Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry

Facile dimethylarsenic exchange and pyramidal inversion in its cysteine and glutathione adducts.

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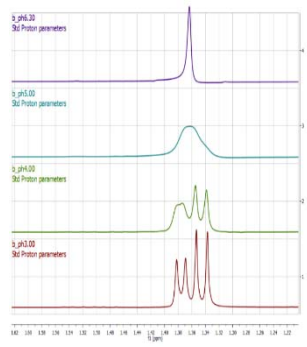
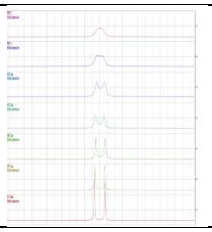
Supplementary Material.

	Biologically relevant dimethyl arsenic (III) species are shown to have labile As-S bonds, we attempted to measure the kinetics of this interaction using dynamic NMR and proposed mechanisms for this interaction. Implications to arsenic drug therapy and arsenic poisoning.
	Diastereotopic methyls dimethylarsinocysteine are found to coalesce on the NMR, implying possible bond lability

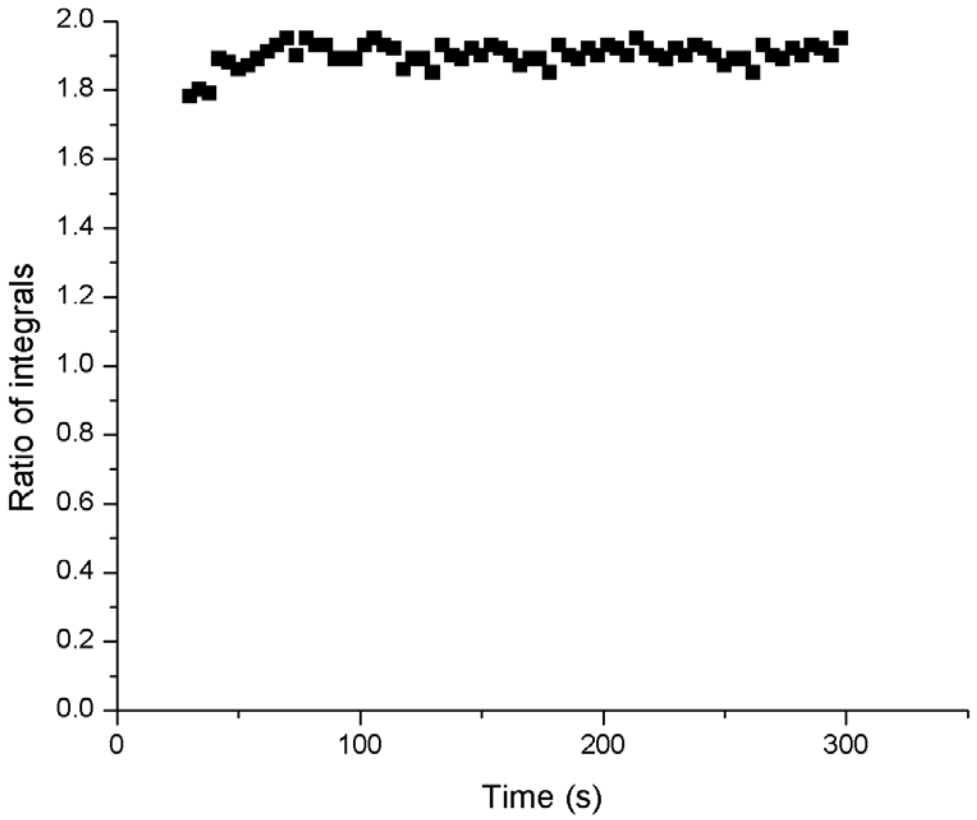


Fig1. Ratio of methyl peaks for **1** and **2** after an addition of 200 ml of 10mM solution of GSH to a 400 ul solution of **2** at pD= 4.6, 22 ˚C

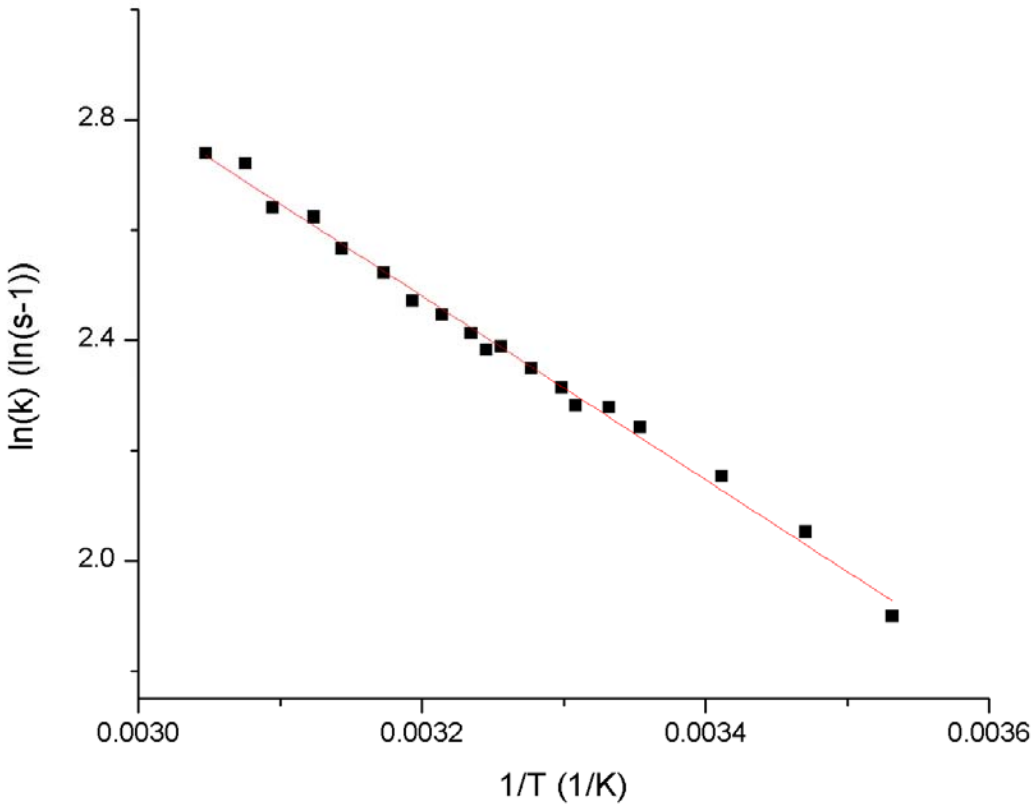


Fig. 2 Arrhenius plot of the natural log of the rate constant (ln (k)) against 1 / Temperature (1/K) with the linear fit (y = -1666 x + 7.8) The derived parameters are $\Delta G‡ = 73$ kJmol^{-1}, $\Delta H‡ = 11$ kJmol^{-1} and $\Delta S‡ = -190$ Jmol^{-1}K^{-1}.

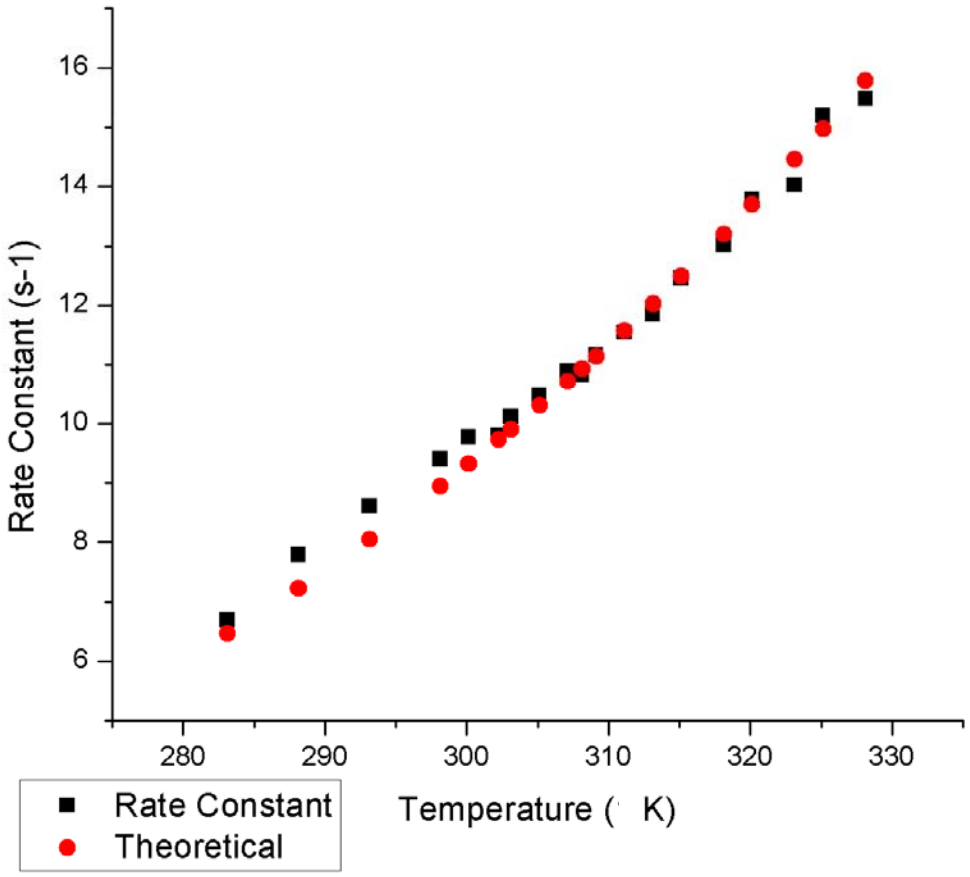


Fig 3. Chart showing the experimental and the data fitted (Eyring equation) rate constant against temperature with $\Delta G‡ = 73$ kJmol^{-1}, $\Delta H‡ = 11$ kJmol^{-1} and $\Delta S‡ = -190$ Jmol^{-1}K^{-1}.