



Supplementary material

# A Computational–Experimental Investigation of the Molecular Mechanism of Interleukin-6–Piperine Interaction

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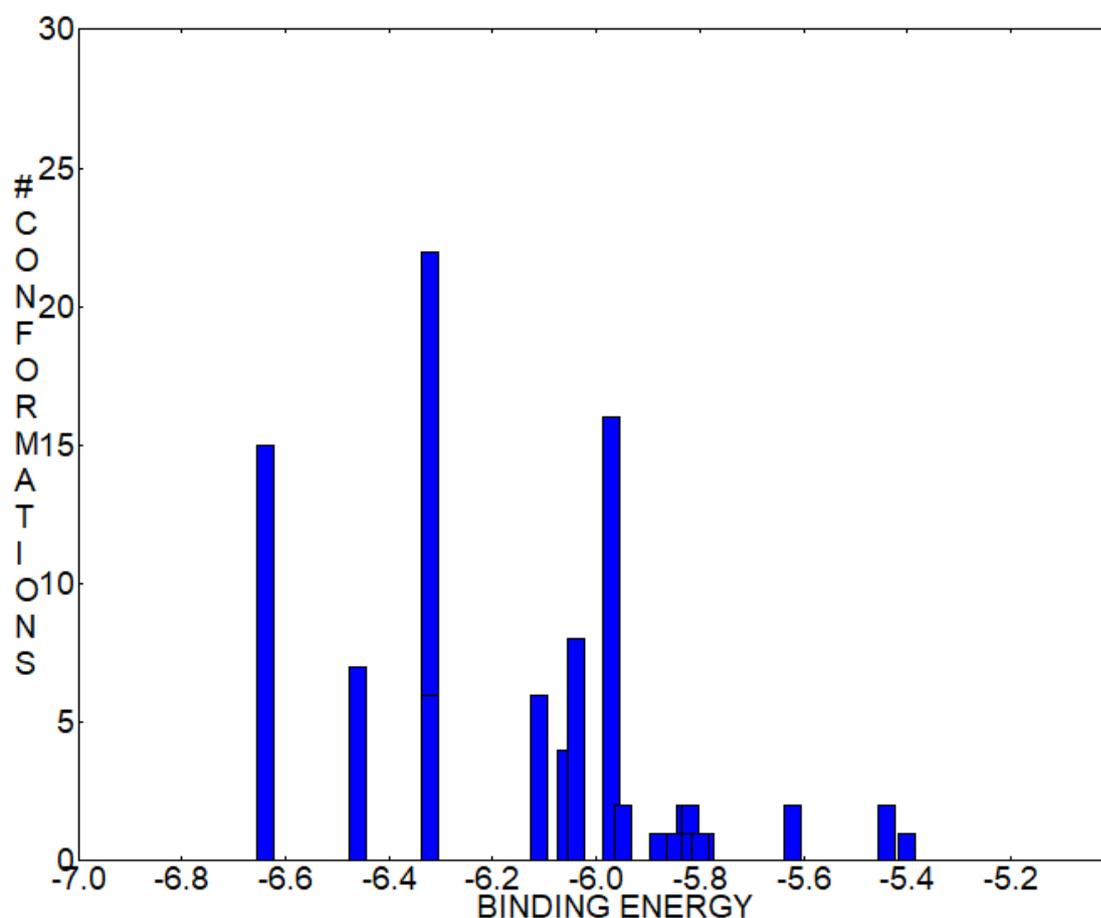
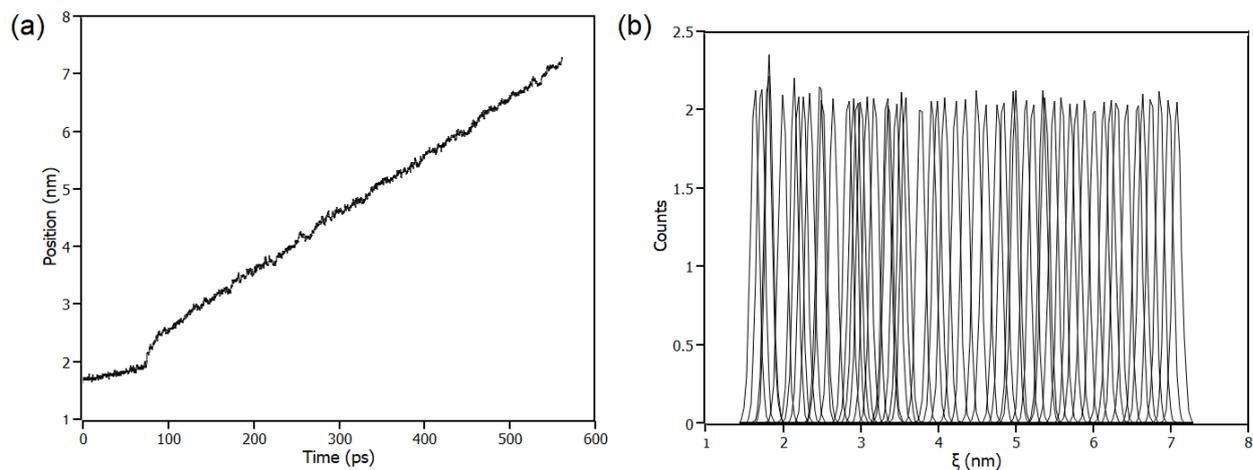
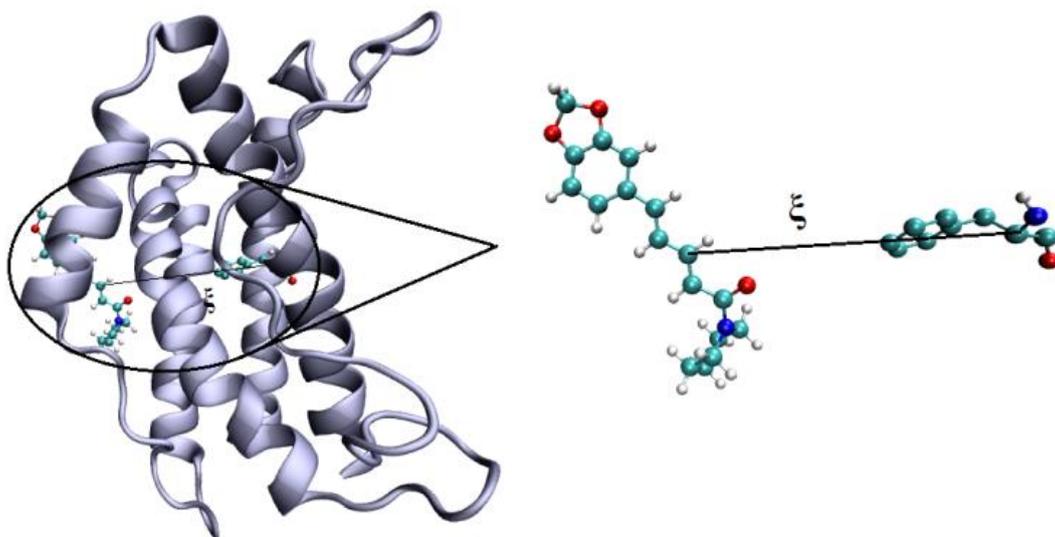


Figure S1: Molecular docking clusters with their respective energy scores



**Figure S2:** (a) Pulling profile during the pulling simulation. Y-axis is the value of reaction coordinate ( $\xi$ ) and x-axis is the time of simulation. (b) Configuration histograms of the pulling in z-axis with the windows distance = 0.1 nm.



**Figure S3:** The atoms picked to define the reaction coordinate ( $\xi$ ) in umbrella sampling calculations. Zoomed in view of piperine and Phe171.

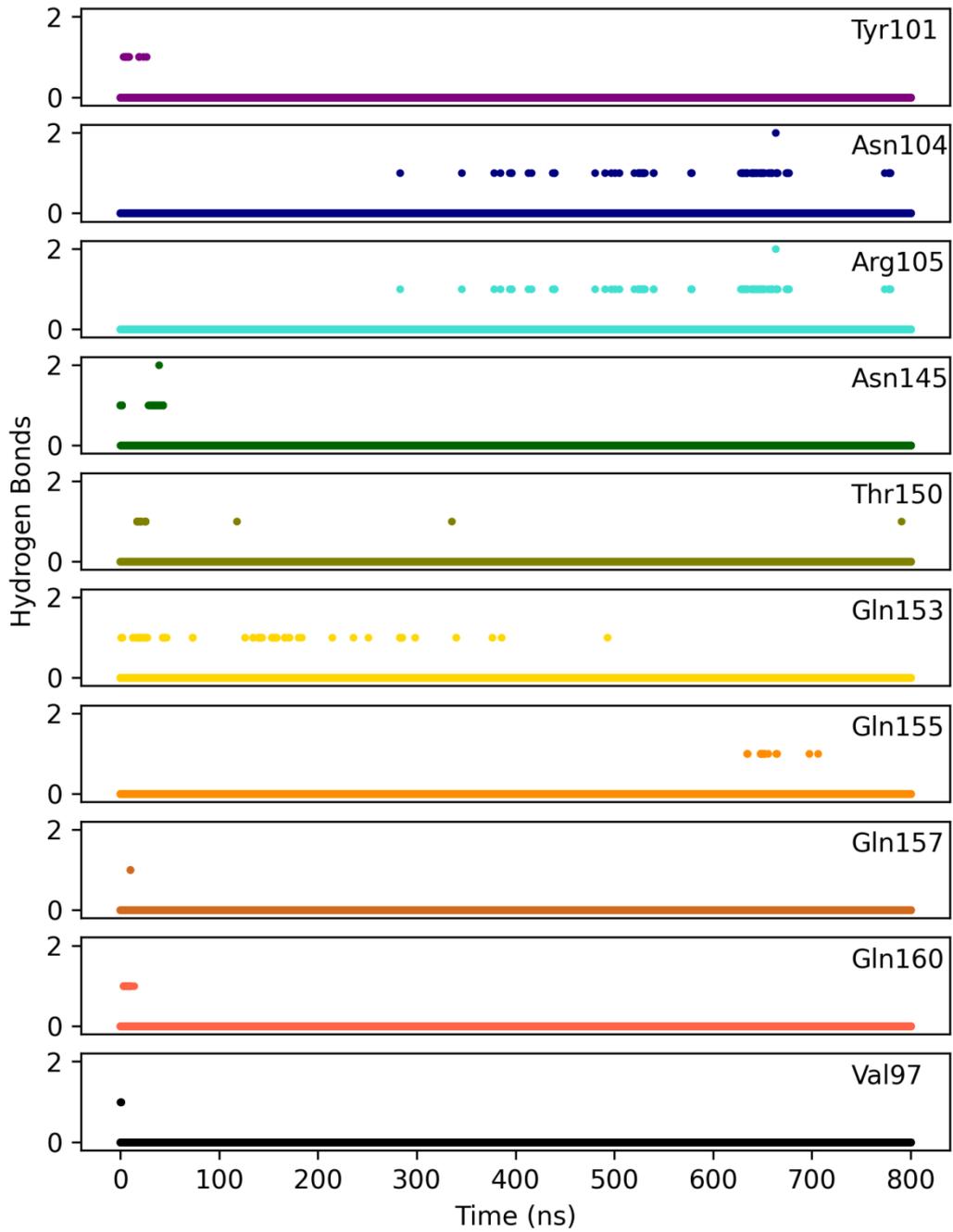
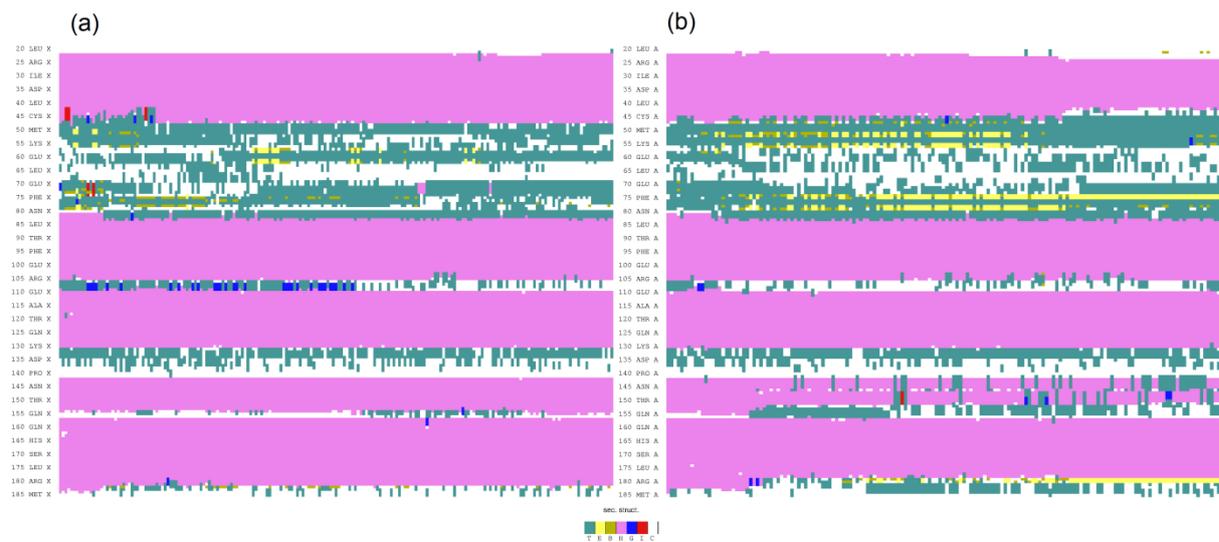


Figure S4: Hydrogen bonds performed during 800 ns of simulation.



**Figure S5:** Global secondary structures of IL6 calculated during the molecular dynamics simulations in **(a)** the absence of piperine and **(b)** piperine inside the binding pocket.