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Supplementary Data

Enhancement of the properties of a drug by mono-deuteriation: reduction of acid-catalysed formation of a gut-motilide enol ether from 8-*deuterio*-erythromycin B

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500 MHz 1D ¹H spectra of erythromycin B (spectrum A) and 8-d-erythromycin B (spectrum B)



A contour plot of the 500 MHz TRNOESY spectrum of 2 mM 8-*d*-erythromycin B plus 0.67 mM *d*-ribosome in 50 mM potassium phosphate buffer, containing 6 mM MgCl₂ and 30 mM NH₄Cl, adjusted to pH 7.0. Spectrum was taken at 25 ° C.



A

B

Fig. 1S The effect of 50 μ g ml⁻¹ of erythromycins A (2), B (3) and 8-*d*-erythromycin B (4) dissolved in a solution of 5 % V/V ethanol (99.7 %) against *S. aureus* (A) and *S. epidermidis* (B) in the agar diffusion assay. (1) represents the effect of solution of 5 % V/V ethanol (99.7%) as a negative control.



Fig. 2S Time-course ¹H NMR spectra of acid-catalysed degradation of erythromycin B (A) and 8-*d*-erythromycin B (B) in Britton Robinson buffer (apparent pH 2.0; 37 °C); only the OCH₃-8" region is shown for simplicity. Spectra were acquired at 5 min intervals.