Supporting information

Kinetics of Methyl Green Fading in the Presence of TX-100, DTAB and SDS

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Table S1. Hughs-Ingold rules for solvent effects in nucleophilic substitution reactions

Reaction	Reactants	Transition state	Change in charge distribution	Effect of increasing solvent polarity	Size of effect
$S_N 2$	$Y^- + R - X$	$^{\delta-}YRX^{\delta-}$	Dispersed	Decrease	Small
$S_N 2$	Y + R - X	$^{\delta_{+}}YRX^{\delta_{-}}$	Increased	Increase	Large
$S_N 2$	$Y^- + R - X^+$	$^{\delta-}YRX^{\delta+}$	Decreased	Decrease	Large
$S_N 2$	$Y + R - X^+$	$^{\delta_{+}}YRX^{\delta_{+}}$	Dispersed	Decrease	Small
$S_N 1$	R–X	${}^{\delta_{+}}RX^{\delta_{-}}$	Increased	Increase	Large
S _N 1	$R-X^+$	$^{\delta_{+}}RX^{\delta_{+}}$	Dispersed	Decrease	Small

The electrophilic-nucleophilic combination reaction occurs in the reverse direction of S_N1 reaction of R-X