

Kinetics of the reversible reaction of CO₂(aq) and HCO₃⁻ with sarcosine salt in aqueous solution

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Table S1. Summary of the experimental conditions, including initial concentrations, for stopped-flow and ¹H NMR measurements

Facility	Reactions	Temperatur e (°C)	Concentrations of CO ₂ (aq), HCO ₃ ⁻ , HCl or OH ⁻ (mM)	Concentrations of SAR ⁻ , carbamate and bicarbonate (mM)
Stopped-flow reactor	CO ₂ (aq) + SAR ⁻	15	[CO ₂]=8.37,10.81,13.1	[SAR ⁻]=4,6,8,12,16
		25	[CO ₂]=8.2	[SAR ⁻]=3,4,6,8,12
		35	[CO ₂]=8.99	[SAR ⁻]=4,6,8,10,14
		45	[CO ₂]=7.34	[SAR ⁻]=3,4,6,8,12

Stopped-flow reactor	Carbamate decomposition at low pH	25	[HCl]=45,50,55	[Carbamate]=7.52 [SAR ⁻]= 17.48 [HCO ₃ ⁻]=42.48 (equilibrated concentration)	[SAR ⁻]= 25 [HCO ₃ ⁻]=50 (total concentration)	
		35	[HCl]=45,50,55	[Carbamate]=6.34 [SAR ⁻]=18.66 [HCO ₃ ⁻]=43.66 (equilibrated concentration)	[SAR ⁻]= 25 [HCO ₃ ⁻]=50 (total concentration)	
		45	[HCl]=45,50,55	[Carbamate]=5.90 [SAR ⁻]=19.10 [HCO ₃ ⁻]=44.10 (equilibrated concentration)	[SAR ⁻]= 25 [HCO ₃ ⁻]=50 (total concentration)	
¹ H NMR	HCO ₃ ⁻ + SAR ⁻	25	[HCO ₃ ⁻]=100	[SAR ⁻]=50 and [SAR ⁻]=50 , [OH ⁻]=40		
¹ H NMR	Carbamate decomposition at high pH	25	[OH ⁻]=150	[Carbamate]=17.0 [SAR ⁻]=33.0 [HCO ₃ ⁻]=133.0 (equilibrated concentration)	[SAR ⁻]= 50 [HCO ₃ ⁻]=150 (total concentration)	