

# Supplementary Information

## Antimicrobial Activity of Hydroxylactone obtained by Biotransformation of Bromo- and Iodolactone with Gem-Dimethylcyclohexane Ring

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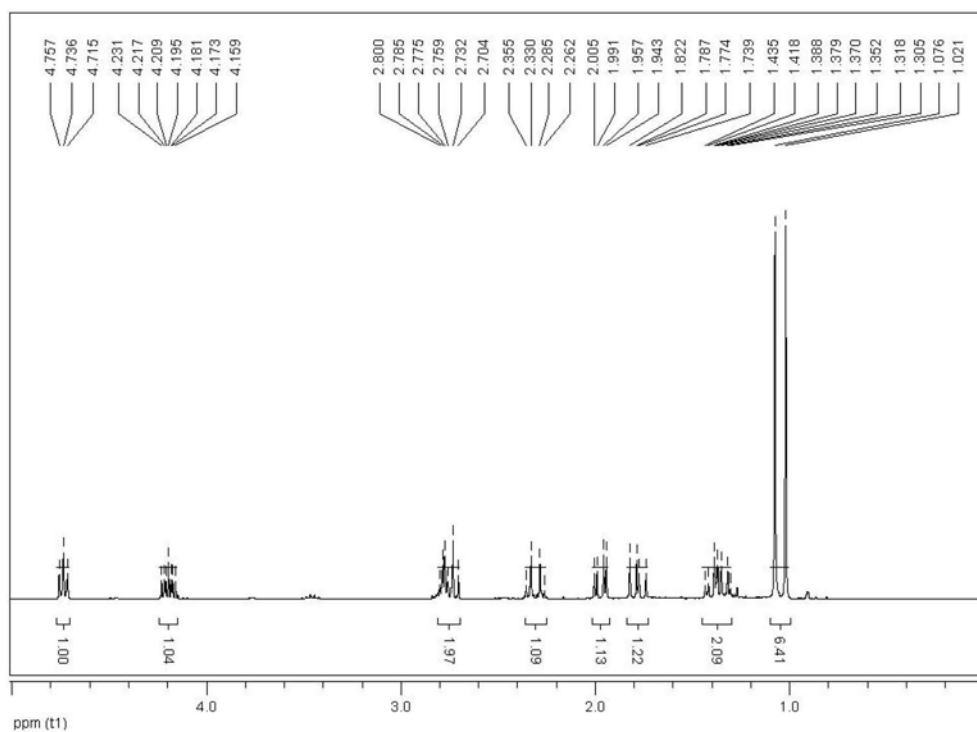
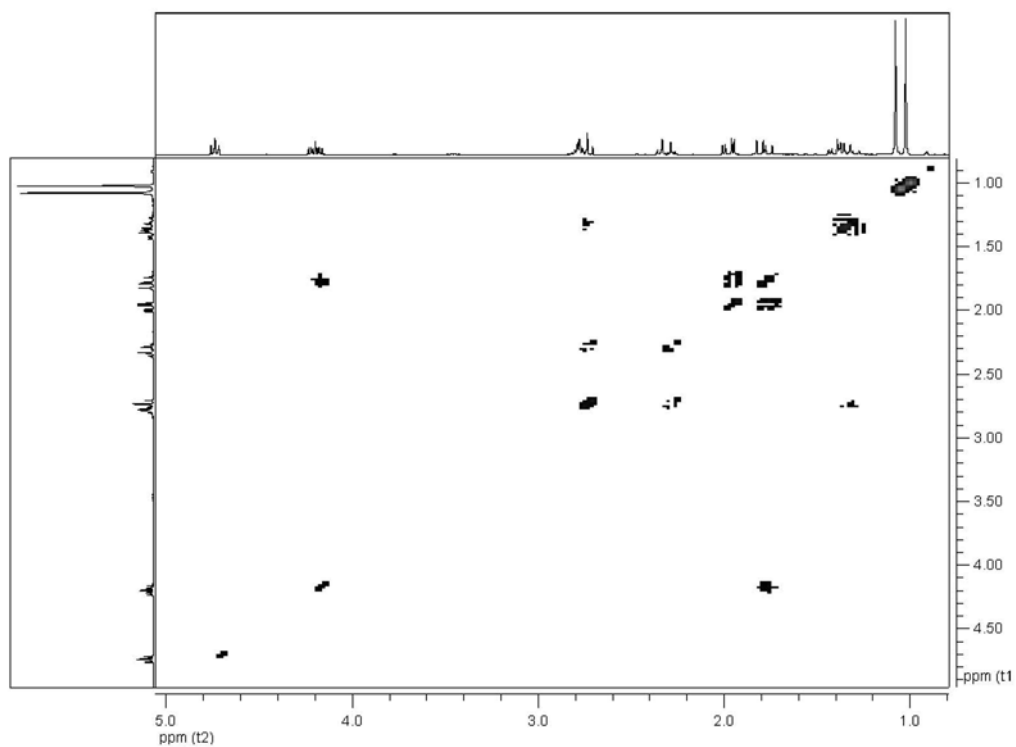
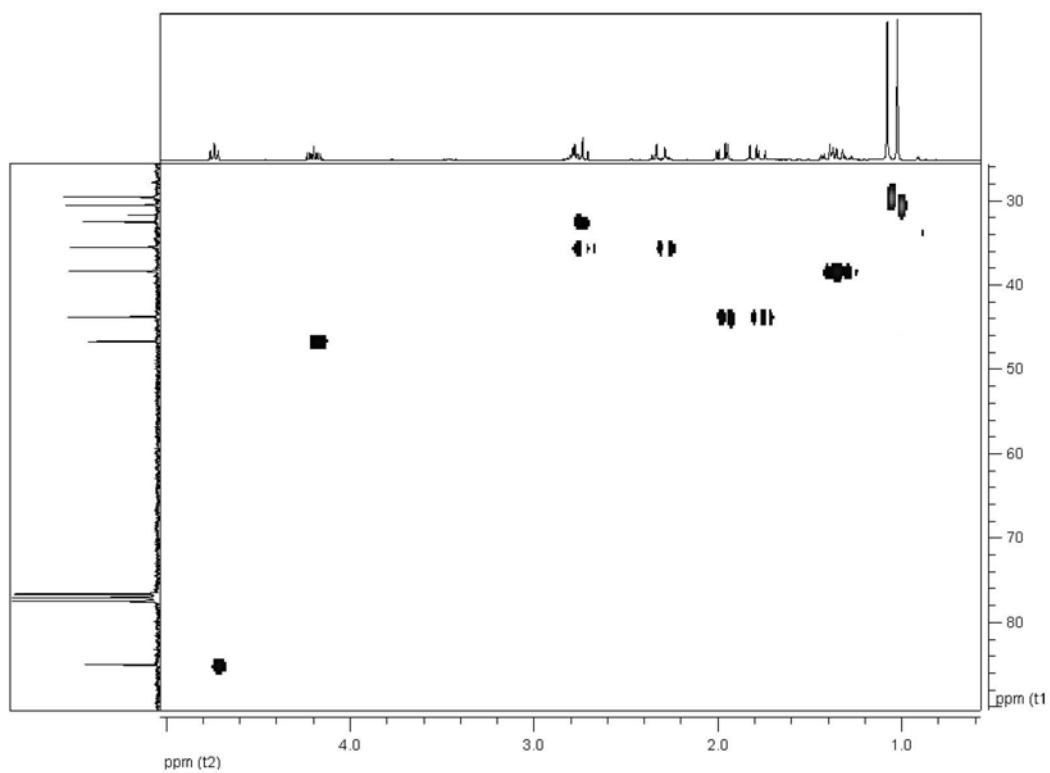


Figure S1. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of bromolactone **2**.

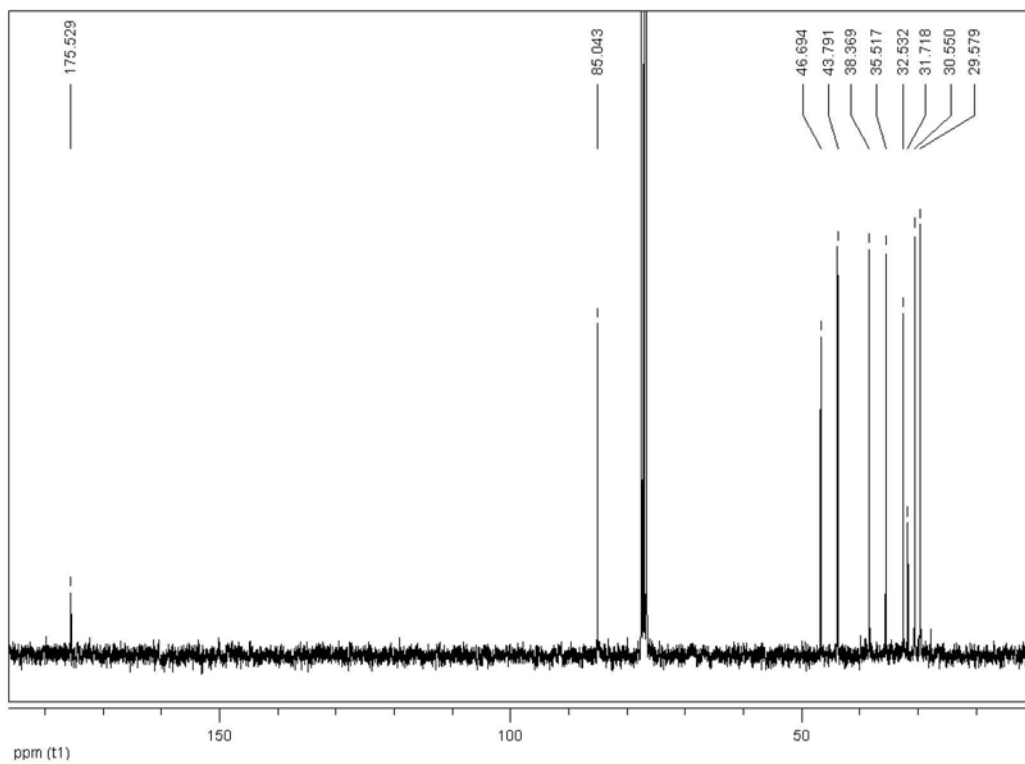
\*e-mail: magrab@onet.pl



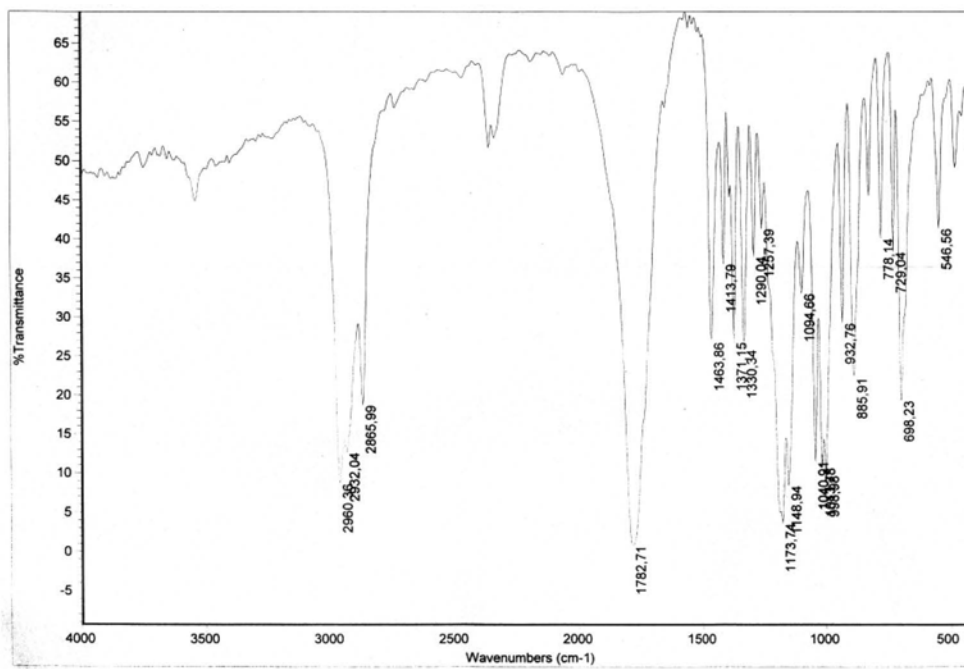
**Figure S2.** COSY (300 MHz,  $\text{CDCl}_3$ ) spectrum of bromolactone **2**.



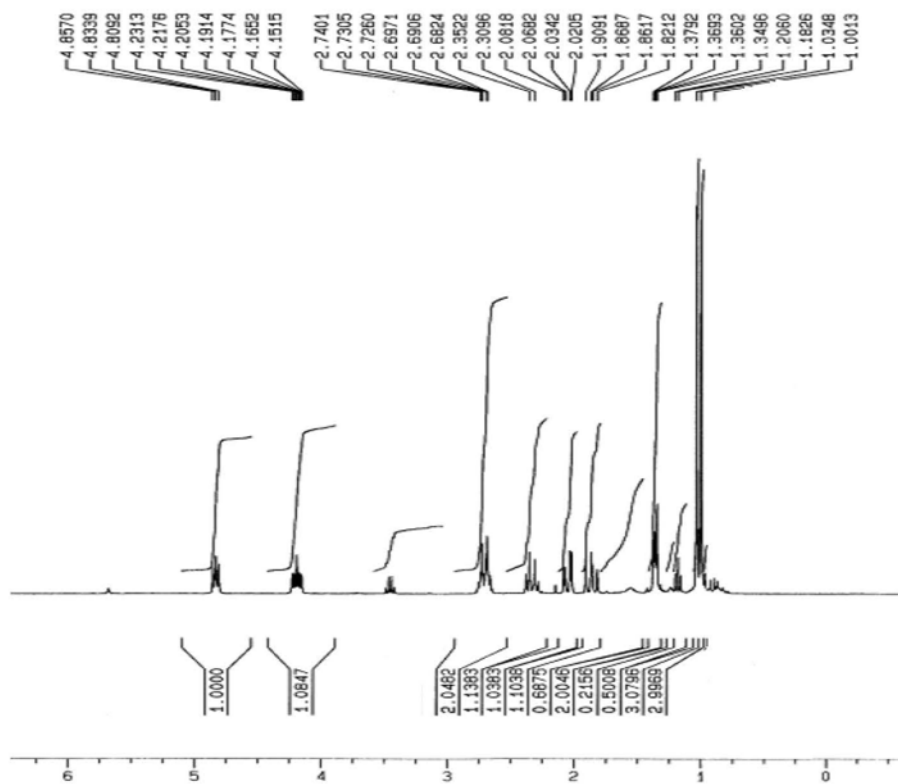
**Figure S3.** HMQC (300 MHz,  $\text{CDCl}_3$ ) spectrum of bromolactone **2**.



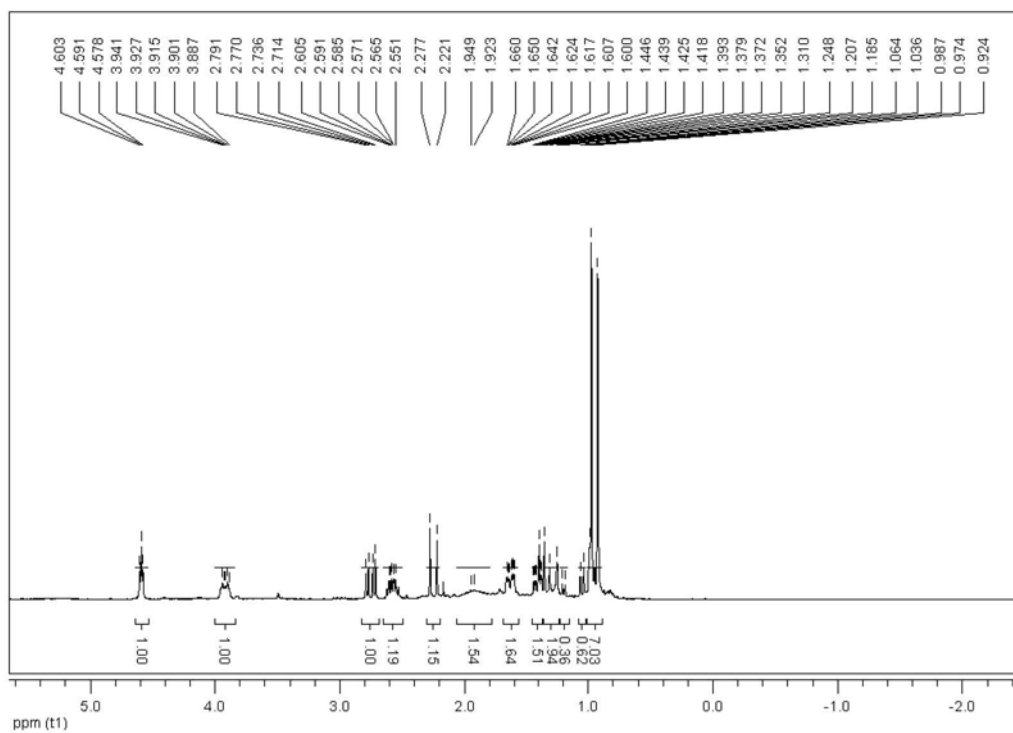
**Figure S4.**  $^{13}\text{C}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of bromolactone 2.



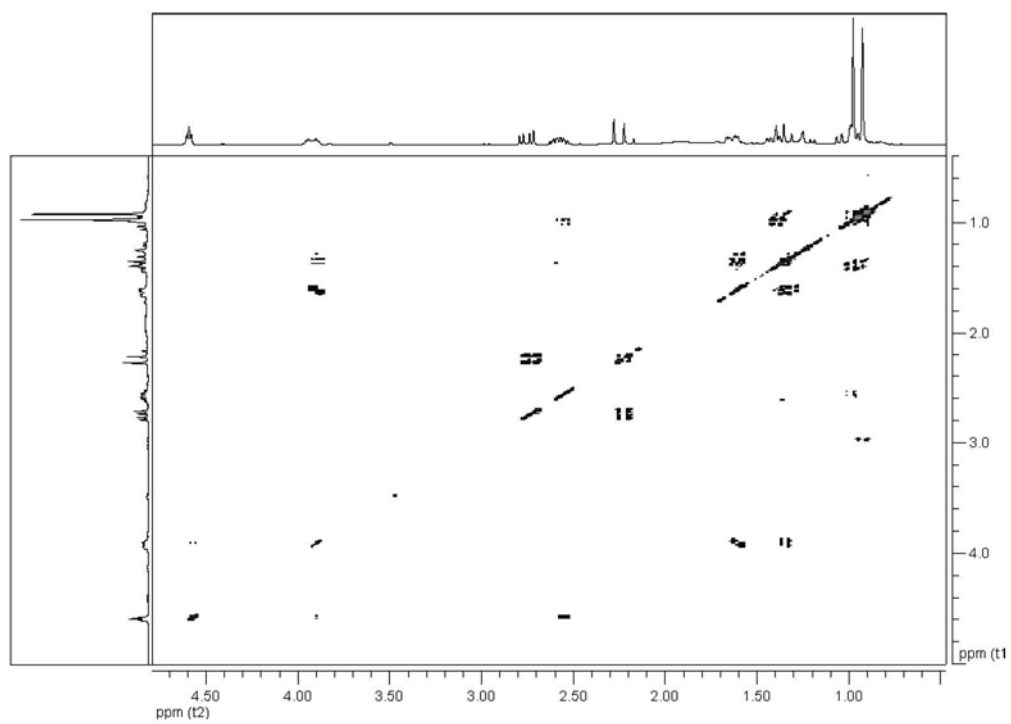
**Figure S5.** IR Spectrum of bromolactone 2.



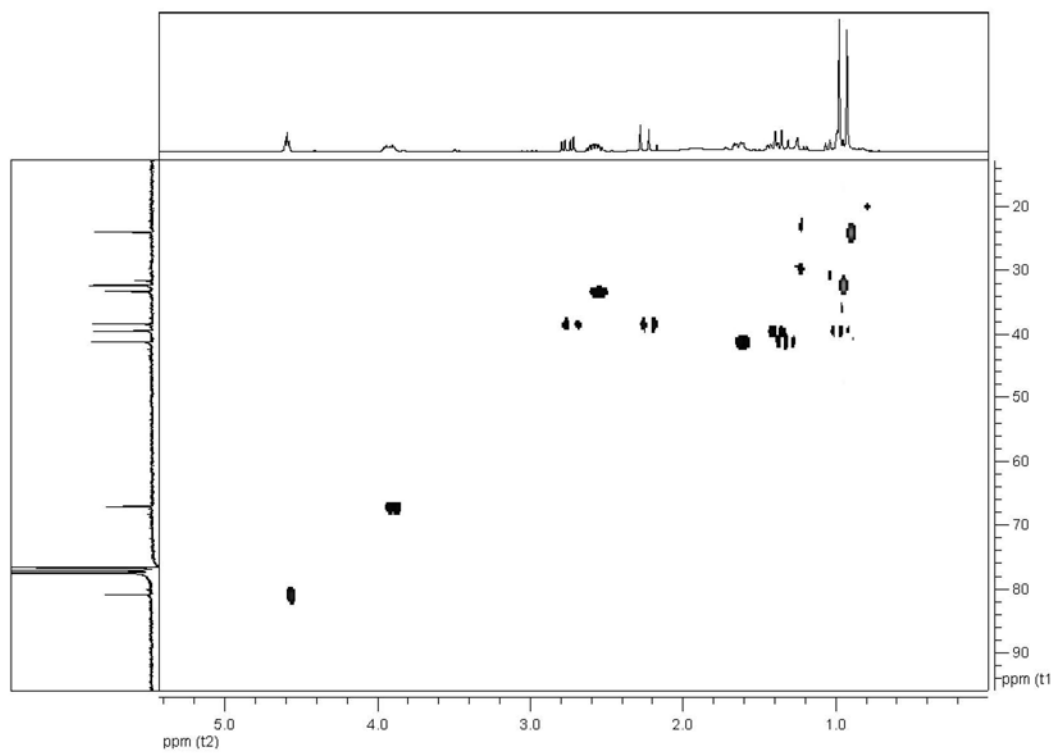
**Figure S6.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of iodolactone **3**.



**Figure S7.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of hydroxylactone **4**.



**Figure S8.** COSY (300 MHz, CDCl<sub>3</sub>) spectrum of hydroxylactone 4.



**Figure S9.** HMQC (300 MHz, CDCl<sub>3</sub>) spectrum of hydroxylactone 4.

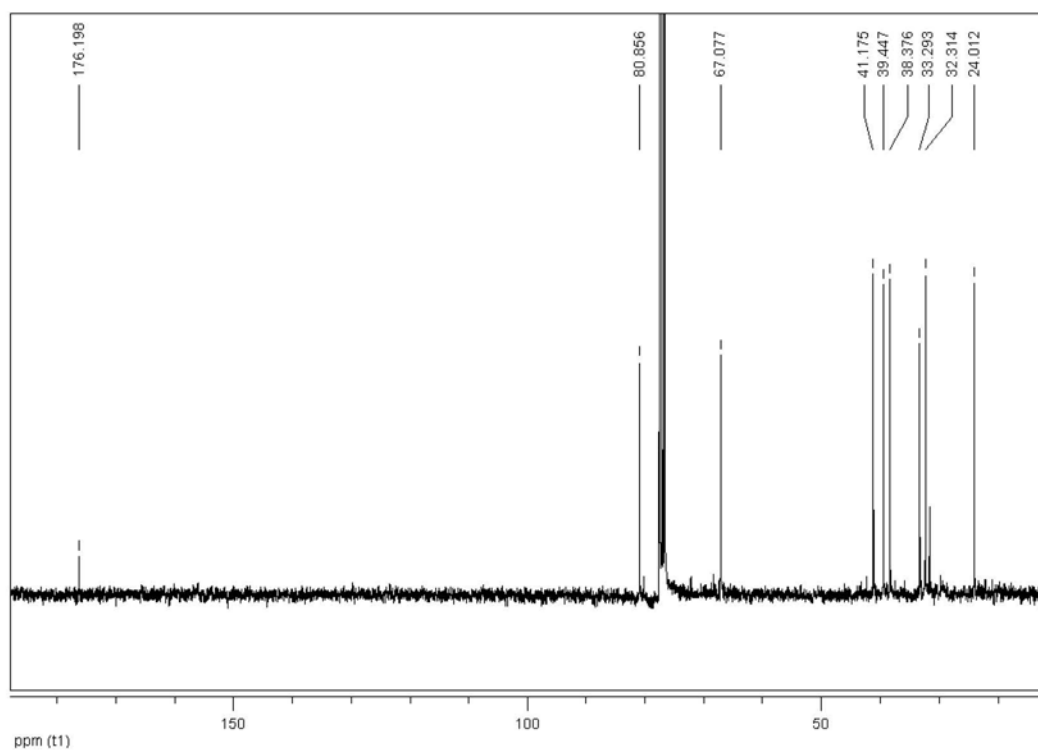


Figure S10.  $^{13}\text{C}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of hydroxylactone 4.

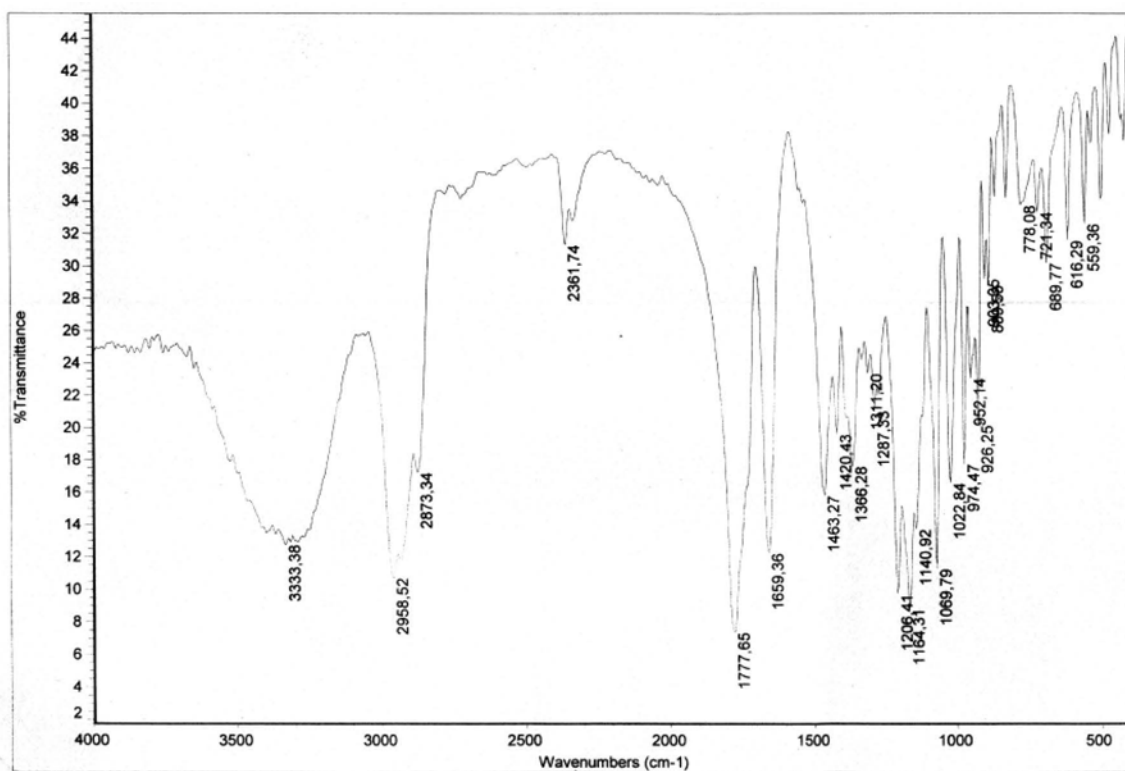


Figure S11. IR Spectrum of hydroxylactone 4.

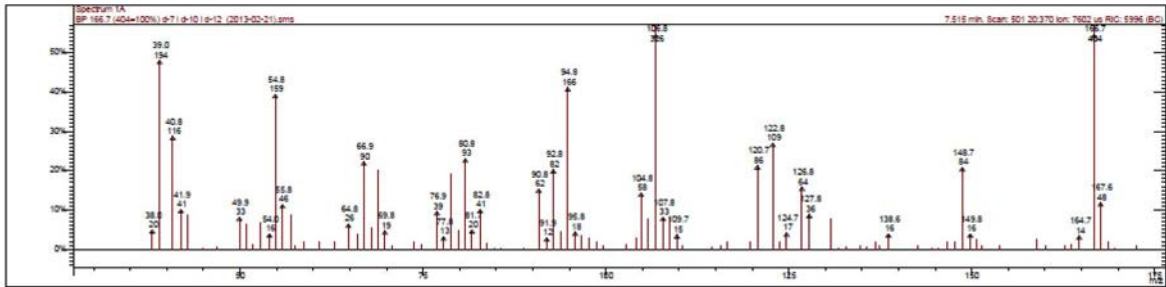


Figure S12. GC-MS spectrum of bromolactone 2.

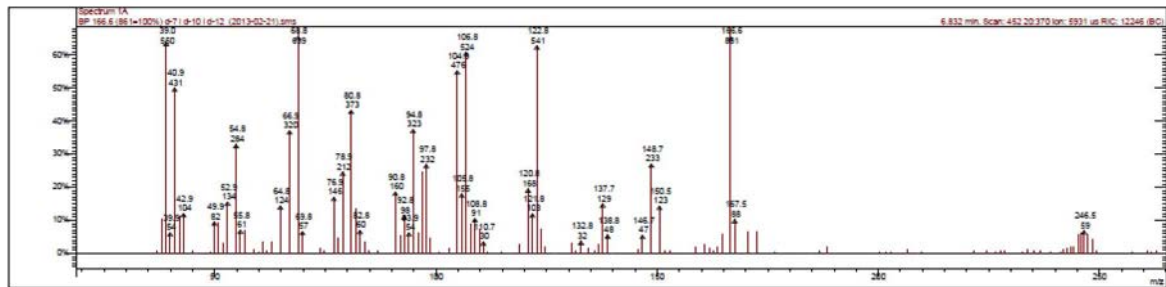


Figure S13. GC-MS spectrum of iodolactone 3.

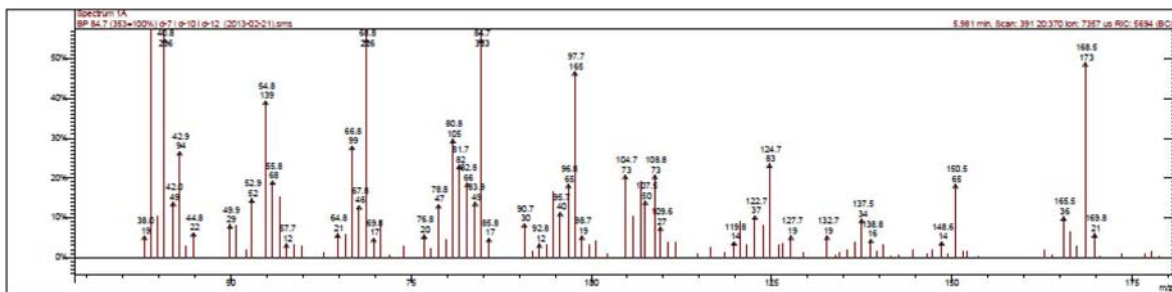


Figure S14. GC-MS spectrum of hydroxylactone 4.

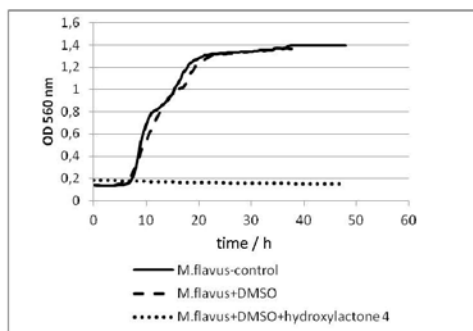


Figure S15. Effect of hydroxylactone 4 on the growth of *M. flavus* C-1.

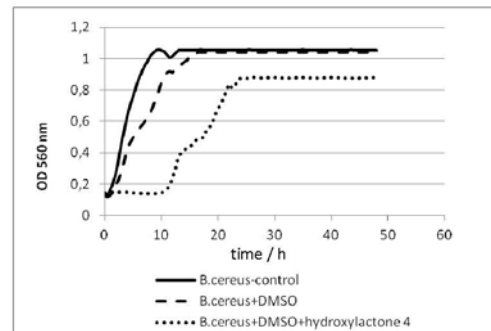
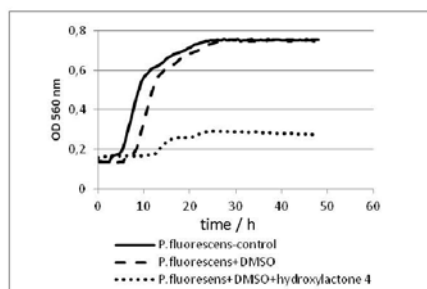
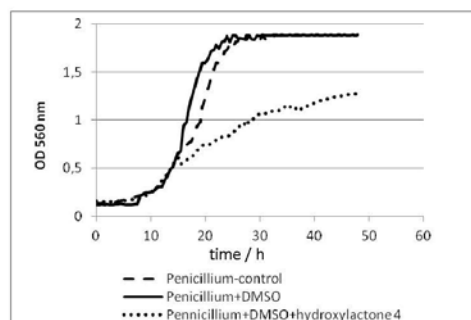


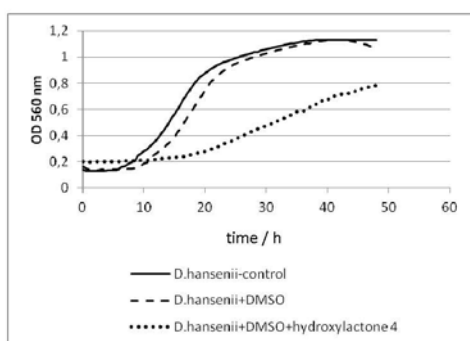
Figure S16. Effect of hydroxylactone 4 on the growth of *B. cereus* C-2.



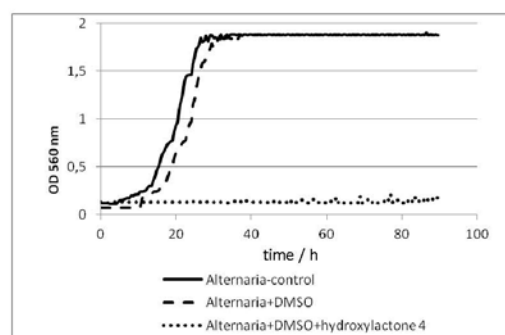
**Figure S17.** Effect of hydroxylactone **4** on the growth of *P. fluorescens* W-1.



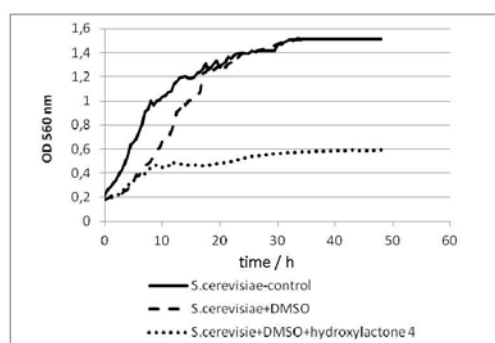
**Figure S20.** Effect of hydroxylactone **4** on the growth of *Penicillium* sp.



**Figure S18.** Effect of hydroxylactone **4** on the growth of *D. hansenii* K12a.



**Figure S21.** Effect of hydroxylactone **4** on the growth of *Alternaria* sp.



**Figure S19.** Effect of hydroxylactone **4** on the growth of *S. cerevisiae* SV-30.