

1 **Supplemental Materials**

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3 **Supplemental Table S1** Summary of data and outcomes of SIMPER analysis of pumice vs water
4 relative abundances. See <http://bit.ly/pumice2014>.

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9 **Supplemental Table S2.** Michaelis-Menten parameters obtained from nonlinear regression of data from
10 uptake nutrient kinetics experiments using microbe-colonized pumice, including the maximum uptake
11 rate (V_{\max}) and half-saturation constant ($K_{1/2}$) as well as statistical parameters.

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Nutrient	$K_{1/2}$ (μM)	p	A_{\max} ($\mu\text{moles g}^{-1} \text{ pumice d}^{-1}$)	p	Residual standard error (n)
PO_4	7.8	0.18	0.77	0.05	0.0015 (22)
NH_4	44.3	<0.002	4.94	<0.0001	0.0059 (22)
NO_3	2.74	0.07	0.70	<0.0001	0.0077 (22)

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