

Electronic supplementary information for:

The first hydroxy double salt tablet formulation

Syed F. Taj,^a Richard Singer,^b Tahir Nazir,^{*a} and Gareth R. Williams,^{*a}

^a School of Human Sciences, Faculty of Life Sciences and Computing, London Metropolitan University, 166-220 Holloway Road, London, N7 8DB, UK.

^b School of Pharmacy and Chemistry, Faculty of Science, Engineering, and Computing, Kingston University, Penrhyn Road, Kingston upon Thames, Surrey, KT1 2EE, UK.

* Authors for correspondence. Fax: +44 (0)207 133 4149; Tel: +44 (0)207 133 2565 (GRW) +44 (0)207 133 4335 (TN); E-mail: g.williams@londonmet.ac.uk (GRW), t.nazir@londonmet.ac.uk (TN).

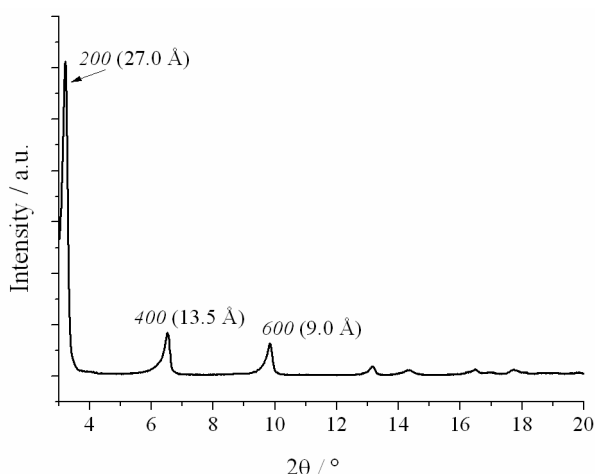


Figure S1: The X-ray diffraction pattern of Zn₅-ibu. The interlayer spacing is found to be 27.0 Å, in good agreement with the literature value of 25.7 Å.¹ The d-spacing is slightly larger than the literature value, presumably owing to the greater amount of ibuprofen incorporated into this batch of material.

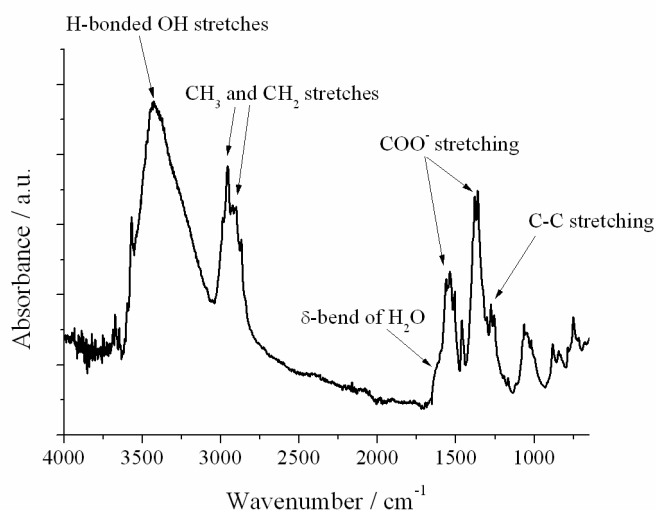


Figure S2: The IR spectrum of Zn₅-ibu. As previously observed in the literature,¹ the spectrum is a composite of the spectra of the HDS (H-bonded OH stretches, δ vibration of water), and ibuprofen (CH₃, CH₂, COO⁻ and C-C stretches), confirming successful intercalation of the drug.

Table S1: Elemental analysis characterisation of Zn₅-ibu.

Element	Calculated* %	Observed %
C	34.7	35.1
H	5.04	5.19
N	0	0

* from the formula [Zn₅(OH)₈](C₁₃H₁₇O₂)₂ · 1.5H₂O

Table S2: Details of buffer preparation

Solution	Preparation method
pH 7.2	2.80g of KOH and 13.611g of KH ₂ PO ₄ were added to 500 mL of deionised water. The pH was adjusted to 7.2 using 0.2 M NaOH, and once stable the solution was diluted to 1000 mL using deionised water.
pH 2.0	A pH 4 buffer was initially prepared using commercially available tablets (Fisher, general purpose grade), and then 0.5 M HCl was added until the pH was stable at 2.0.

Reference

1. R. M. R. Bull, C. Markland, G. R. Williams and D. O'Hare, *J. Mater. Chem.*, 2011, **21**, 1822.