**Supplementary information**

**Quorum sensing signals alter in vitro soil virus abundance and bacterial community composition**

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**Figure S1.** Experimental procedure.

A close up of a map

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**Figure S2.** The molecular structure of quorum-sensing N-Acyl homoserine lactones (AHL1–8) and mitomycin C (MIT).

A screenshot of a cell phone

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**Fig. S3** Class-level differences of the bacterial community composition between each induction assay of N-(Butyryl, Hexanoyl, β-Ketocaproyl, Heptanoyl, Octanoyl, 3-Oxododecanoyl, Tetradecanoyl, and 3-Oxotetradecanoyl) homoserine lactones (shown as AHL1–8, respectively) and the control cell suspensions. Only statistically significant differences (*P* < 0.01) are shown. The direction of bars represents decrease (left) or increase (right) in the relative abundance of the specific bacterial taxonomic groups after the induction assays.

A screenshot of a cell phone

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**Fig. S4** Systematic differences of the bacterial taxonomic composition between induction assay of mitomycin C and the control samples at Class levels. Only statistically significant differences (*P* < 0.01) are shown. The direction of bars represents decreases (left) or increases (right) in relative abundance of the specific bacterial taxonomic groups after the induction assays.