Supplementary Information

Figure S1. Ethyl acetate extract of media supernatant after different time of cultivation: (**a**) 1 day; (**b**) 2 days; (**c**) 3 days; (**d**) 4 days. Retention times for butenolides **1**–**4**: **1a** and **1b** = 9.04 min; **2** = 8.93 min; **3** = 9.55 min; **4** = 13.50 min.

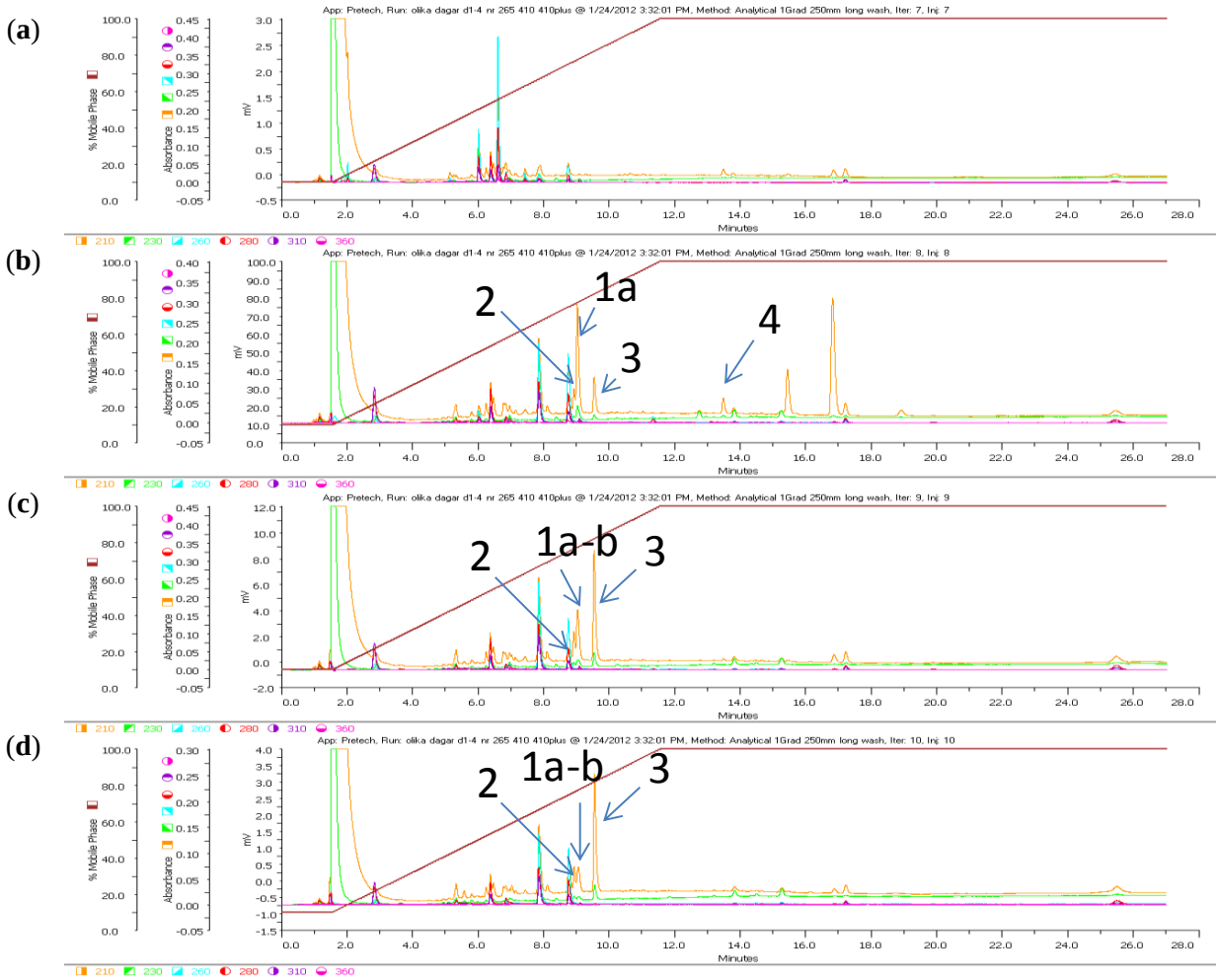


Figure S2. Ethyl acetate extract of bacterial pellet after different time of cultivation: (**a**) 44 h; (**b**) 46 h; (**c**) 52 h; (**d**) 54 h. Retention times for butenolide **1**–**4**: **1a** and **1b** = 9.04 min; **2** = 8.93 min; **3** = 9.55 min; **4** = 13.5 min.

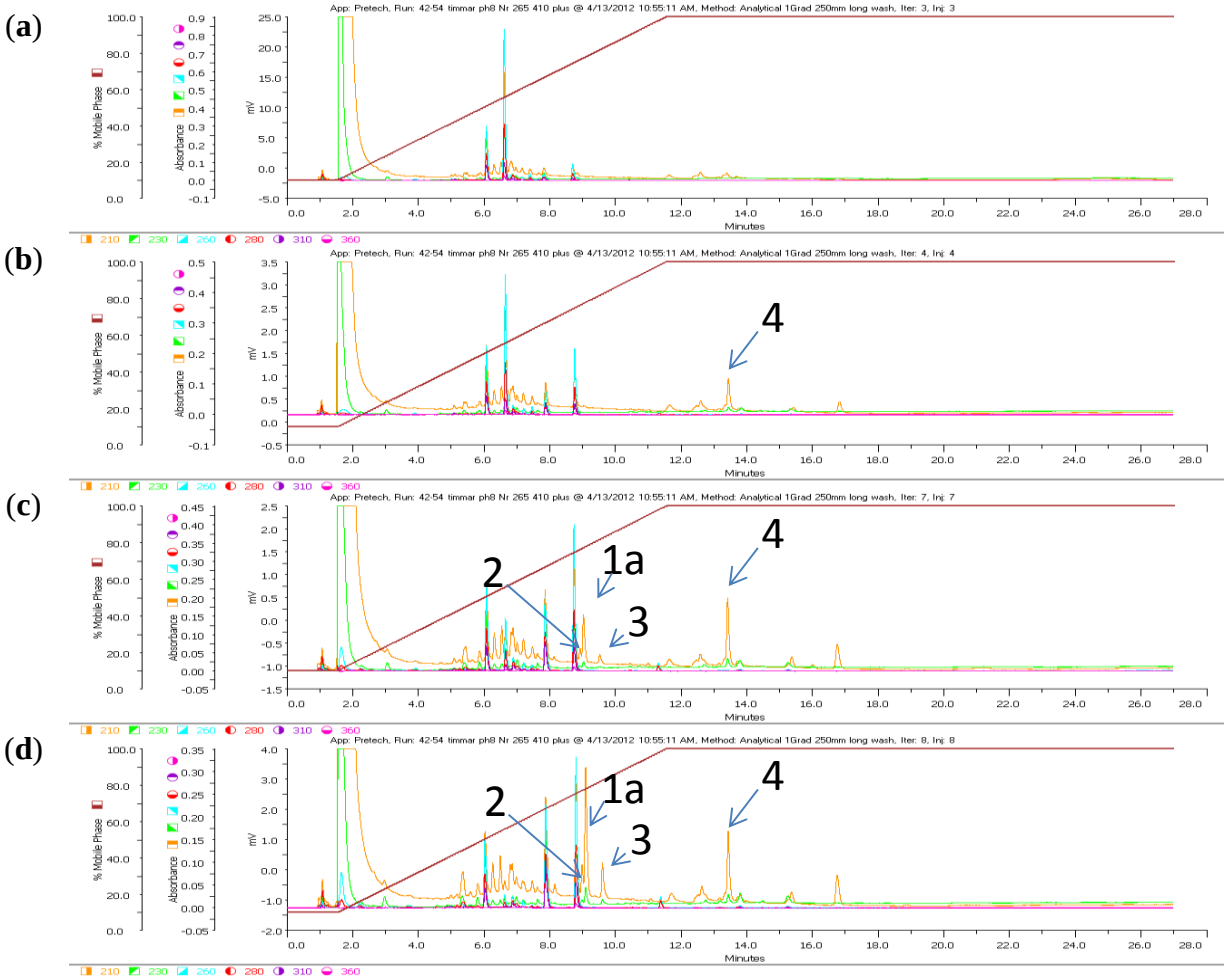


Figure S3. UV-vis spectra of butenolides **1**–**4**.

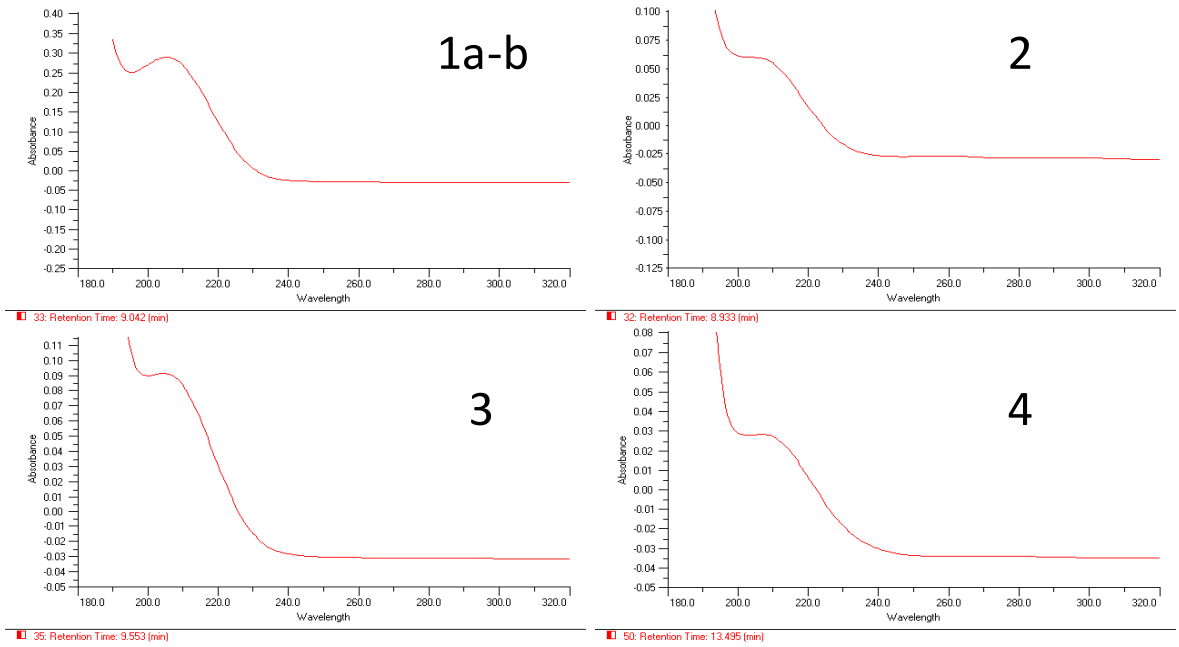


Figure S4. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of butenolide secondary alcohol **1a**.

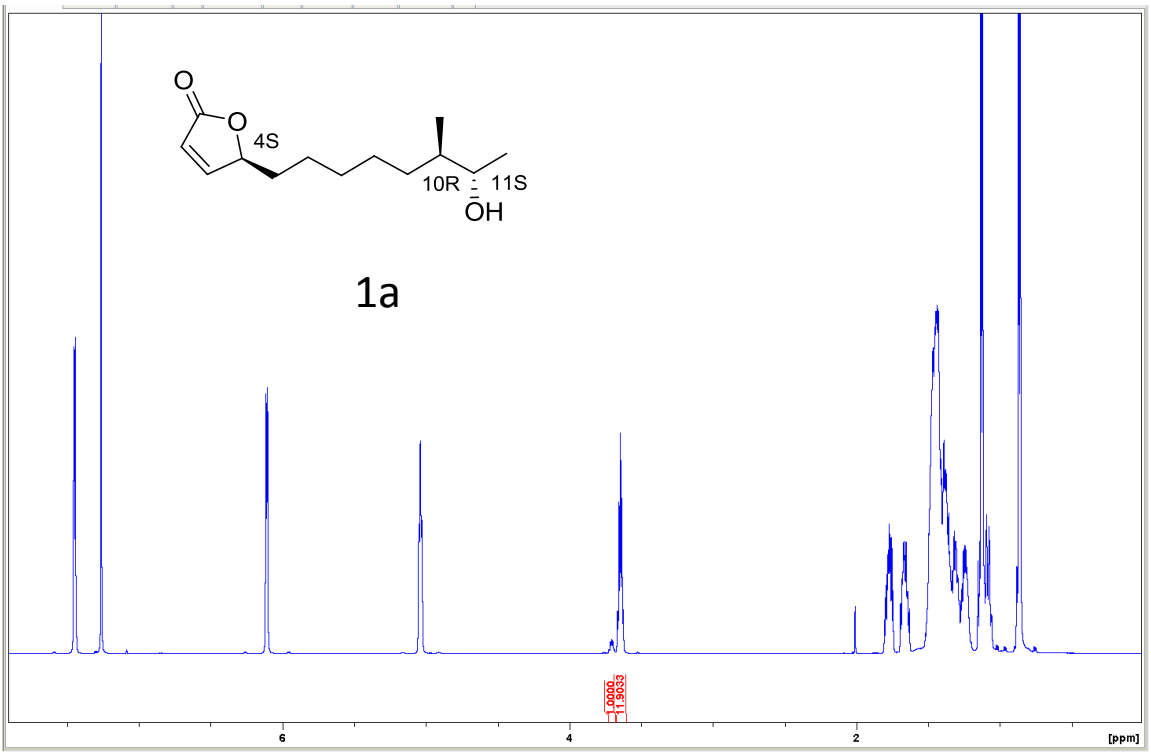


Figure S5. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of butenolide secondary alcohols **1a** and **1b** (1:1).

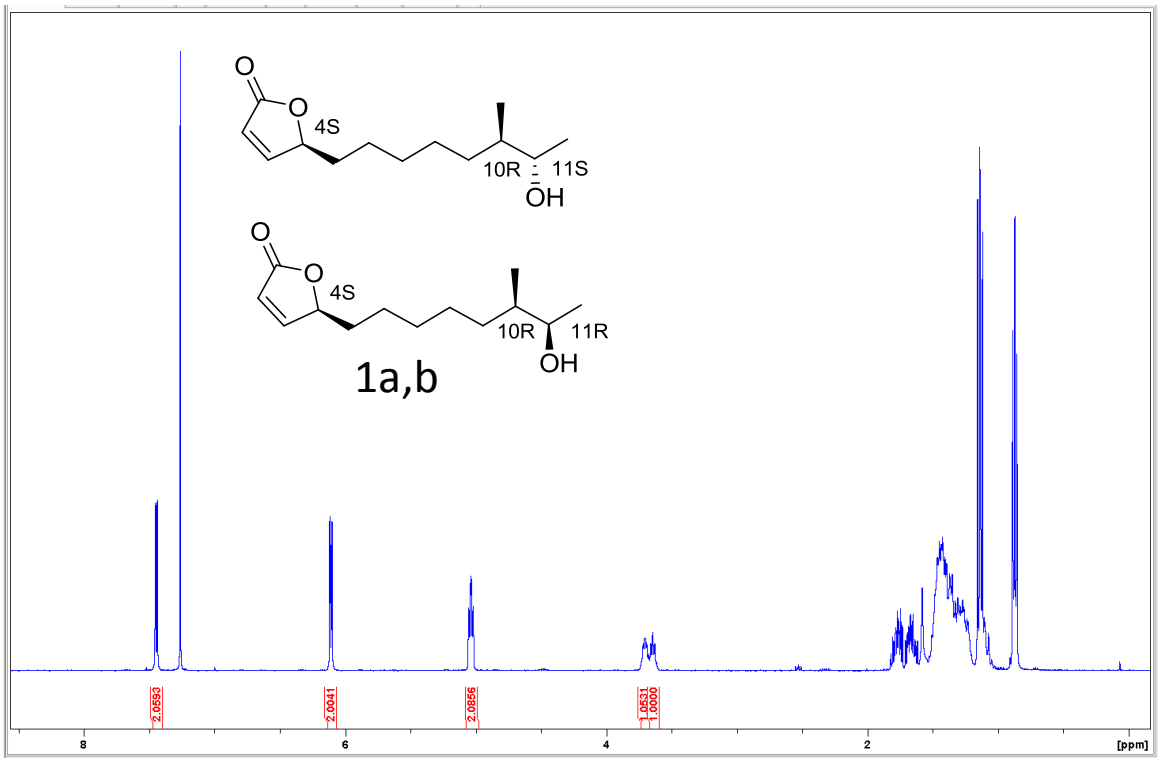


Figure S6. ^{1}H-NMR (400 MHz, $CDCl_3$) of spectrum of butenolide tertiary alcohol **2**.

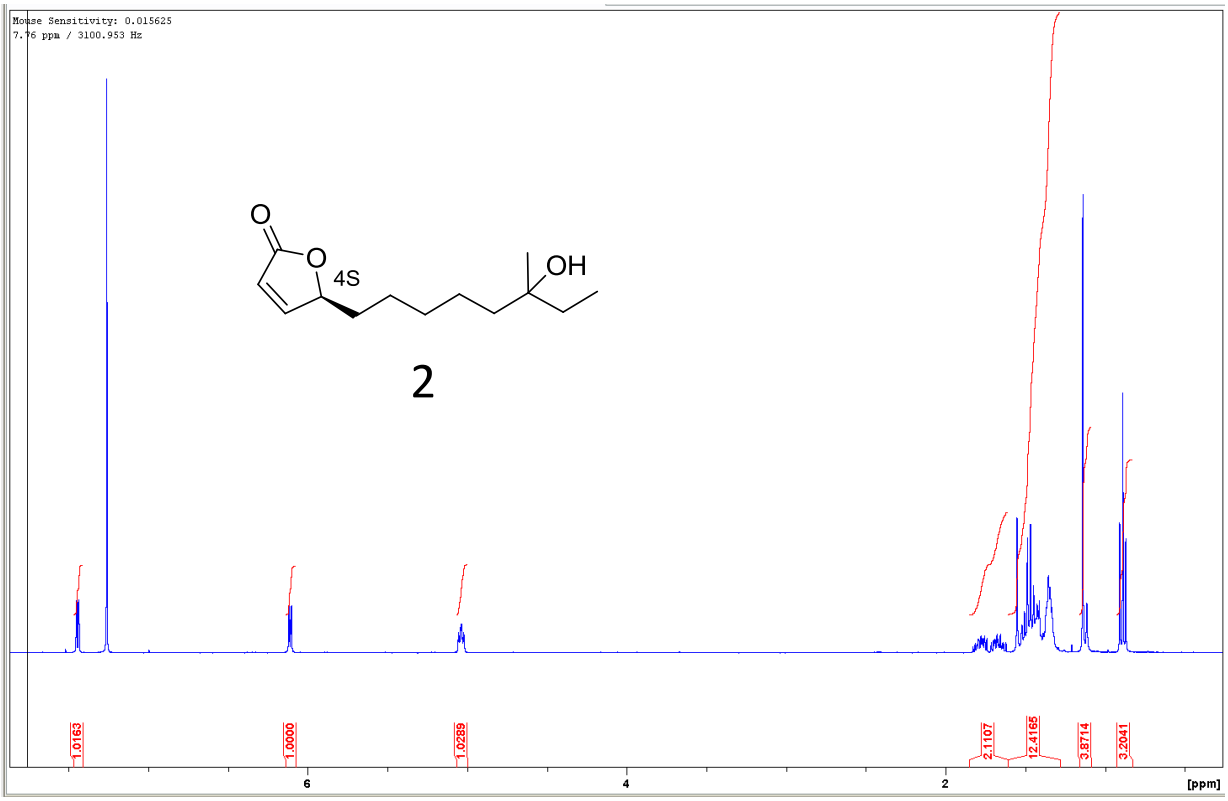


Figure S7. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of butenolide ketone **3**.

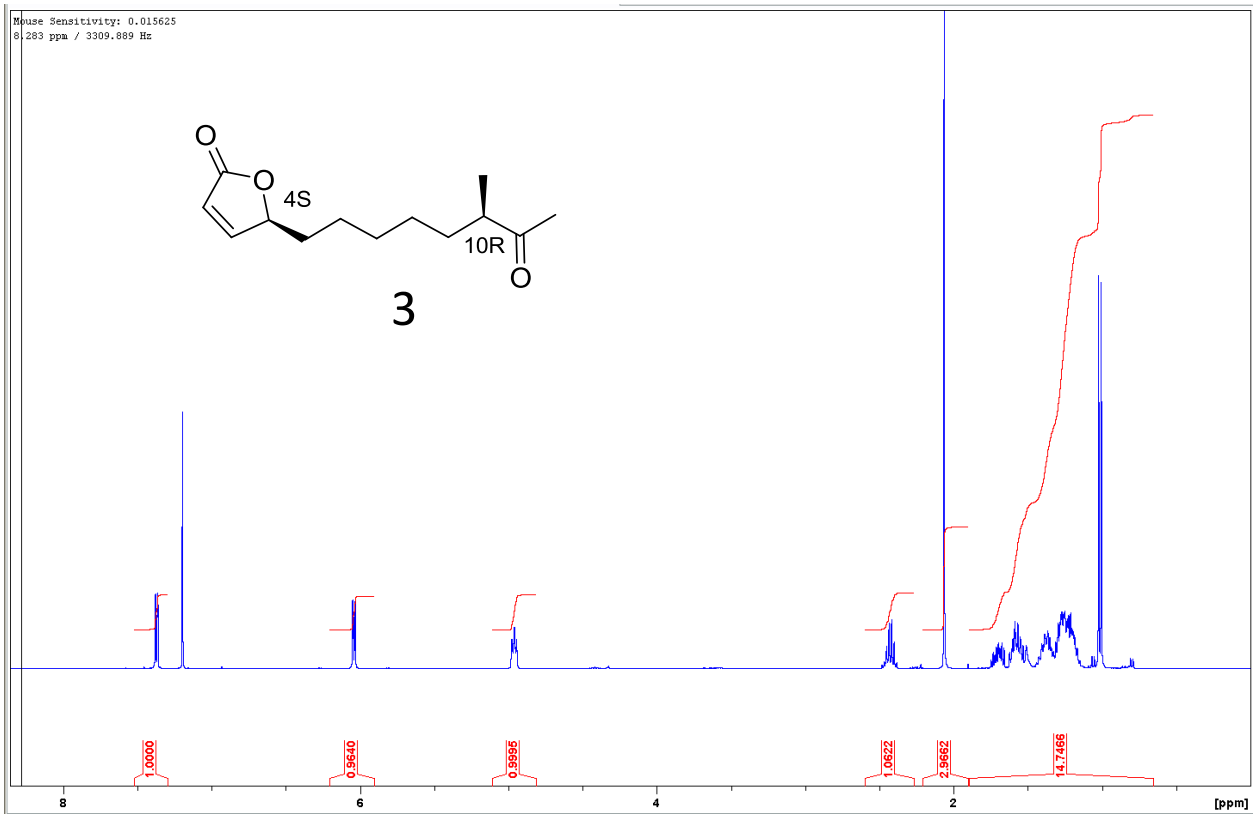


Figure S8. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of butenolide non functional side chain **4**.

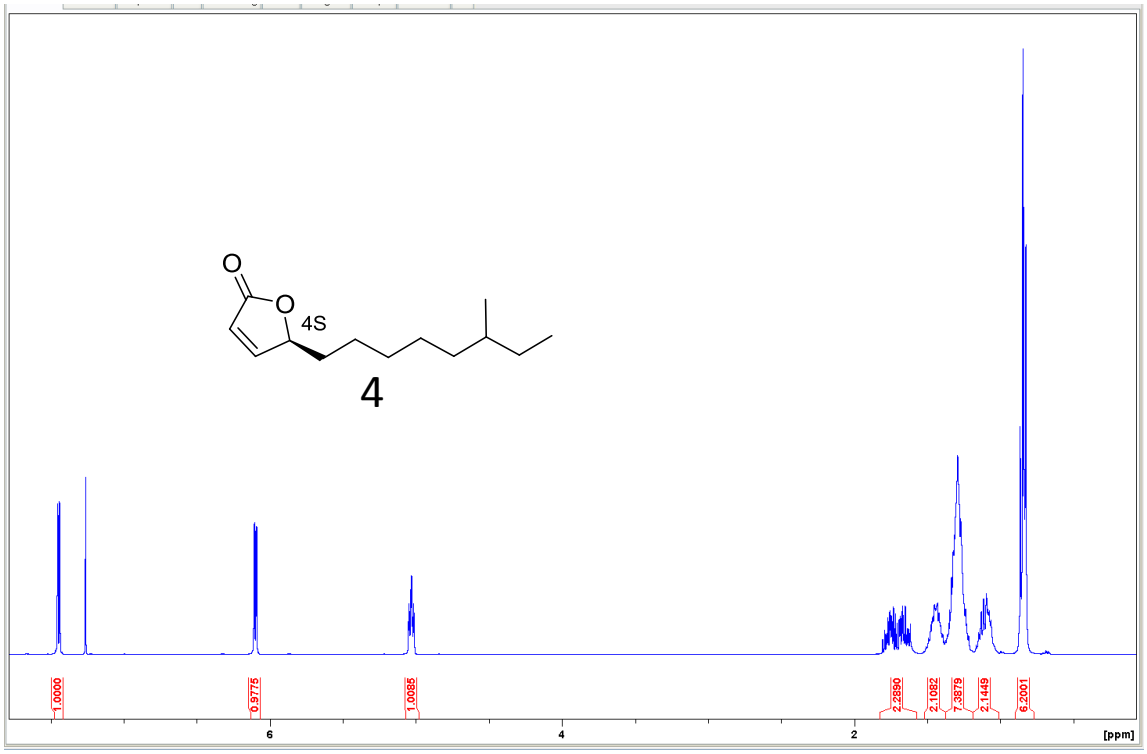


Figure S9. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of saturated butenolide ketone **5**.

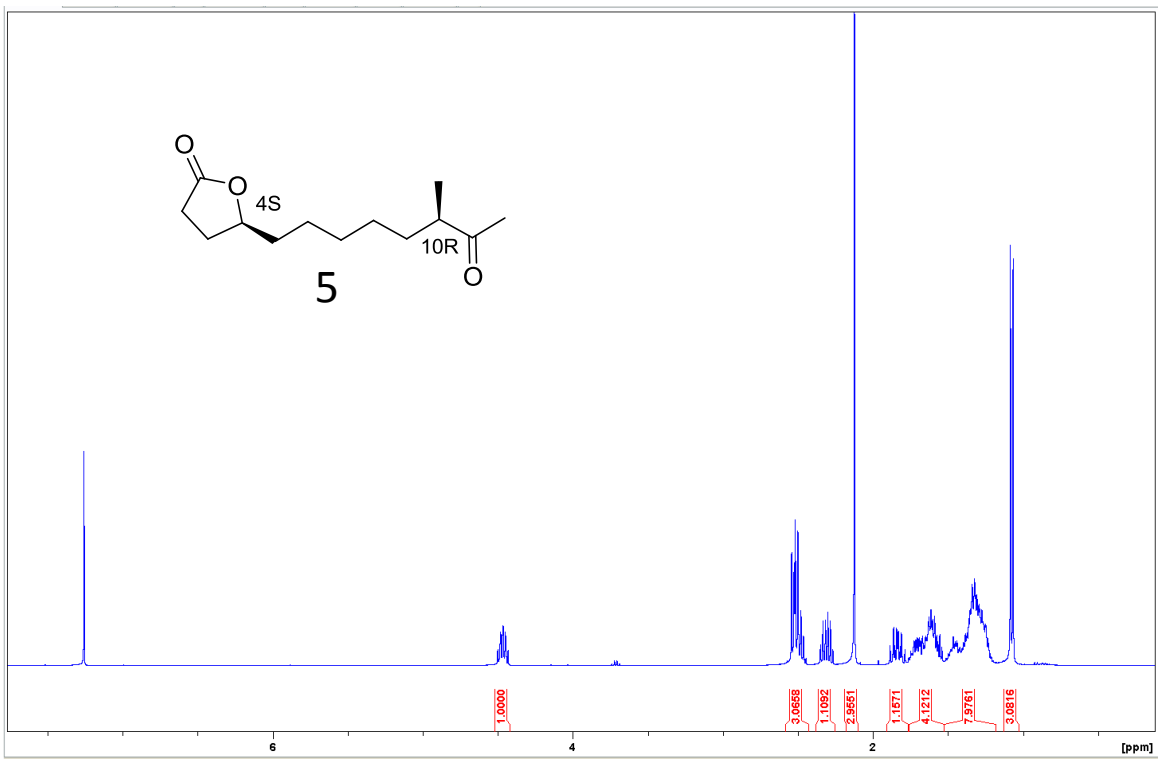


Figure S10. ^{1}H-NMR (400 MHz, $CDCl_3$) spectrum of saturated butenolide non functional side chain **6**.

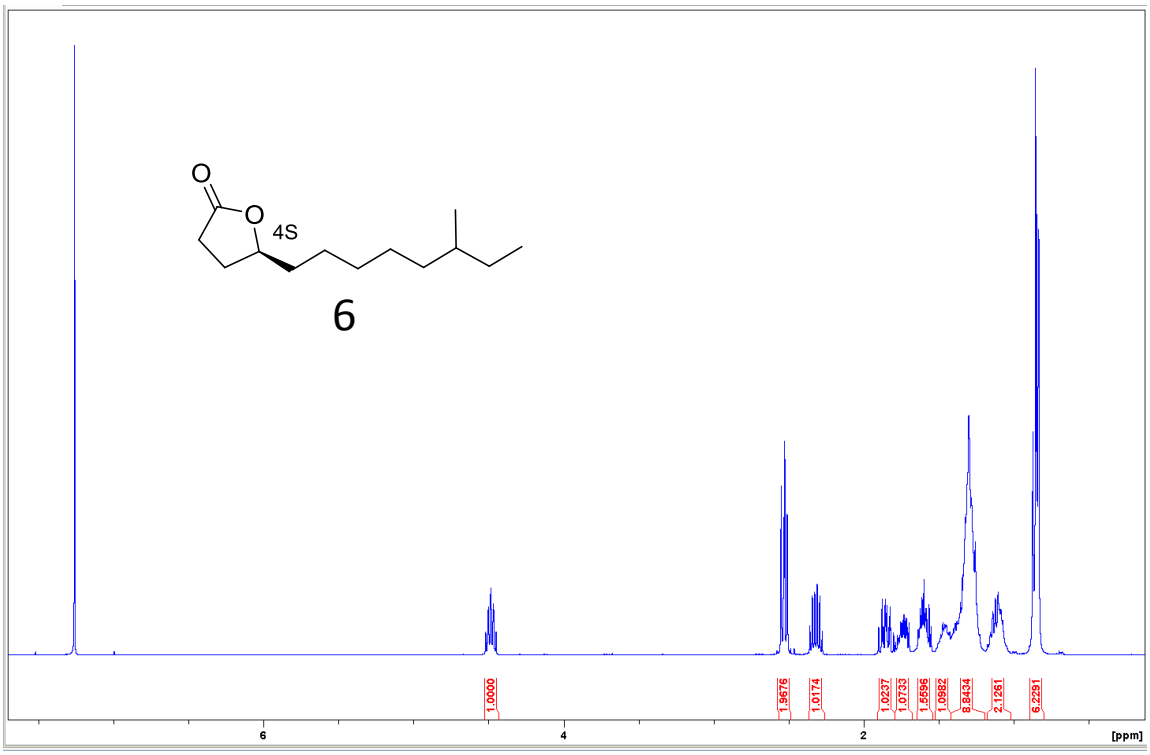


Figure S11. ^{13}C-NMR (100 MHz, $CDCl_3$) spectrum of butenolide secondary alcohol **1a**.

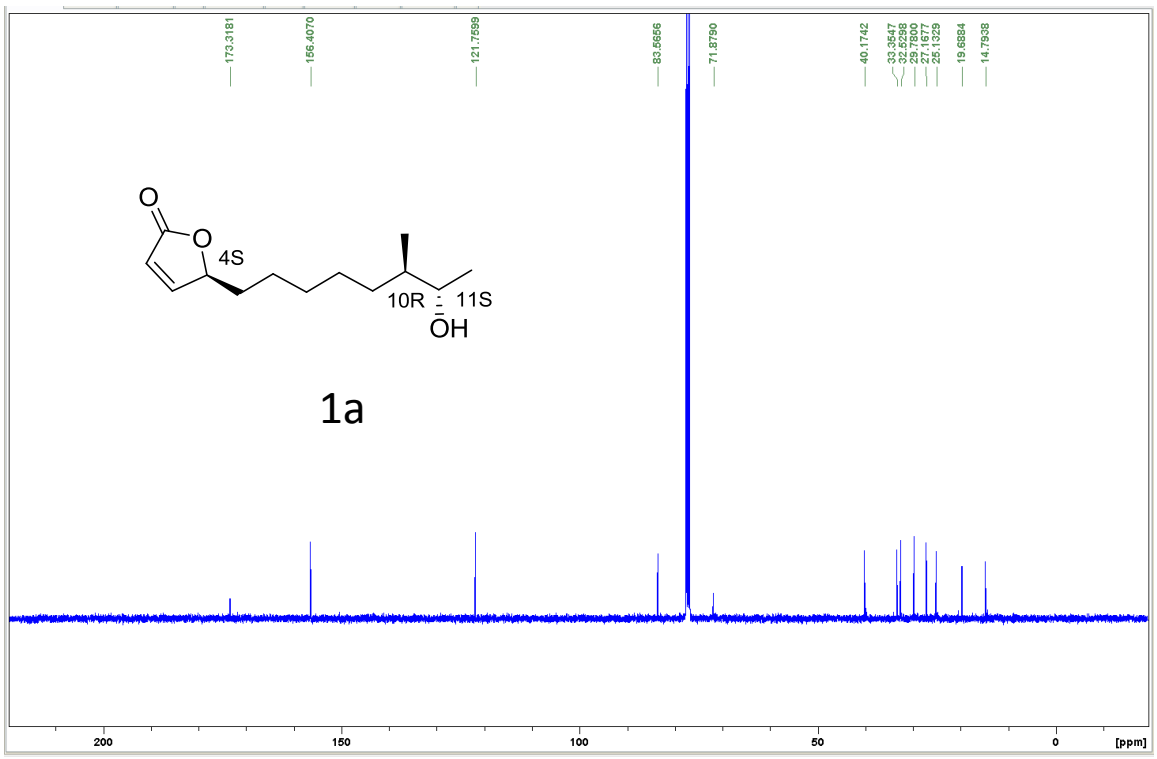


Figure S12. ^{13}C-NMR (100 MHz, $CDCl_3$) of spectrum of butenolide secondary alcohols **1a**–**b**.

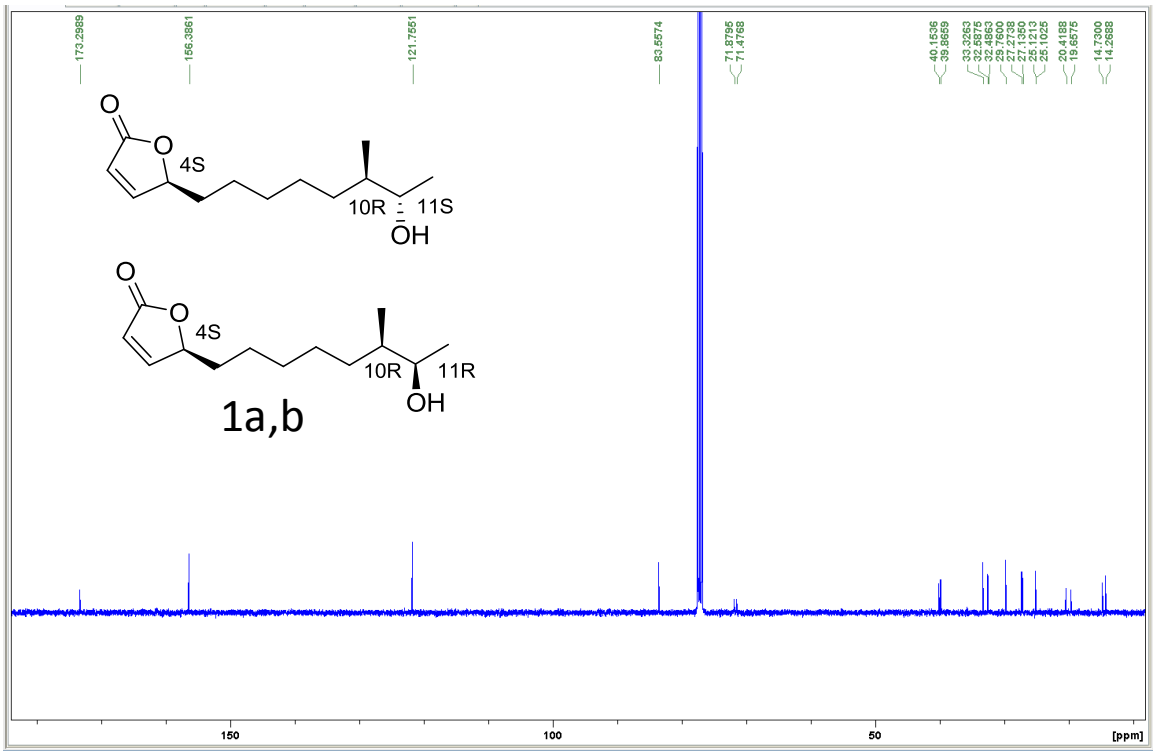


Figure S13. ^{13}C-NMR (100 MHz, $CDCl_3$) spectrum of butenolide tertiary alcohol **2**.

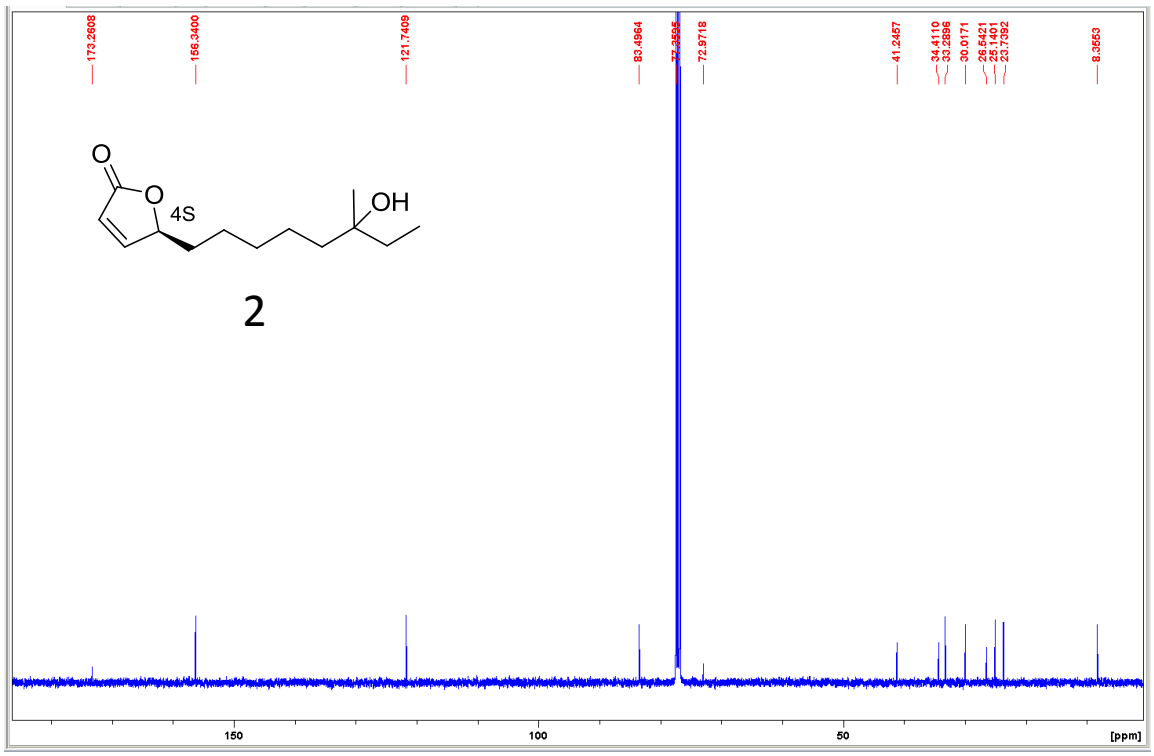


Figure S14. ^{13}C-NMR (100 MHz, $CDCl_3$) spectrum of butenolide ketone **3**.

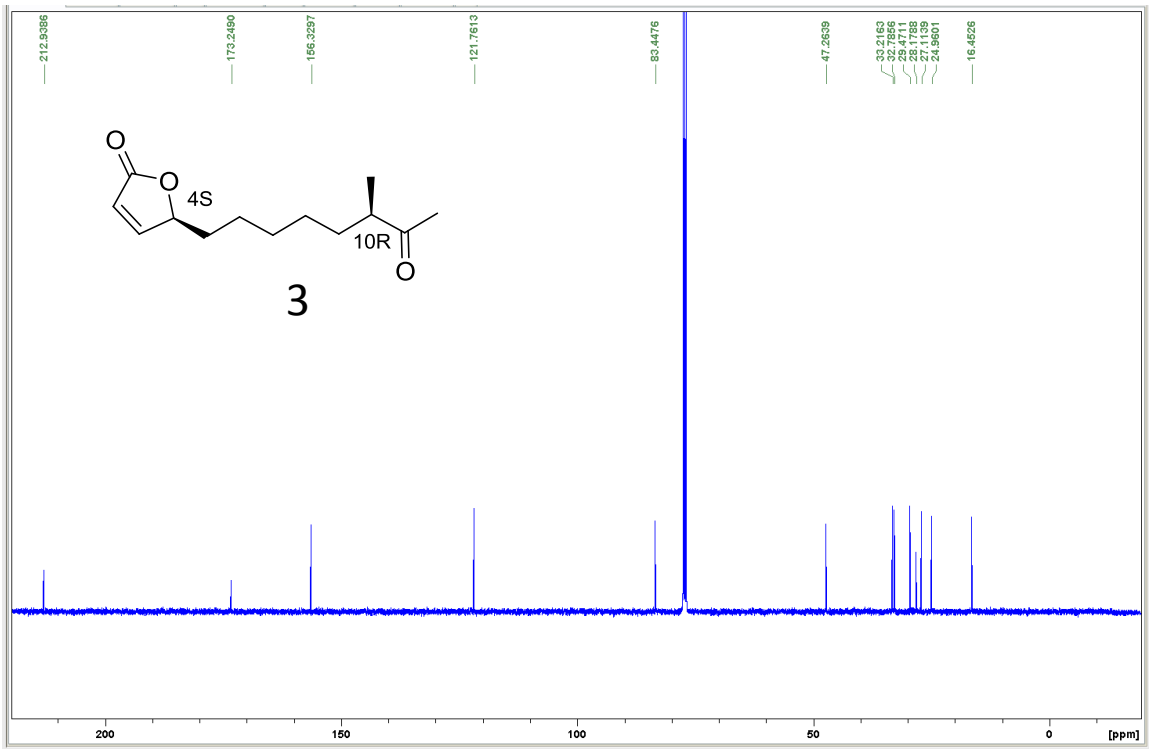


Figure S15. ^{13}C-NMR (100 MHz, $CDCl_3$) spectrum of butenolide with non functional side chain **4**.

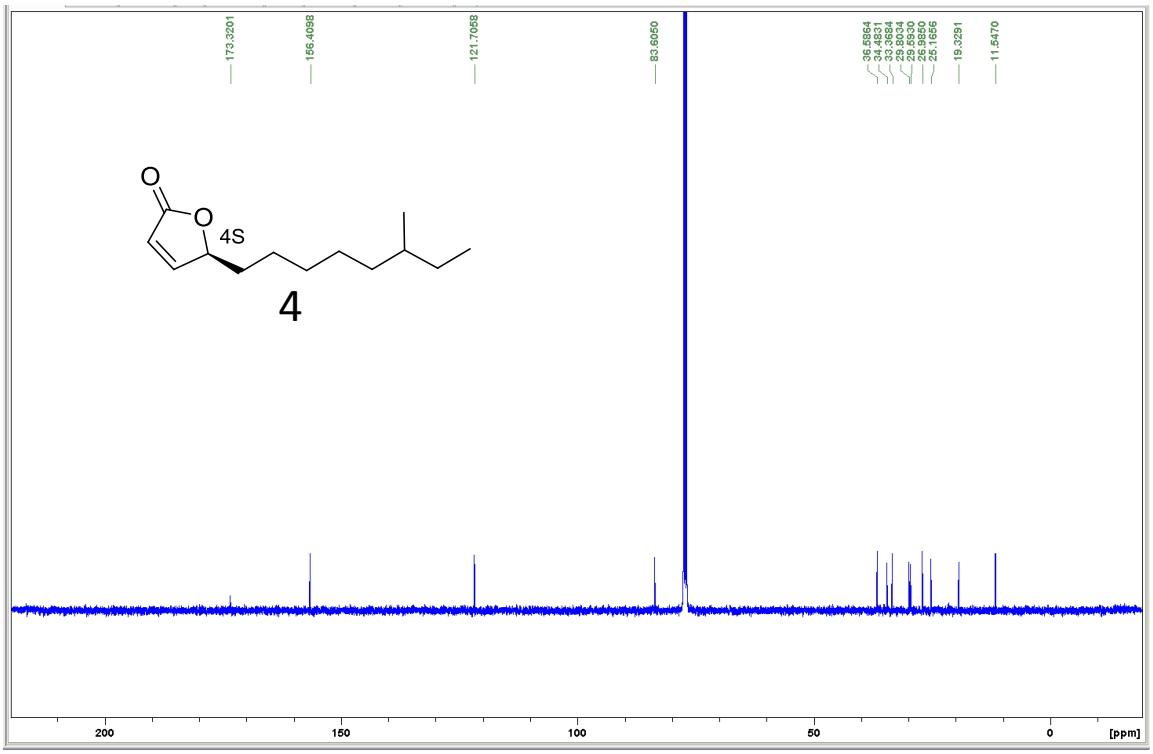


Figure S16. ^{13}C-NMR (100 MHz, $CDCl_3$) spectrum of saturated butenolide ketone **5**.

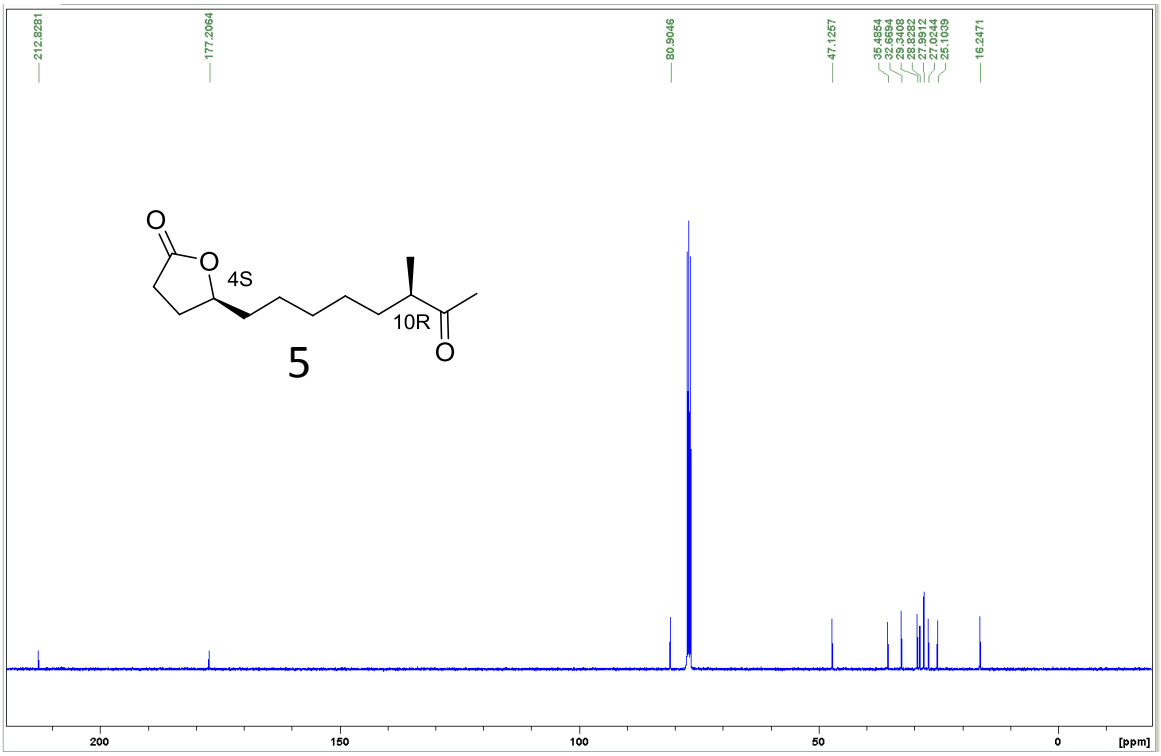


Figure S17. ^{13}C-NMR (100 MHz $CDCl_3$) spectrum of saturated butenolide **6**.

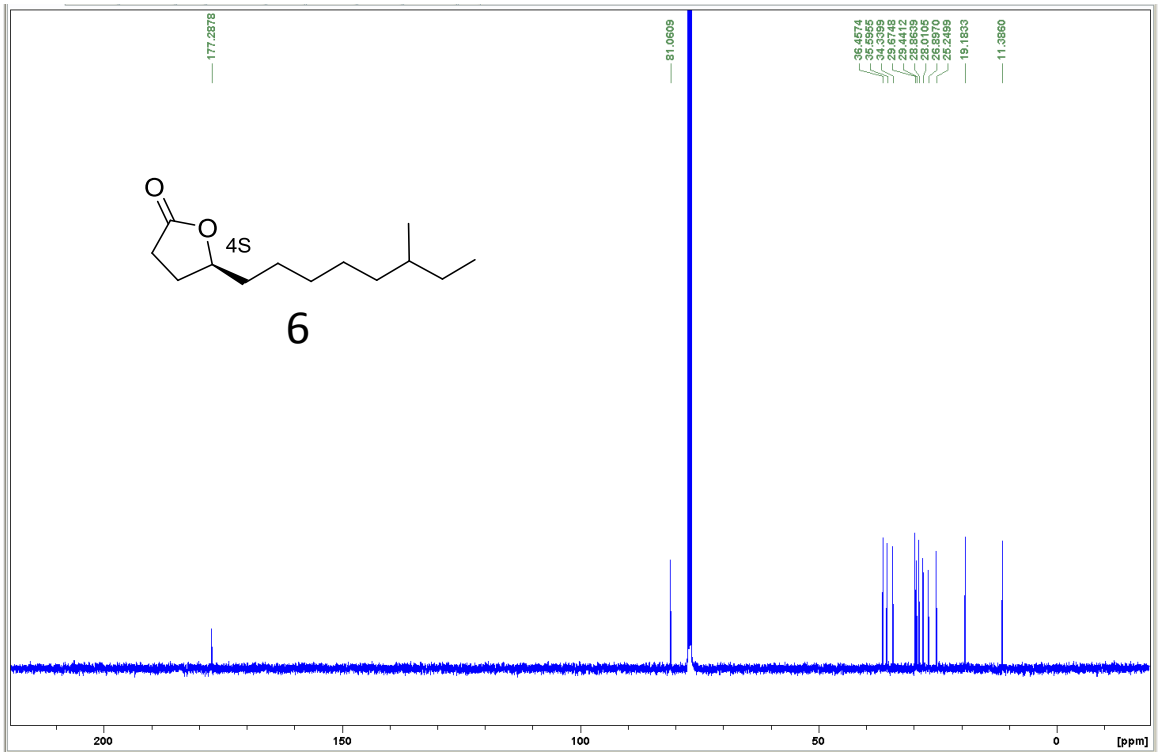
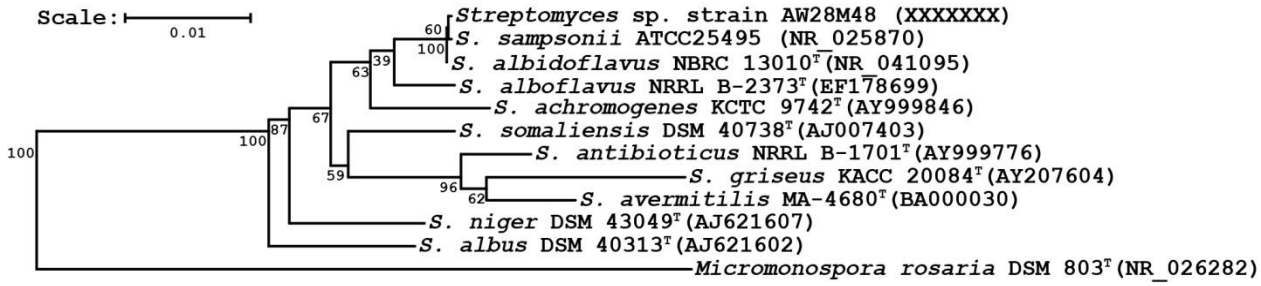


Figure S18. Phylogenetic analysis of *Streptomyces* sp. AW28M48.



Phylogenetic relationships between *Streptomyces* sp. strain AW28M48 and selected *Streptomyces* type strains based on almost complete 16s rRNA sequences. The tree was constructed using online web-tools at the Ribosomal Database Project [1,2]. Percentages at nodes represent levels of bootstrap support from 100 resampled datasets. The bar indicates 1% estimated sequence divergence. *Micromonospora rosaria* DSM 803 was used as an outgroup. The phylogenetic tree shows that *Streptomyces*. sp. strain AW28M48 is very much related to *S. albidoflavus*. The taxonomy of *Streptomyces* belonging to this clade has been reevaluated [3] and based on different analysis it is proposed that many species (like *S. sampsonii*) are strains of *S. albidoflavus*.

References

1. Cole, J.R.; Wang, Q.; Cardenas, E.; Fish, J.; Chai, B.; Farris, R.J.; Kulam-Syed-Mohideen, A.S.; McGarrell, D.M.; Marsh, T.; Garrity, G.M.; *et al*. The Ribosomal Database Project: Improved alignments and new tools for rRNA analysis. *Nucleic Acids Res.* **2009**, *37*, D141–D145.
2. Ribosomal Database Project. Available online: http://rdp.cme.msu.edu/ (accessed on 21 January 2014).
3. Rong, X.; Guo, Y.; Huang, Y. Proposal to reclassify the *Streptomyces albidoflavus* clade on the basis of multilocus sequence analysis and DNA-DNA hybridization, and taxonomic elucidation of *Streptomyces griseus* subsp. solvifaciens. *Syst. Appl. Microbiol.* **2009**, *32*, 314–322.