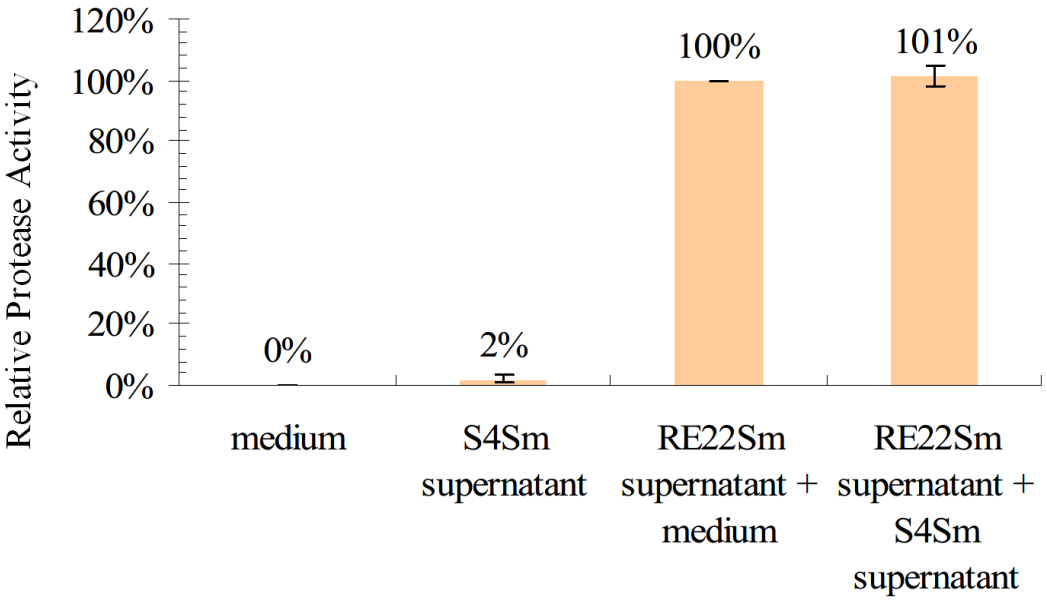


Figure S1. Direct protease inhibitor detection in *P. inhibens* S4 supernatant. Determination of protease activities from different bacterial cell supernatant or supernatant mixtures by measuring OD442 of azopeptide from azocasein degradation caused by protease activity. The data presented are representative of two independent experiments. Each value is the average for three replicates. Error bars represent one standard deviation.

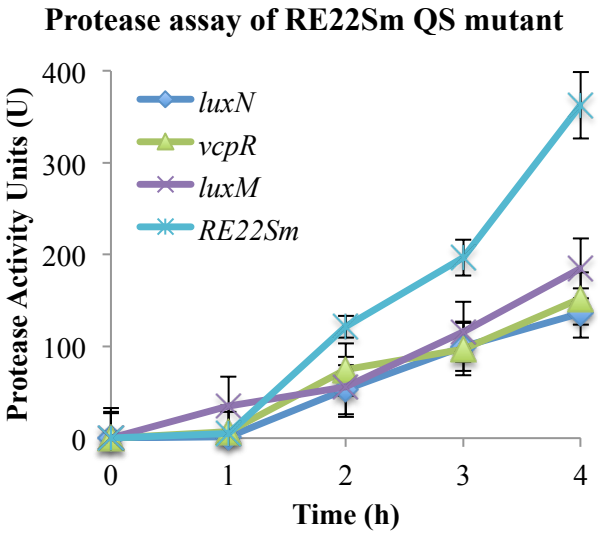


Figure S2. Protease activity of *V. coralliilyticus* quorum-sensing mutants. Wild type *V. coralliilyticus* RE22Sm and deletion mutants of *luxM*, *luxN*, and *vcpR* were grown overnight in mYP30, washed and resuspended in fresh mYP30 at 1×10^9 CFU/ml, and then incubated at 27°C for 4 h. Samples taken at 0, 1, 2, 3, and 4 h were assayed for protease activity and the cell density determined by dilution and spot plating. All sample values are the average of three biological replicates with each done in triplicate. Error bars represent one standard deviation.

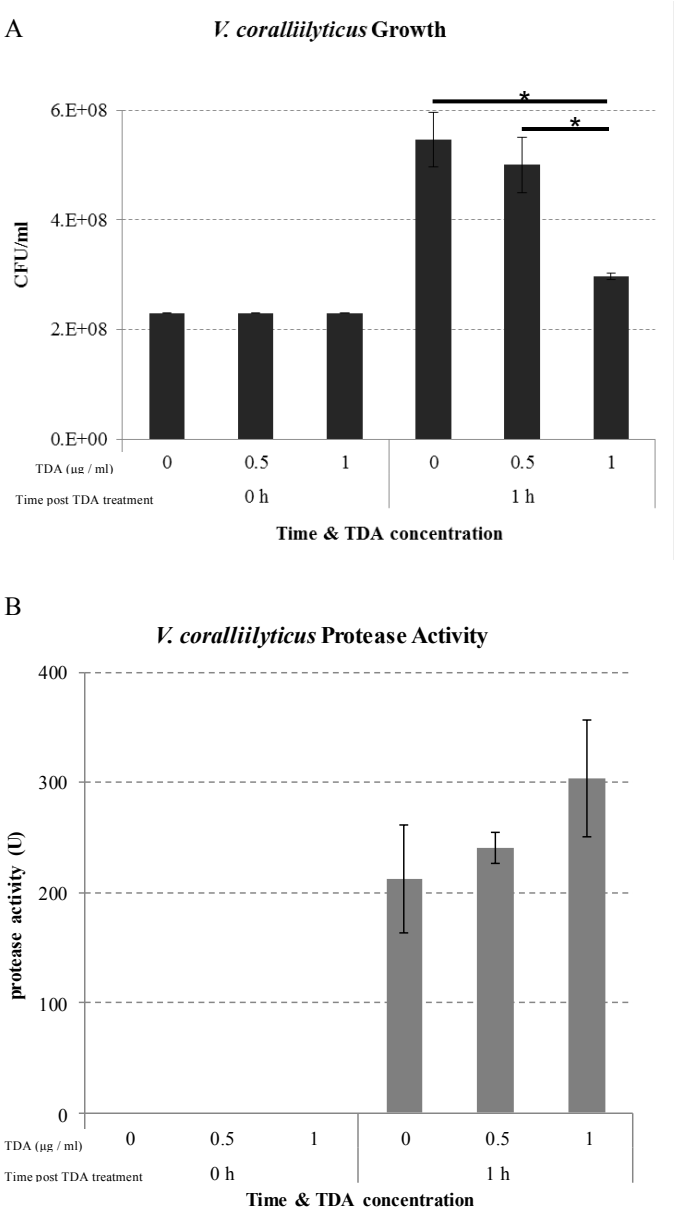


Figure S3. Effects of TDA (0.5 µg/ml or 1.0 µg/ml) upon growth and protease activity of *V. coralliilyticus* RE22Sm. A) Growth of *V. coralliilyticus* RE22Sm cells treated with TDA or fresh YP30 medium (control). B**)** Determination of protease activities of *V. coralliilyticus* RE22Sm strain treated with TDA or fresh YP30 medium (control) by measuring OD442 of azopeptide from azocasein degradation caused by protease activity. The data presented are average of two independent experiments and each independent experiment has three replicates. Error bars represent one standard deviation.

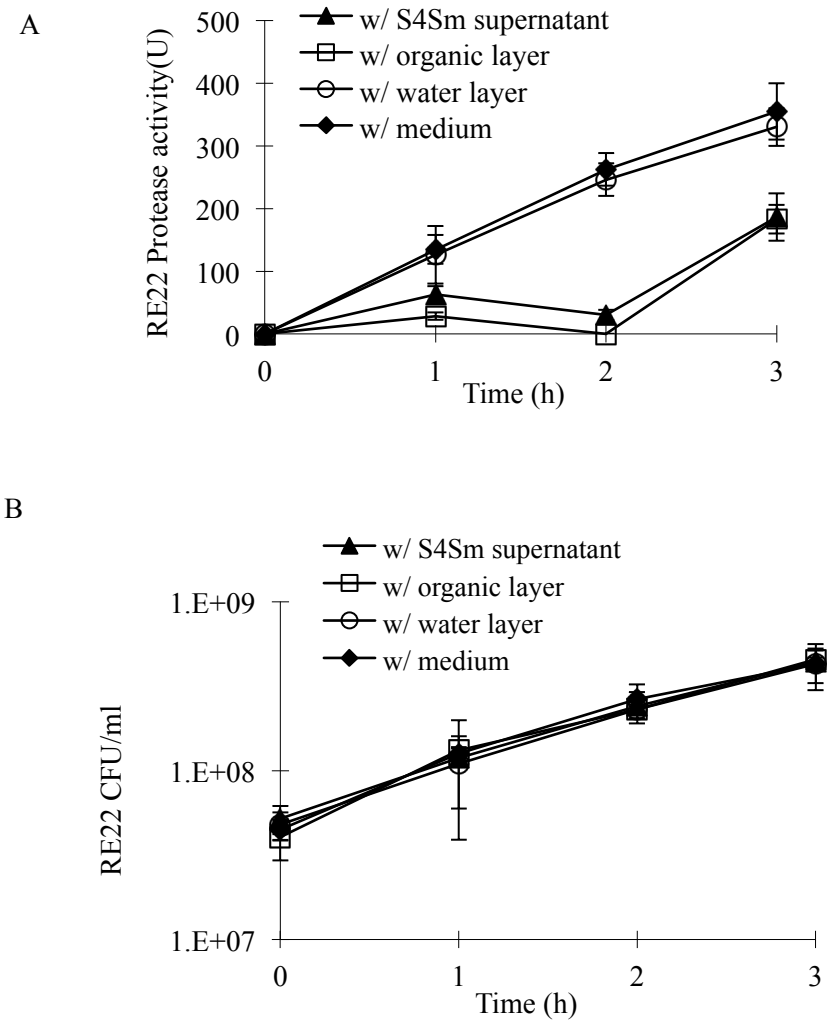
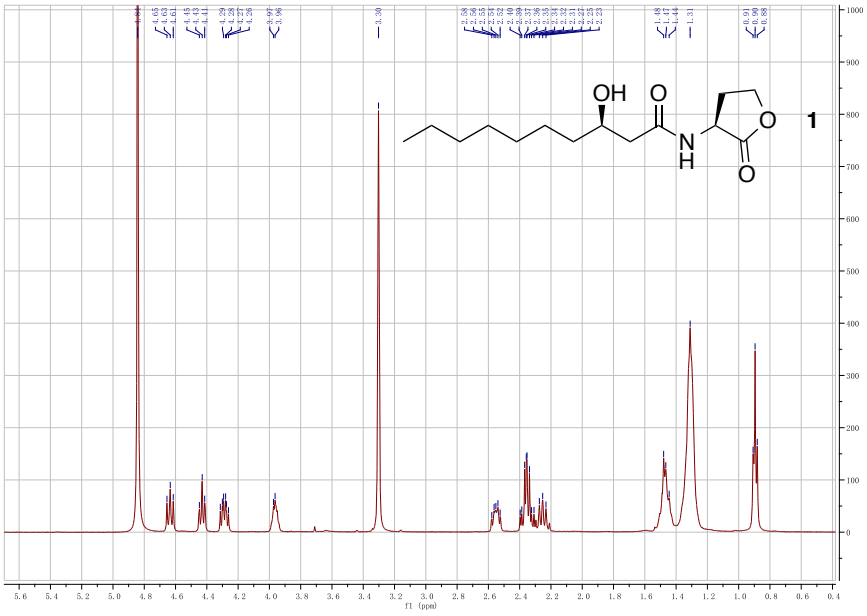
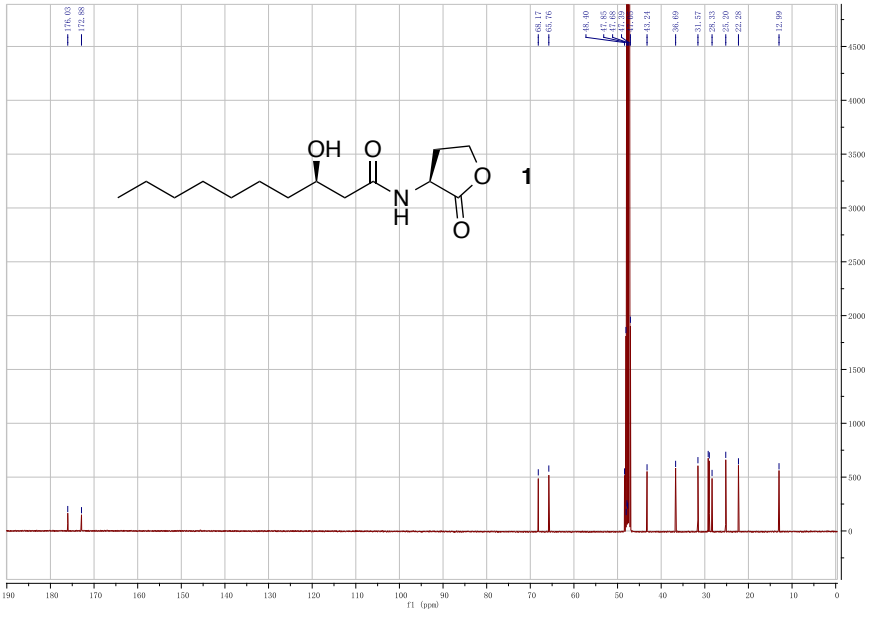


Figure S4. Effects of different fractions of *P. inhibens* S4Sm supernatant upon protease activity and growth of *V. coralliilyticus* RE22Sm. A) Determination of protease activities of *V. coralliilyticus* RE22Sm treated with S4Sm supernatant or fresh YP30 medium (control) by measuring OD_{442} of azopeptide from azocasein degradation caused by protease activity. B**)** Growth of *V. coralliilyticus* RE22Sm cells treated with S4Sm supernatant or fresh YP30 medium (control). The data presented are average of two independent experiments and each independent experiment has three replicates. Error bars represent one standard deviation.

A.



B.



C.

D.

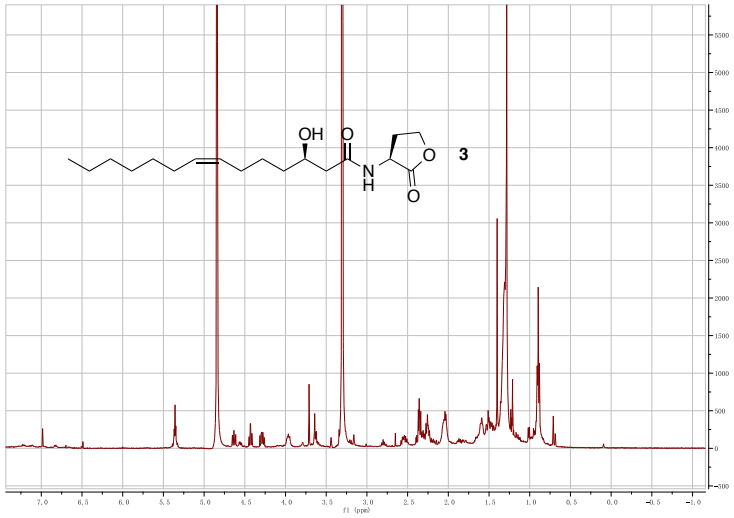
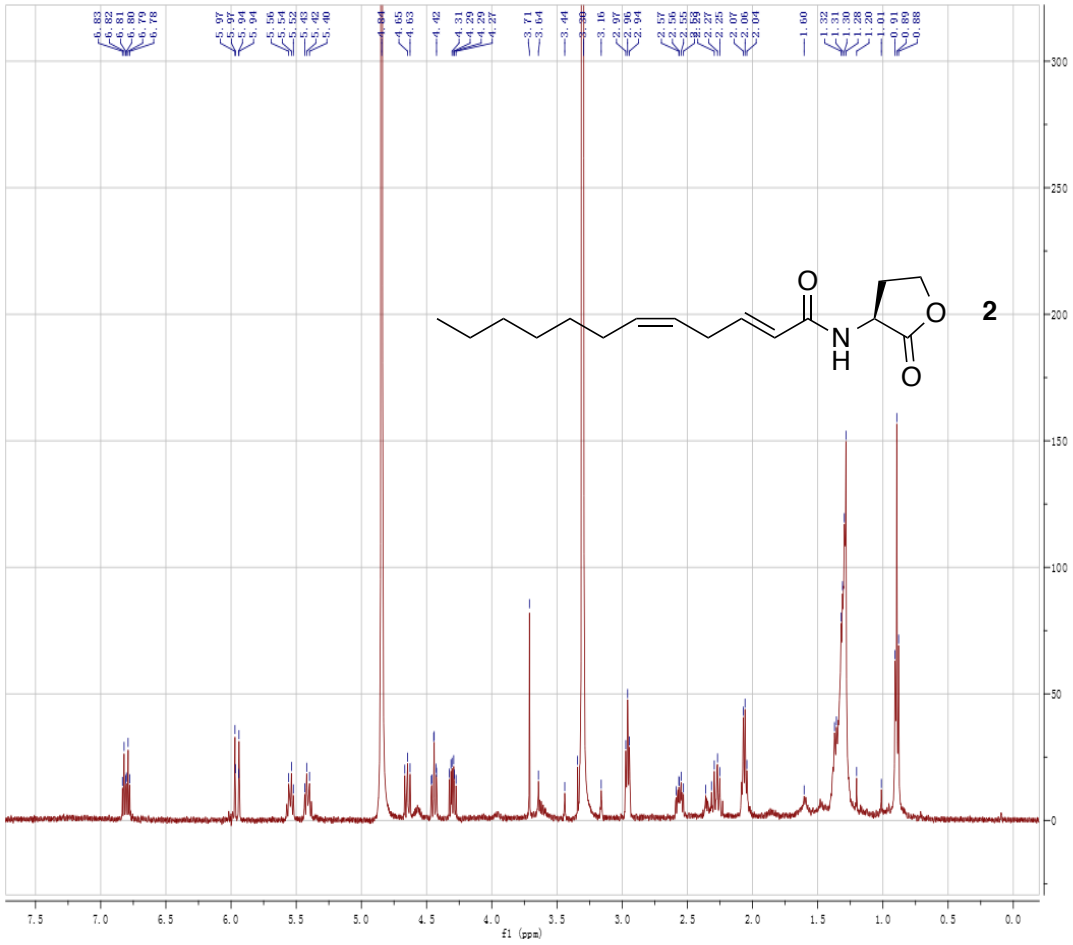
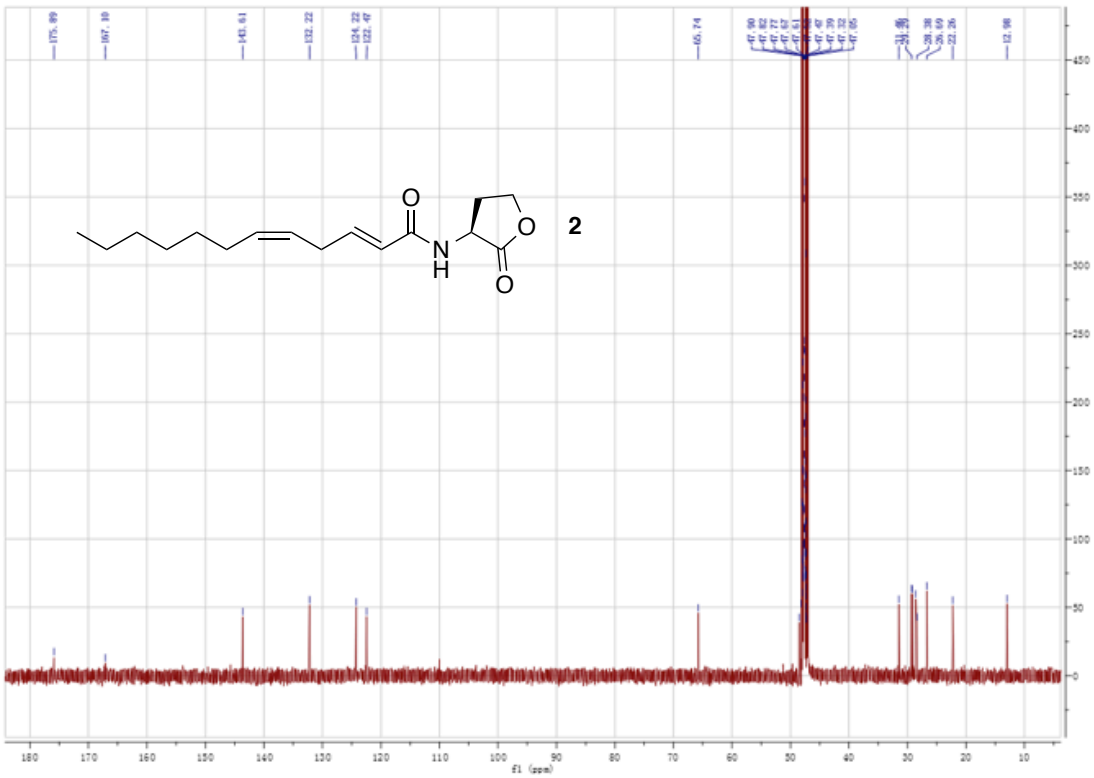


Figure S5A. ^{1}H NMR spectrum of compound **1**. **S5B.** ^{13}C NMR spectrum of compound **1**. **S5C**. ^{13}C NMR spectrum of compound **3**. **S5D.** ^{1}H NMR spectrum of compound **3.** All spectra recorded on a Varian 500 MHz NMR spectrometer (Agilent) in CD_3OD.

A.


6.83
6.82
6.81
6.80
6.79
6.78
5.97
5.97
5.94
5.94
5.56
5.54
5.52
5.43
5.42
5.40
4.64
4.65
4.63
4.42
4.31
4.29
4.29
4.27
3.71
3.64
3.44
3.39
3.16
2.97
2.96
2.94
2.57
2.56
2.55
2.53
2.27
2.25
2.07
2.06
2.04
1.60
1.32
1.31
1.30
1.28
1.20
1.01
0.91
0.89
0.88
O
N
H
O
O
2
f1 (ppm)

B.


175.89
167.10
145.61
132.22
124.22
122.47
65.74
47.90
47.82
47.77
47.67
47.61
47.47
47.39
47.32
47.05
34.83
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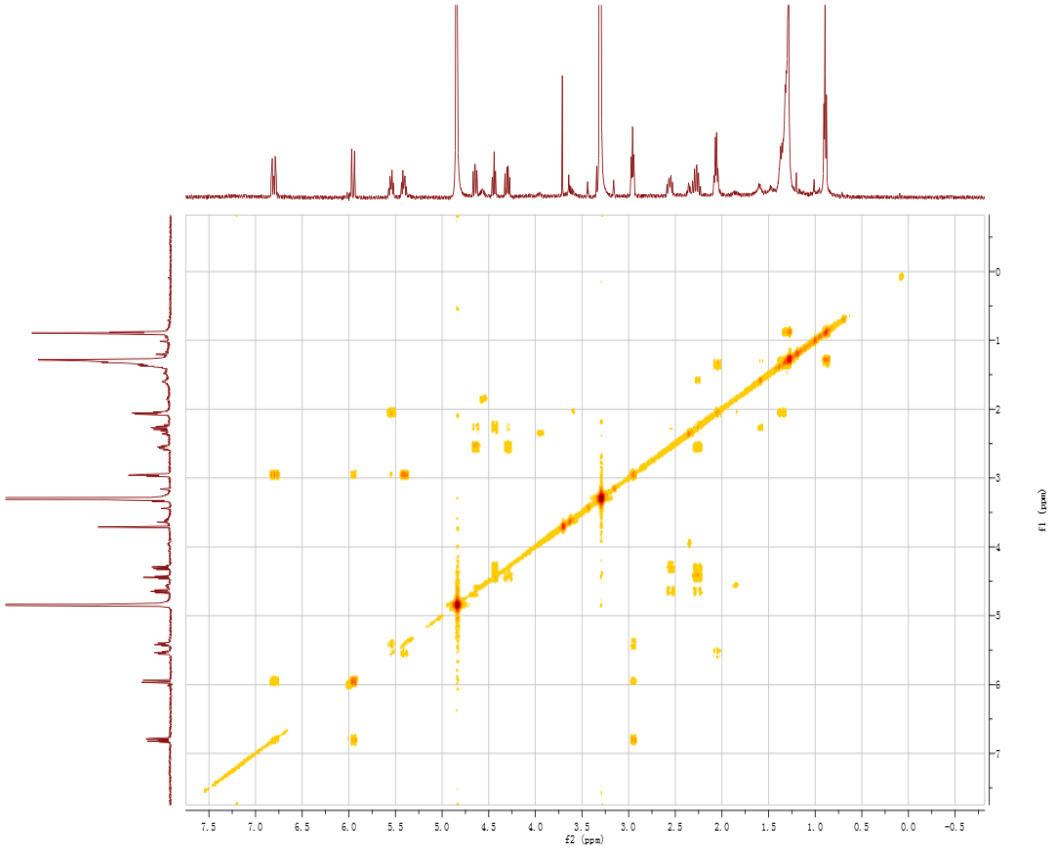
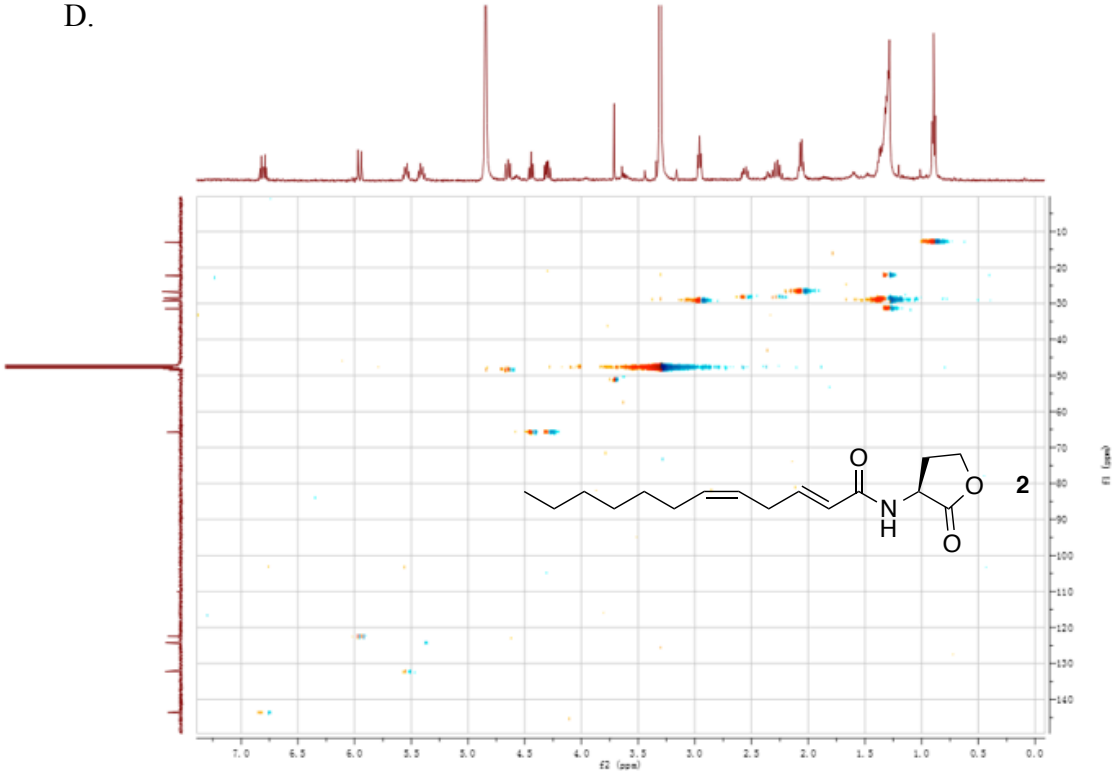
25.69
22.26
12.98
O
N
H
O
O
2
f1 (ppm)

C.


7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5
f2 (ppm)
f1 (ppm)

D.


O
N
H
O
O
2
7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f2 (ppm)
f1 (ppm)

E.

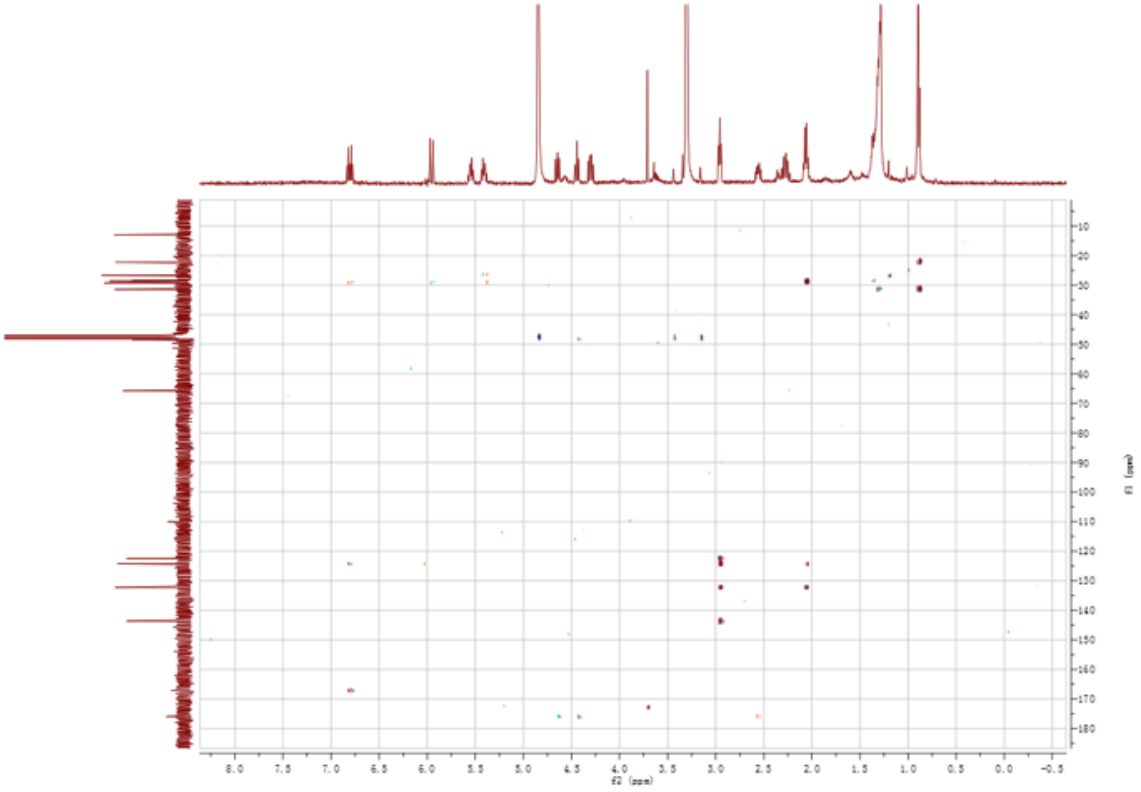


Figure S6. NMR spectra of compound **2. S6A**. ^{1}H NMR spectrum. **S6B.** ^{13}C NMR spectrum. **S6C.** gCOSY NMR spectrum. **S6D.** gHSQC NMR spectrum. **S6E.** gHMBC NMR spectrum. All spectra recorded on a Varian 500 MHz NMR spectrometer (Agilent) in CD_3OD.

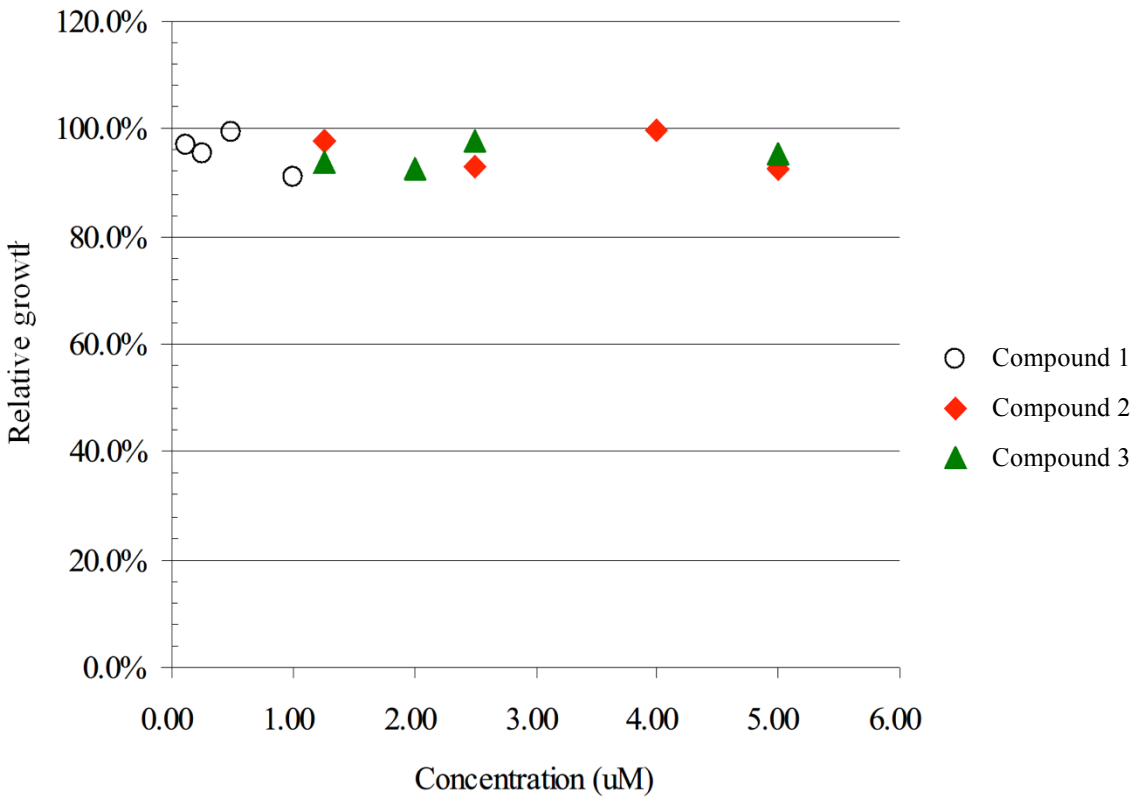


Figure S7. Effects of *P. inhibens* AHLs upon growth of *V. coralliilyticus* RE22Sm. A series of different concentrations of each AHL were used to treat *V. coralliilyticus* RE22Sm and cell density (OD600) was measured. The relative growth of RE22 compared to the control (medium containing only 0.4% methanol (final concentration) was used as a control) was calculated.

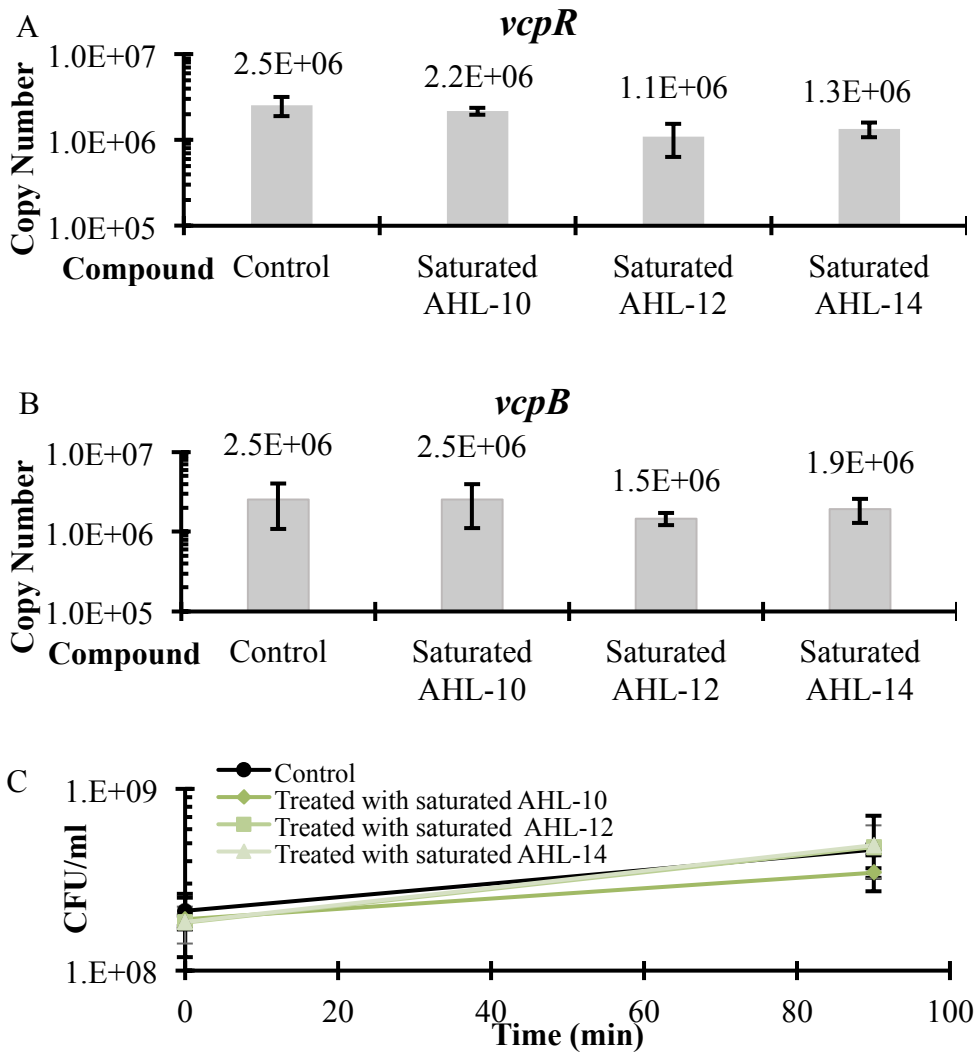


Figure S8. Effects of single AHL treatment upon transcription of *vcpB* and *vcpR* and growth of *V. coralliilyticus* RE22Sm. Expression of A) *vcpR*, and B) *vcpB*, determined by qRT-PCR analysis of *V. coralliilyticus* RE22Sm treated for 90 min with commercially available AHLs N-decanoyl-DL-homoserine lactone, N-dodecanoyl-DL-homoserine lactone or N-tetradecanoyl-DL-homoserine lactone at a concentration of 0.26 µM, 3.7 µM, and 2.9 µM respectively during late logarithmic phase growth (~10^8 CFU/ ml). Each value is the average for six replicates. C) Growth of RE22Sm cells treated by commercially available AHLs or methanol (control). The data presented are average of two independent experiments and each independent experiment has three replicates. Error bars represent one standard deviation.

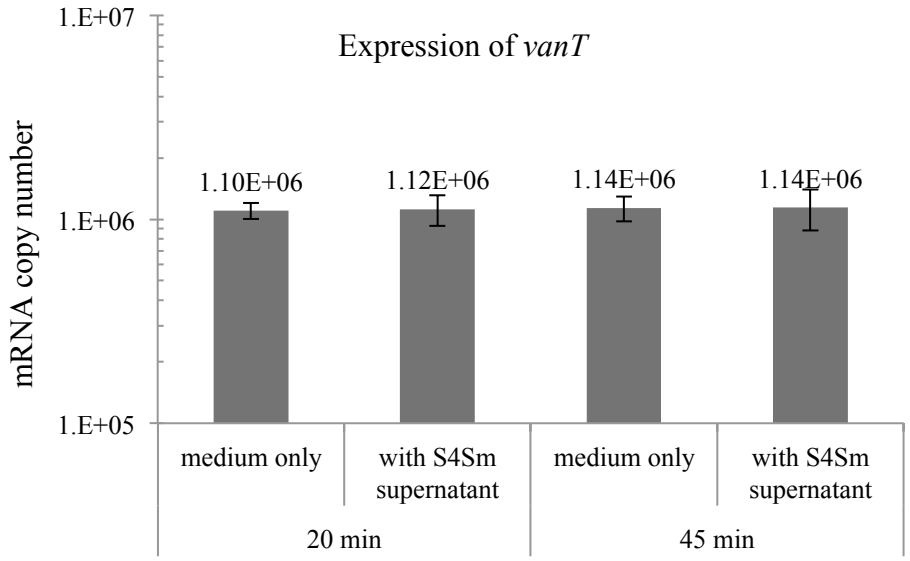


Figure S9. Effects of supernatant of *P. inhibens* S4Sm upon transcription of *vanT* in *V. anguillarum* M93Sm. Expression of *vanT* determined by qRT-PCR analysis of *V. anguillarum* M93Sm during late logarithmic phase growth under *P. inhibens* supernatant treatment. The data presented are representative of two independent experiments. Each value is the average for three replicates. Error bars represent one standard deviation.