

## Supporting information

### **Characterising Glass Transition Temperatures and Glass Dynamics in Mesoporous Silica-Based Amorphous Drugs**

Eric Ofosu Kissi<sup>1,2</sup>, Michael Ruggiero<sup>3</sup>, Nele-Johanna Hempel<sup>2</sup>, Zihui Song<sup>3</sup>, Holger Grohgan<sup>2</sup>, Thomas Rades<sup>2,4</sup>, Korbinian Löbmann<sup>2\*</sup>

<sup>1</sup>Department of Pharmacy, University of Oslo, Oslo, Norway.

<sup>2</sup>Department of Pharmacy, University of Copenhagen, Copenhagen, Denmark.

<sup>3</sup>Department of Chemistry, University of Vermont, Burlington, Vermont, USA.

<sup>4</sup>Department of Pharmacy, Faculty of Science and Engineering, Åbo Akademi University, Turku, Finland.

\*Corresponding Author: [korbinian.loebmann@sund.ku.dk](mailto:korbinian.loebmann@sund.ku.dk)

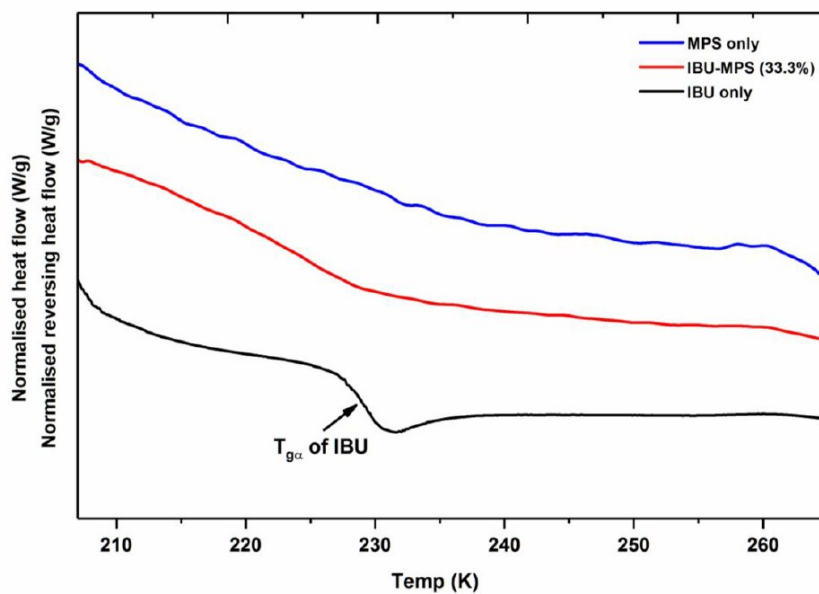


Figure S1: DSC thermogram of the IBU, IBU-MPS (33.3% IBU) and MPS

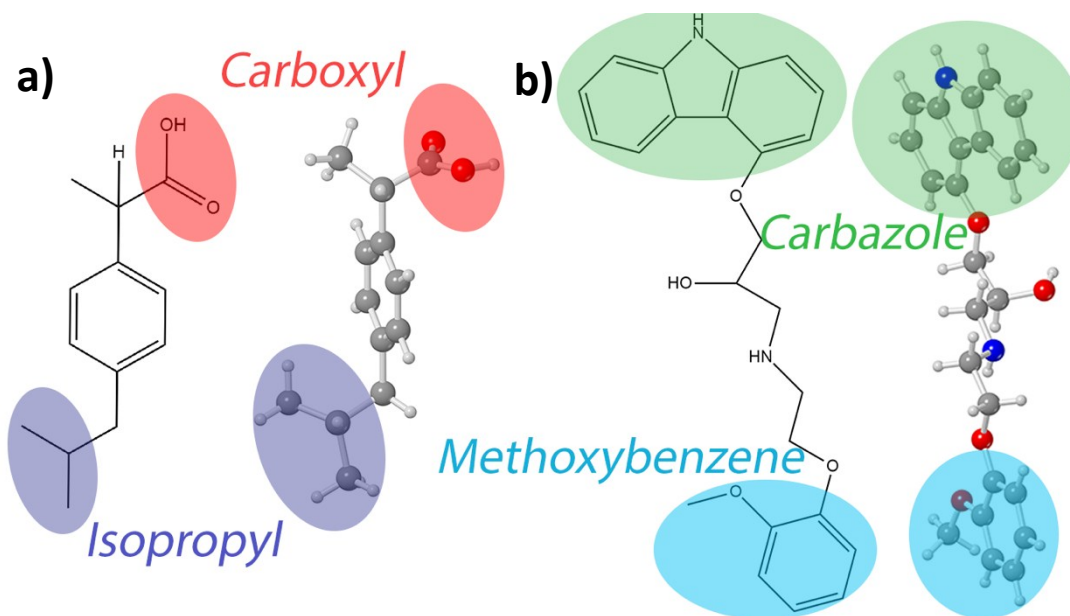


Figure S2: Chemical structures of a) ibuprofen (IBU) and b) carvedilol (CAR) indicating their functional groups

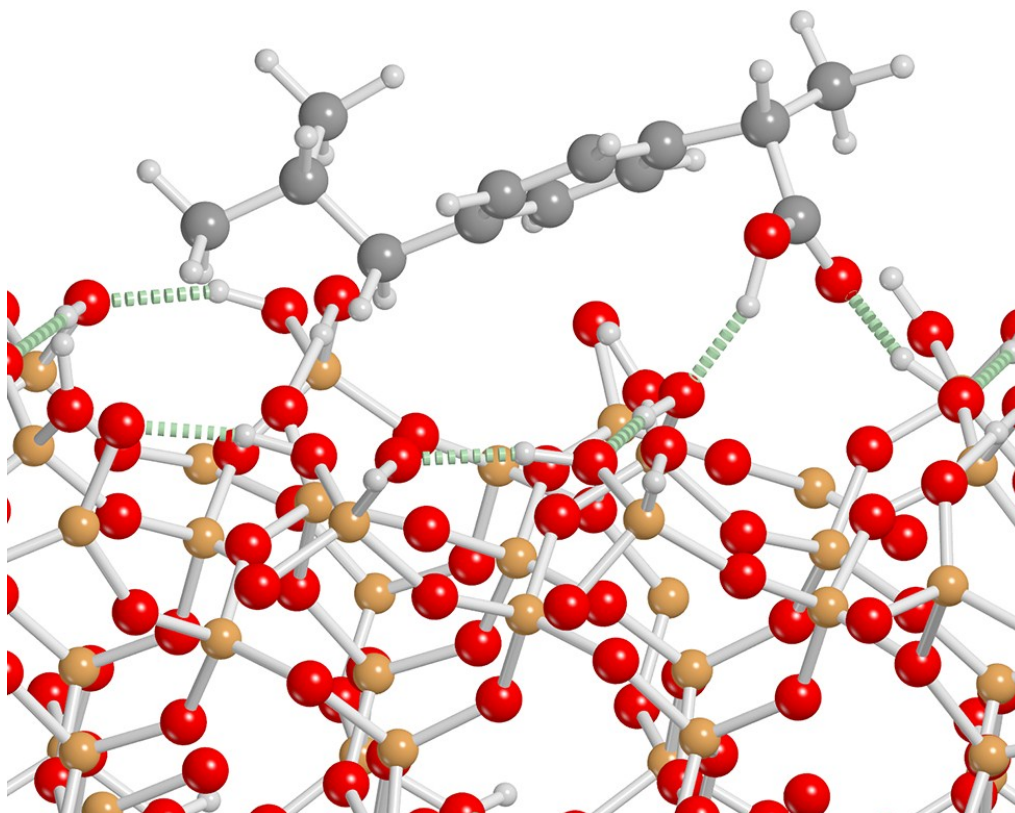


Figure S3: IBU bound to the surface of MPS, green dots represent hydrogen bonding.

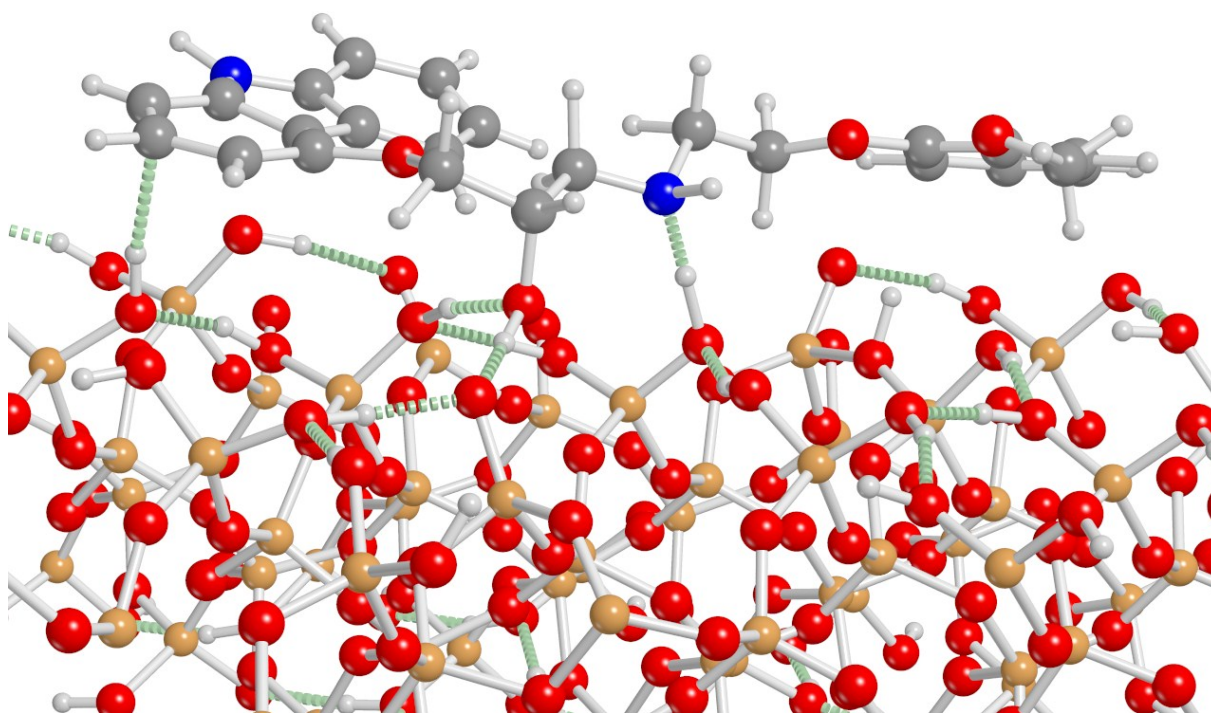


Figure S4a: CAR bound to MPS surface

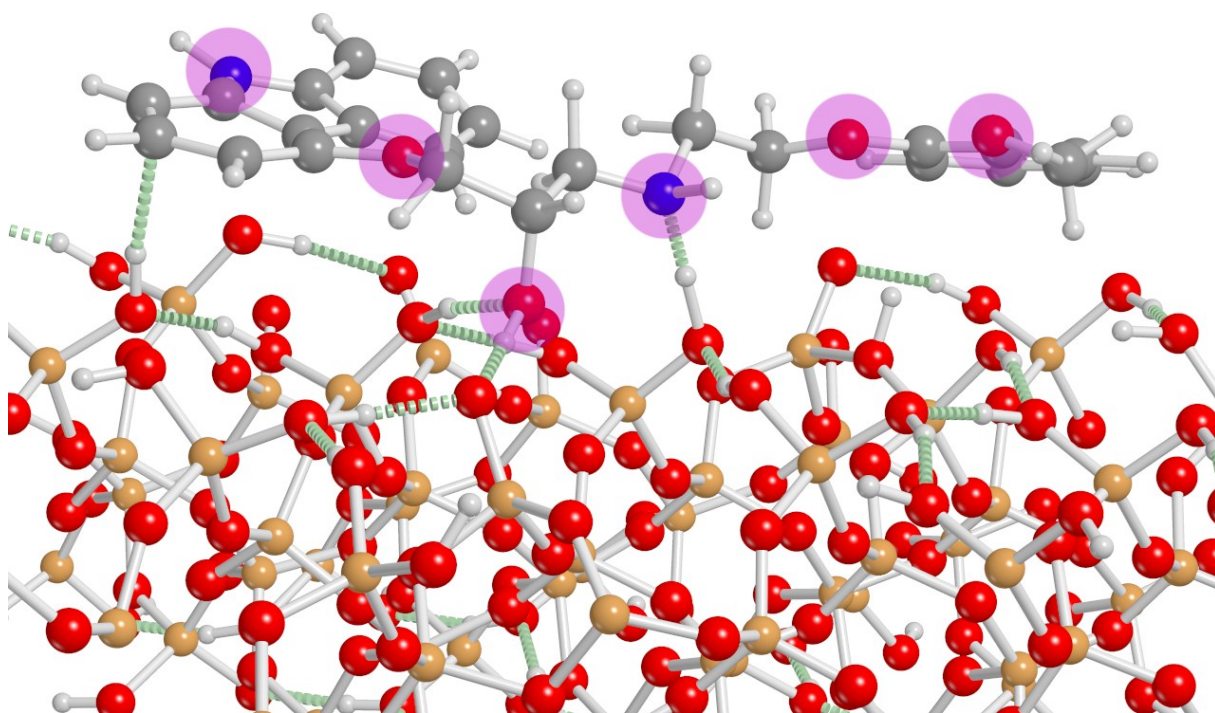


Figure S4b: CAR bound to MPS surface (highlighted in pink is the hydrogen bonding sites on CAR)