Electronic Supplementary Material (ESI) for Dalton Transactions.

Kinetics and Mechanistic Investigation into the Possible Activation of Imidazolium *trans*-tetrachloro(dimethyl sulfoxide)imidazole-ruthenate(III), NAMI-A, by 2-Mercaptoethane sulfonate

Supplementary Information.

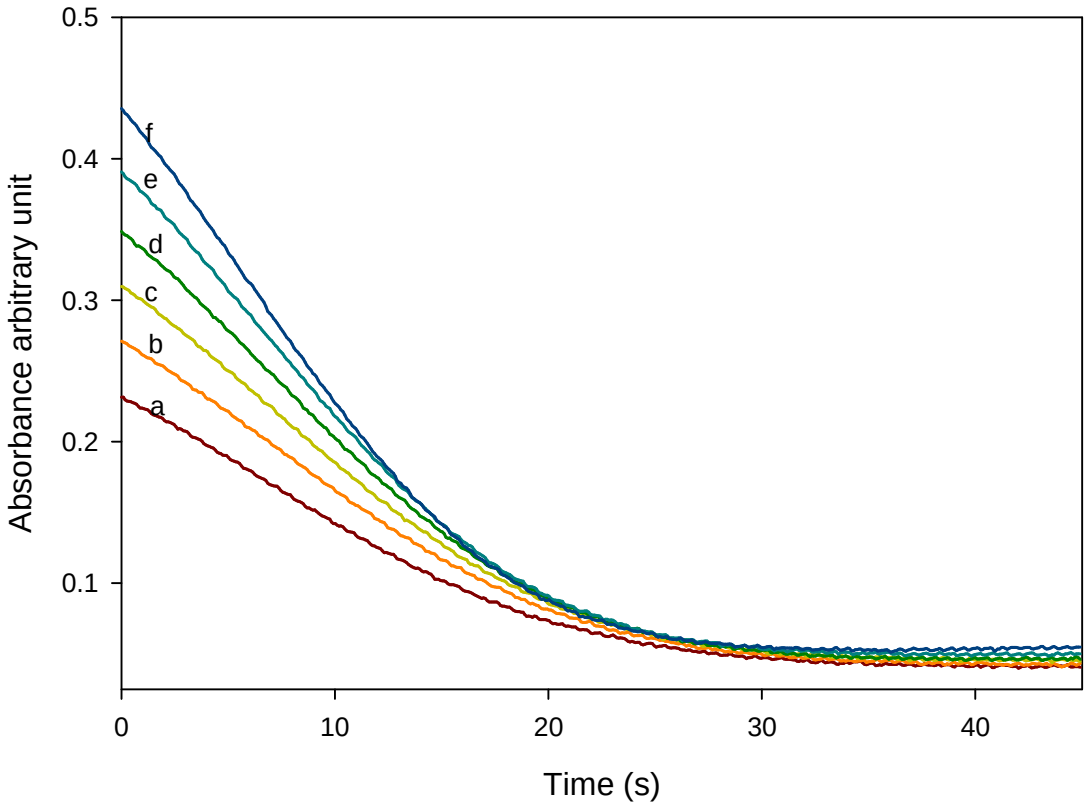

Figure S1: Kinetic traces of reaction in 0.1 M phosphate buffer (Ph 7.4) showing dependence on [NAMI-A] at its λ_{max}. $[MESNA]_o$ = 5.0 x 10^{-2} M; $[NAMI\text{-}A]_o$ = (a) 5.0 x 10^{-5} M (b) 6.0 x 10^{-5} M (c) 7.0 x 10^{-5} M (d) 6.0 x 10^{-5} M (e) 9.0 x 10^{-5} M (f) 1.0 x 10^{-4} M

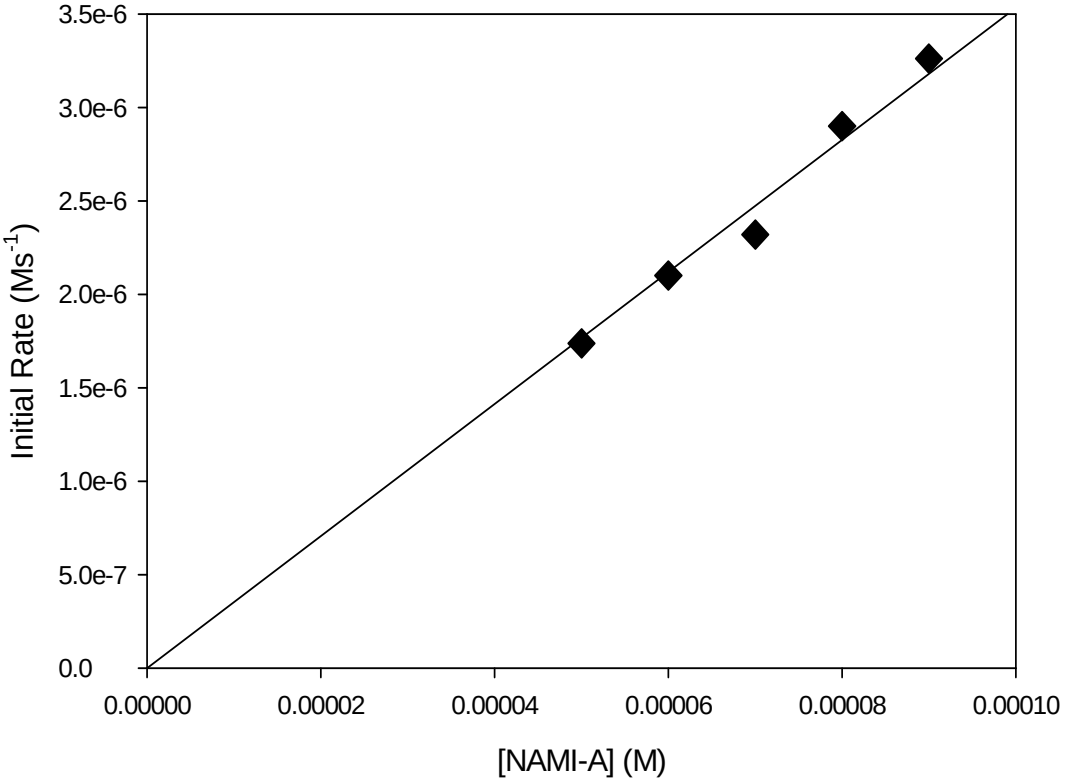

Figure S2: Initial rate plot derived from Figure 3a, showing linear dependence on NAMI-A. $[MESNA]_o$ = 2.0 x 10^{-3} M; $[NAMI\text{-}A]_o$ = 3.0 x 10^{-5} M to 9.0 x 10^{-5} M

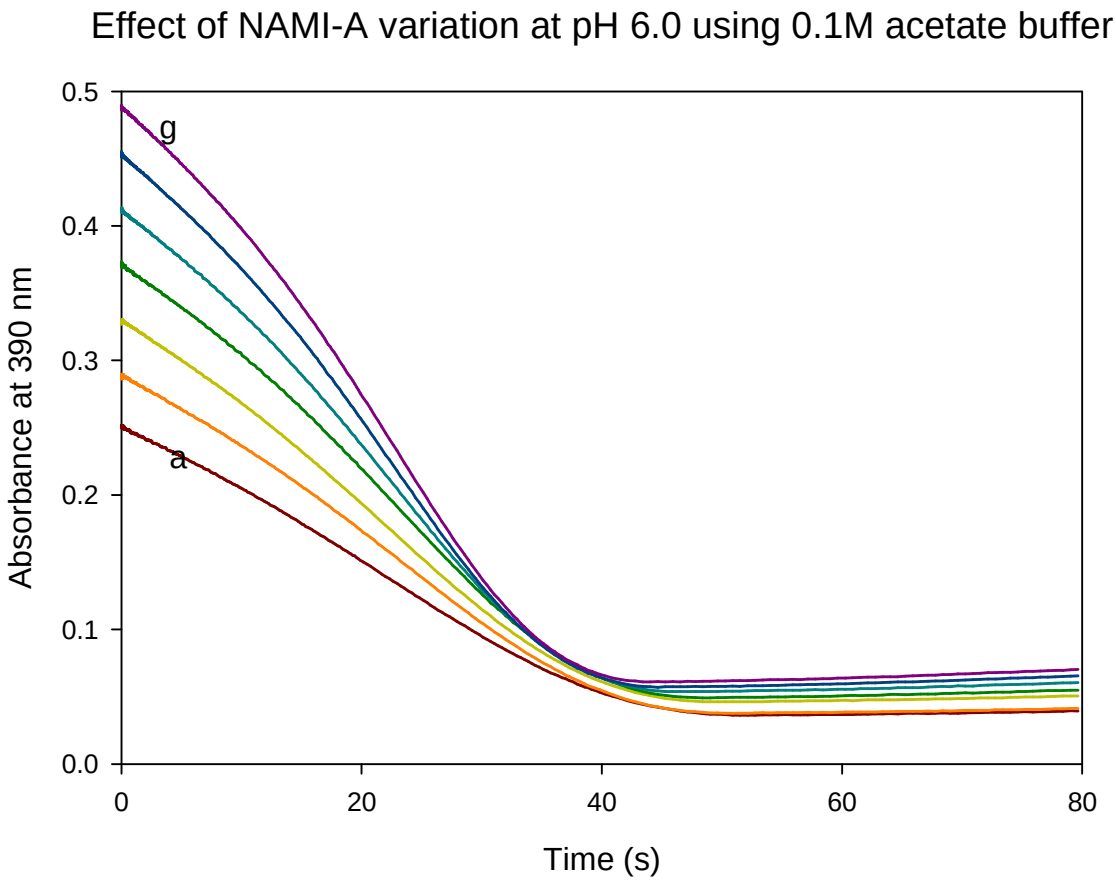

Figure S3: Kinetic traces of reaction in 0.1 M acetate buffer (pH 6.0) showing dependence on [NAMI-A] at its λ_{max}. $[MESNA]_o$ = 5.0 x 10^{-2}M; $[NAMI\text{-}A]_o$ = (a) 5.0 x 10^{-5} M (b) 6.0 x 10^{-5} M (c) 7.0 x 10^{-5} M (d) 6.0 x 10^{-5} M (e) 9.0 x 10^{-5} M (f) 1.0 x 10^{-4} M (g) 1.1 x 10^{-4} M

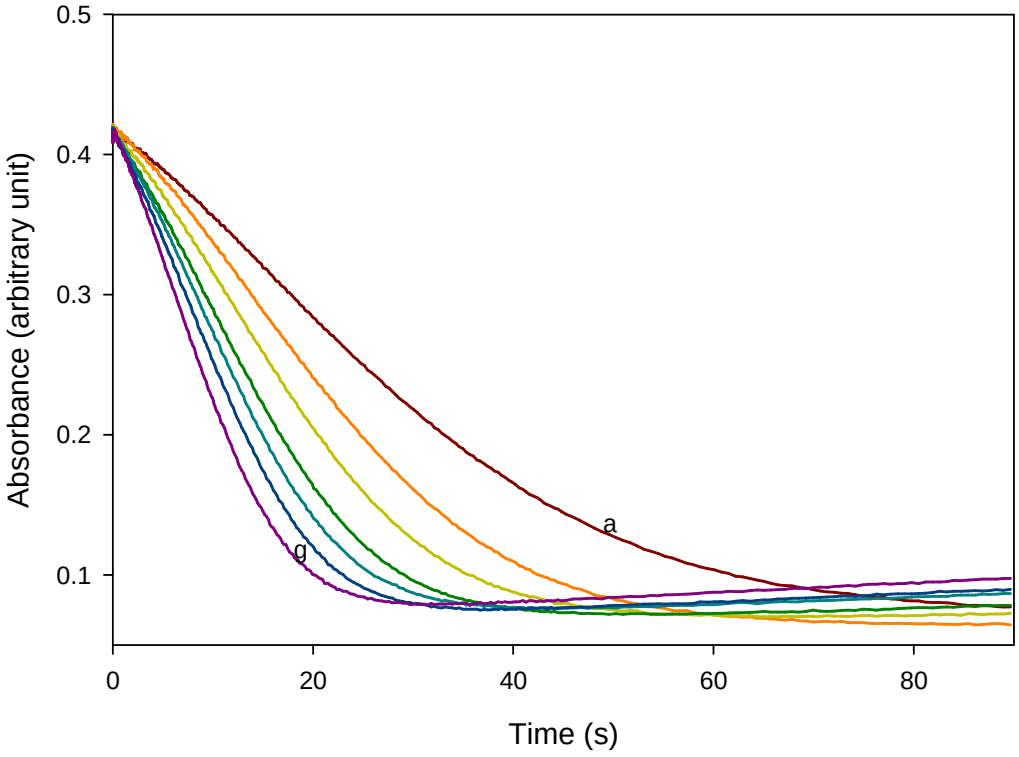

Figure S4: Effect of MESNA variation on the consumption of NAMI-A at 390 nm (pH 7.4, 0.1 M phosphate buffer). $[NAMI\text{-}A]_o$ = 1.0 x 10^{-4} M; $[MESNA]_o$ = (a) 1.0 x 10^{-2} M (b) 2.0 x 10^{-2} M (c) 3.0 x 10^{-2} M (d) 4.0 x 10^{-2} M (e) 5.0 x 10^{-2} M (f) 6.0 x 10^{-2} M (g) 7.0 x 10^{-2} M. Reaction rate increased with NAMI-A increase.

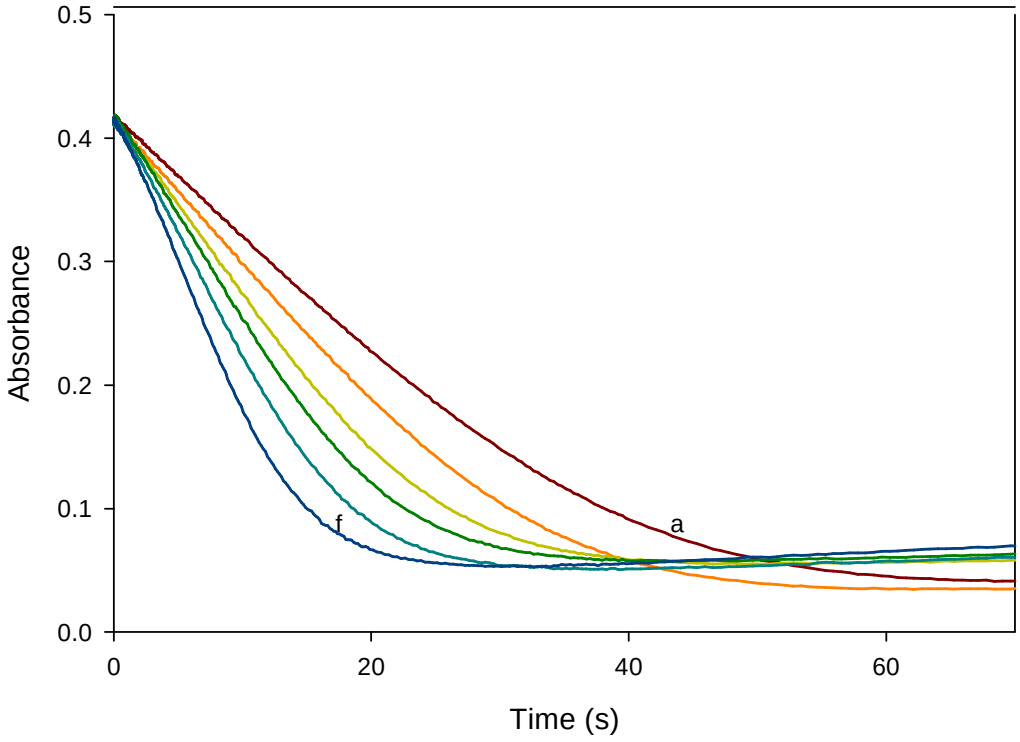

Figure S5: Temperature dependence of NAMI-A-MESNA reaction (0.1 M phosphate buffer, pH 7.4). Reaction rate increased with temperature increase. $[MESNA]_o = 5.0 \times 10^{-2}$ M; $[NAMI\text{-}A]_o = 5.0 \times 10^{-2}$ M; Temp = (a) 10 ^oC (b) 15 ^oC (c) 20 ^oC (d) 25 ^oC (e) 30^o C (f) 37 ^oC.