

**Table S3** Copy no. of gene(s) determined by qPCR in soil metagenomes

Copy no.	16S rRNA	<i>cbbL</i>	<i>cbbM</i>	<i>apsA</i>	<i>soxB</i>
SS1	$(2.8 \pm 0.25) \times 10^9$	$(2.33 \pm 0.038) \times 10^7$	$(4.00 \pm 0.10) \times 10^6$	$(7.0 \pm 0.008) \times 10^7$	$(7.07 \pm 0.09) \times 10^7$
SS2	$(2.62 \pm 0.04) \times 10^9$	$(5.0 \pm 0.09) \times 10^7$	$(6.67 \pm 0.08) \times 10^5$	$(7.3 \pm 0.002) \times 10^6$	$(6.66 \pm 0.15) \times 10^6$
AS	$(6.37 \pm 0.07) \times 10^9$	$(7.33 \pm 0.08) \times 10^8$	$(2.0 \pm 0.19) \times 10^5$	$(3.0 \pm 0.013) \times 10^7$	$(7.00 \pm 0.045) \times 10^7$
RS	$(7.82 \pm 0.20) \times 10^9$	$(3.6 \pm 0.15) \times 10^8$	$(1.67 \pm 0.09) \times 10^5$	ND	ND