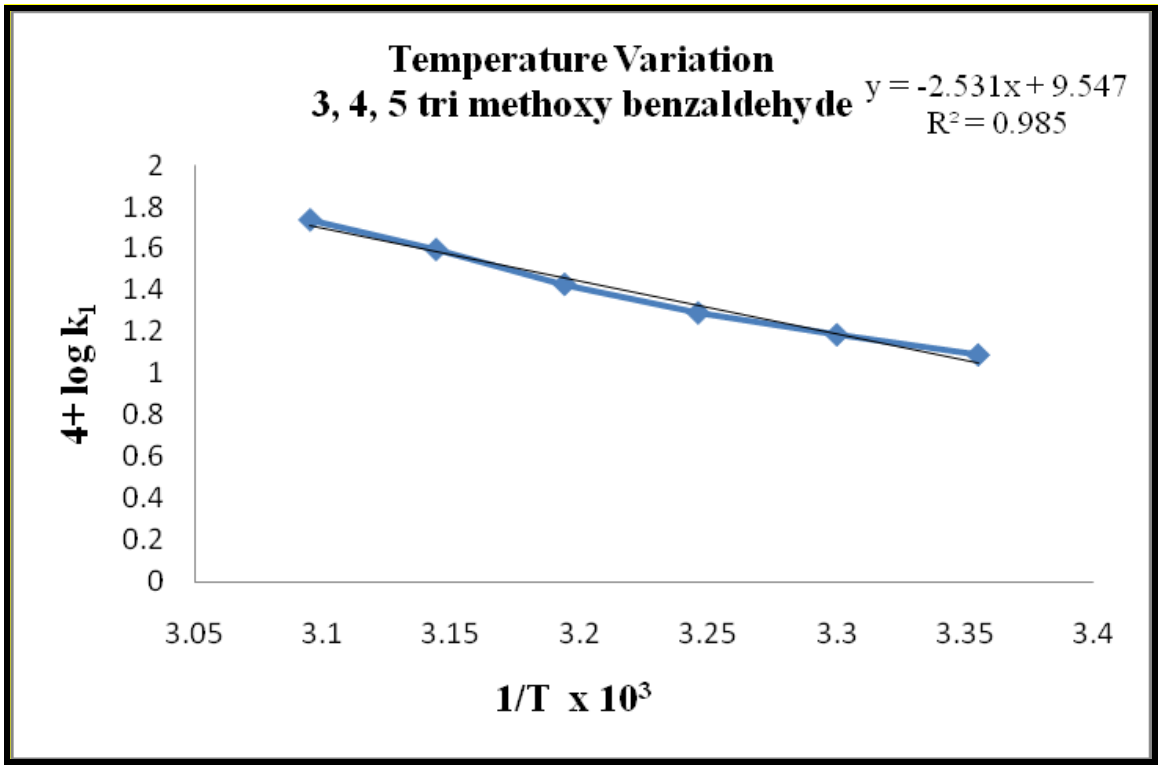
2. Plot of log k_1 *versus* log [TMBA]



3. Plot of k_1 *versus* log $[H^+]$



4. Plot of log k_1 *versus* 1/T



5. Plot of log k_1 *versus* (D-1/ (2D+1)