Electronic Supplementary Information (ESI)

Comparison of catalysis by haloalkane dehalogenases in aqueous solutions of a deep eutectic and organic solvents

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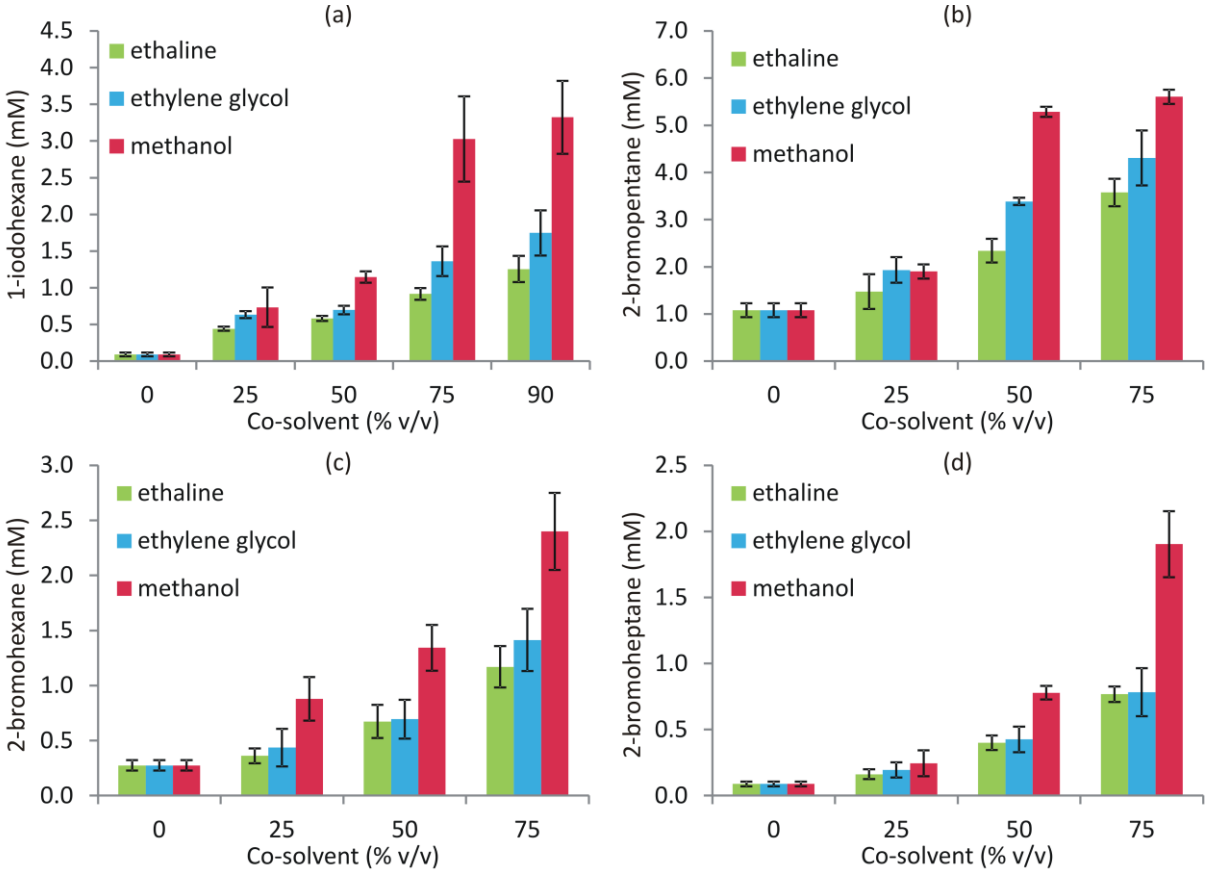

Figure S1. The concentration of 1-iodohexane (a), 2-bromopentane (b), 2-bromohexane (c) and 2-bromoheptane (d) dissolved in water containing various concentrations of ethaline, ethylene glycol and methanol. The theoretical concentration of 1-iodohexane, 2-bromopentane, 2-bromohexane and 2-bromoheptane, added to the reaction mixture was 4.0, 6.8, 5.1 and 4.3 mM, respectively.

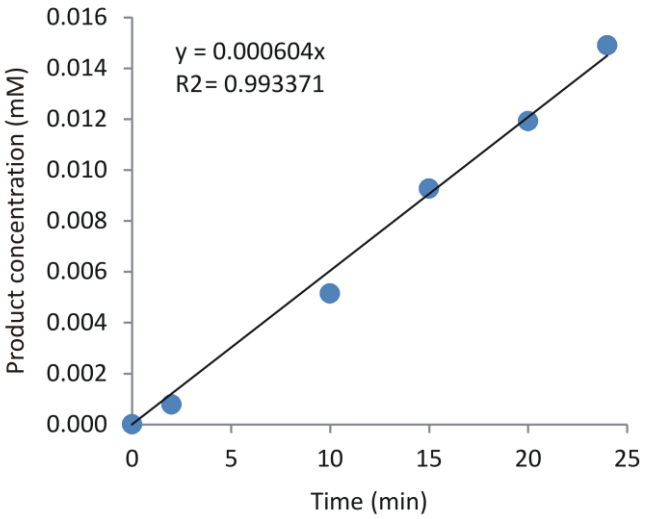

Figure S2. The formation of product in DhaA-catalysed hydrolysis of 1-iodohexane carried out at 37 °C in 95% (v/v) ethaline. Calculated specific activity was 4.4 nmol min^{-1} mg^{-1}, which corresponds to about 1 % of the DhaA activity in glycine buffer.

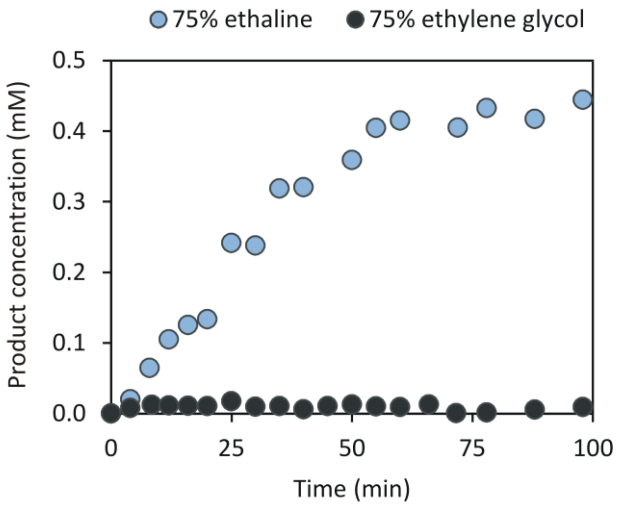

Figure S3. The formation of product in DhaA-catalysed hydrolysis of 1-iodohexane carried out at 37 °C in 75% (v/v) ethaline (blue dots) and 75% (v/v) ethylene glycol (black dots). Calculated volumetric productivity of DhaA in ethaline and ethylene glycol was 88 mg/L/h and 2 mg/L/h, respectively.

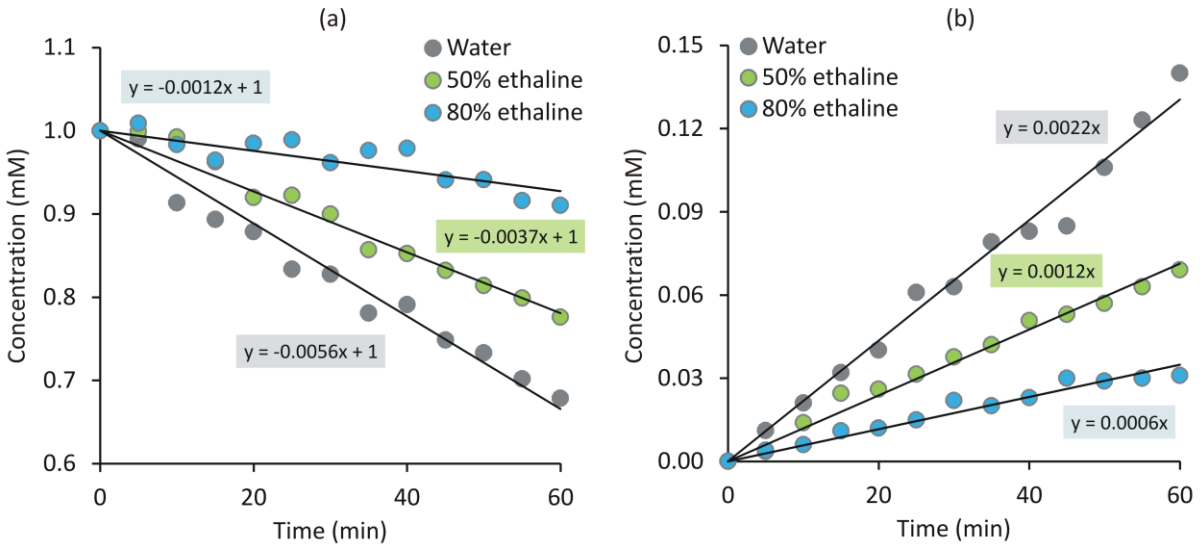

Figure S4. The depletion of the substrate 2-bromopentane caused by its evaporation and non-enzymatic hydrolysis (a), and the formation of 2-pentanol by non-enzymatic hydrolysis of 2-bromopentane (b), during 1-hour incubation at 37 °C in water and two concentrations of ethaline. The progress of each reaction was monitored by periodical withdrawing samples from the reaction mixture and analysis using a Hewlett-Packard 6890 gas chromatograph (Agilent) equipped with a flame ionization detector and a Chiraldex G-TA chiral capillary column (Alltech).