## **Supplementary file for**

Enhanced cellular uptake of phenamil through inclusion complex with histidine functionalized  $\beta$ -Cyclodextrin as a penetrative osteo-inductive agent

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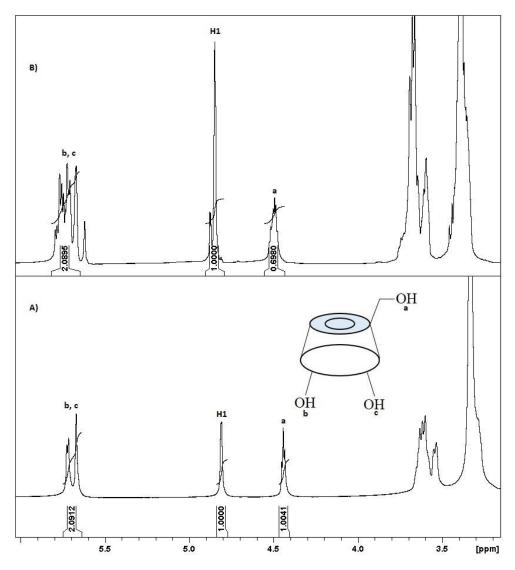
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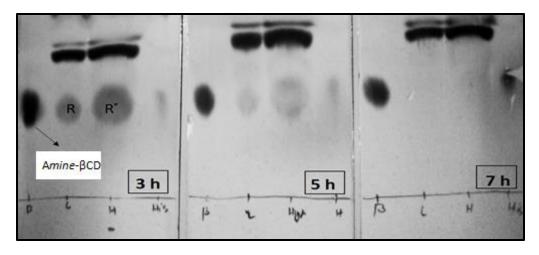
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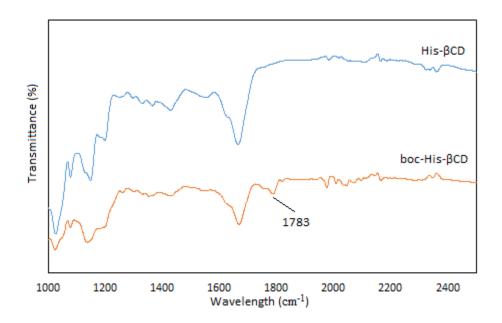
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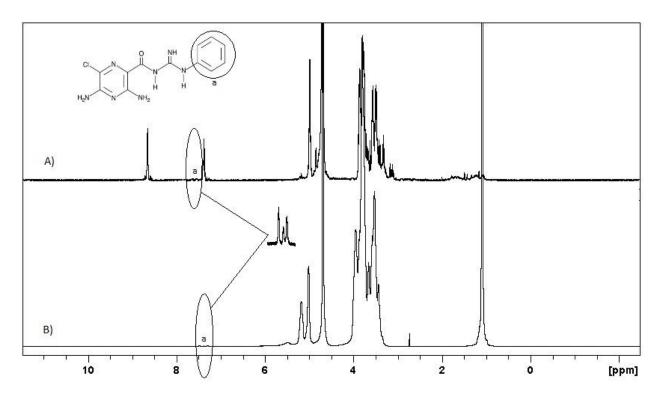
S 1.  $^1H$  NMR spectra of A)  $\beta$ CD, and B) Amine- $\beta$ CD in dmso-d $_6$  to confirm selective reaction on primary hydroxyl (integral calibration was done on H1 peak)



**S 2.** TLC plates of Amine- $\beta$ CD conversion to His- $\beta$ CD after 3, 5 and 7 hours. Arrow shows Amine- $\beta$ CD before of reaction, R and R' assigned to low and high concentration of reaction respectively.



**S** 3. FTIR spectra of His- $\beta$ CD deprotection.



**S 4.** <sup>1</sup>H NMR spectra of A) His- $\beta$ CD-PH, B) HP- $\beta$ CD-PH. Due to the small amount of PH, weak peaks in the range of 7 to 8 ppm related to benzene ring of PH were appeared