

# **Technical Note: Reactivity of C1 and C2 organohalogen formation – from plant litter to bacteria**

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**Table S1. The characteristics of seven selected bacteria**

Species	<i>Acinetobacter junii</i> (B1)	<i>Aeromonas hydrophila</i> (B2)	<i>Bacillus cereus</i> (B3)	<i>Bacillus subtilis</i> (B4)	<i>Escherichia coli</i> (B5)	<i>Shigella sonnei</i> (B6)	<i>Staphylococcus sciuri</i> (B7)
Group	Gram-negative	Gram-negative	Gram-positive	Gram-positive	Gram-negative	Gram-negative	Gram-positive
Morphology	Rod	Rod	Rod	Rod	Rod	Rod	Spherical
Metabolism	Aerobic	Facultative anaerobic	Facultative anaerobic	Facultative anaerobic	Facultative anaerobic	Facultative anaerobic	Facultative anaerobic
Size (µm)	0.9-1.6 × 1.5-2.5	0.3-1.0 × 1.0-3.5	Endospores	Endospores	1.1-1.5 × 2.0-6.0	0.7-1.0 × 1.0-3.0	0.5-1.5
Habitat	Soil, water, sewage, and food	Fresh and marine waters, warm-blood animals	Widely distributed in nature.	Widely distributed in nature, primary in soil	Colon of human and warm-blood animals	Soil, water	Human and warm-blood animals; natural waters

**Table S2. The linear regression between bacterial total organic carbon (TOC) and the bacterial count.**

Bacterial species	Relationship	n	R <sup>2</sup>
<i>Acinetobacter junii</i> (B1)	$y = 4.9351x - 37.377$	15	0.9970
<i>Aeromonas hydrophila</i> (B2)	$y = 5.0291x - 45.483$	15	0.9713
<i>Bacillus cereus</i> (B3)	$y = 2.3581x - 18.448$	15	0.9775
<i>Bacillus substilis</i> (B4)	$y = 5.2644x - 50.018$	15	0.9856
<i>Escherichia coli</i> (B5)	$y = 5.7935x - 52.225$	15	0.9954
<i>Shigella sonnei</i> (B6)	$y = 3.5049x - 31.618$	15	0.9493
<i>Staphylococcus sciuri</i> (B7)	$y = 2.2655x - 18.632$	15	0.9886

Note:  $y=TOC(mg)$ ,  $x=lg(D \times V)$ ; D: bacterial density (cfu/ml); V: volume (ml)

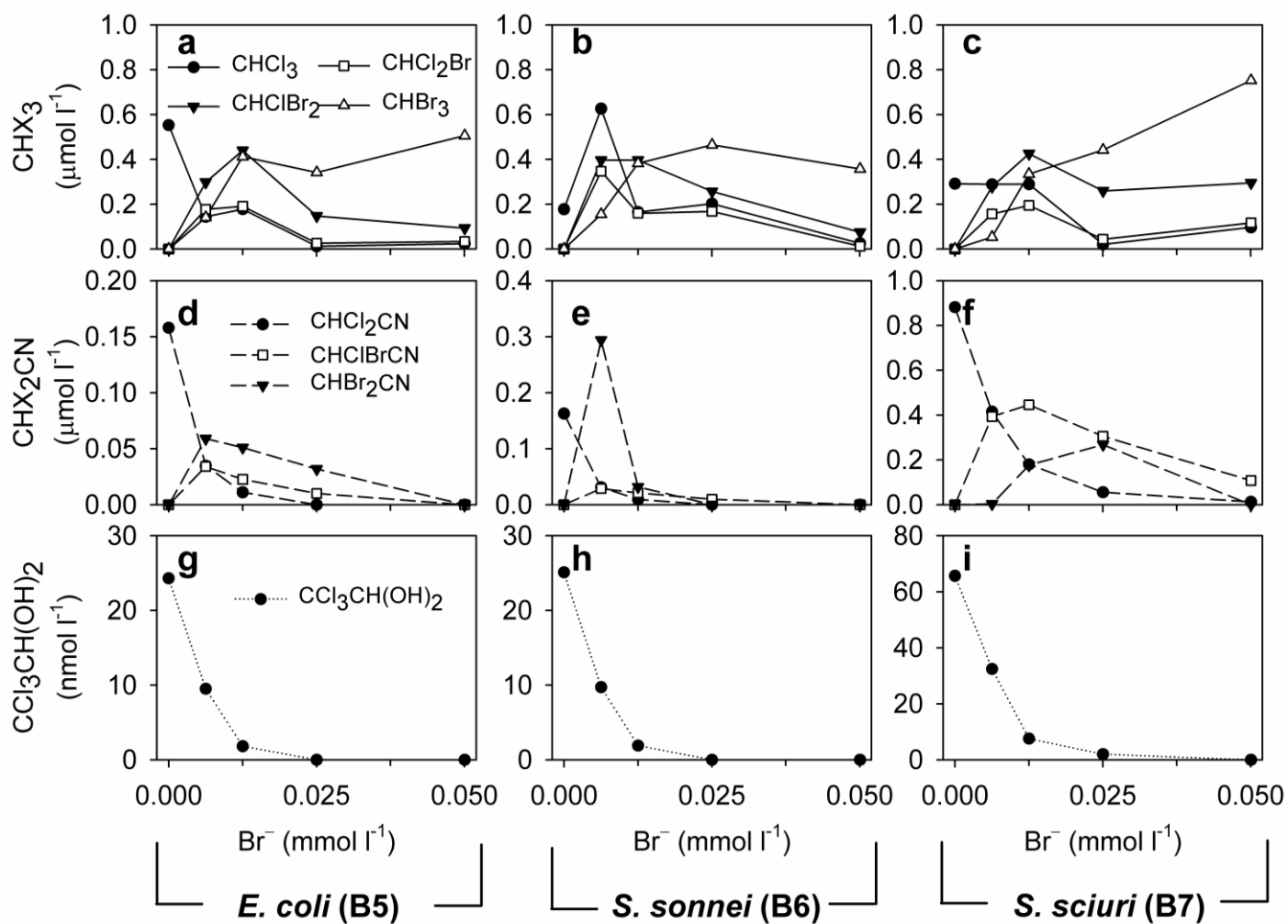
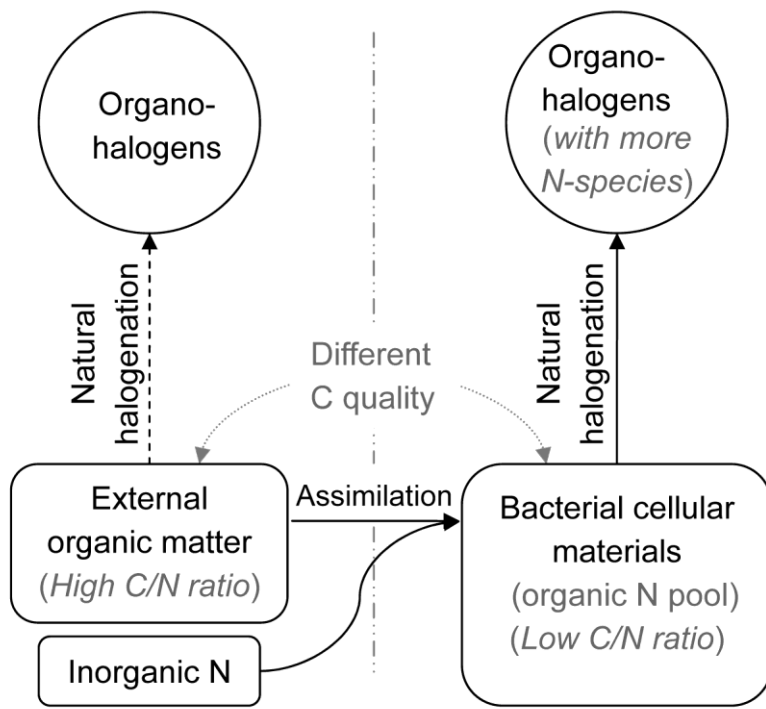


Figure S1 Effects of bromide (at 0, 6.25, 12.5, 25, and 50  $\mu\text{mol l}^{-1}$  from KBr) on organohalogen formation from bacteria B5: *Escherichia coli*; B6: *Shigella sonnei*; and B7: *Staphylococcus sciuri*.



**Figure S2. Conceptual model for the impact of bacterial activity on C and N cycling during halogenation.**