Electronic Supplementary Material (ESI) for RSC Advances. This journal is © The Royal Society of Chemistry 2022

Supplementary Materials

- 2 Blocking the Key Mutated hotspot residues in the RBD of Omicron variant
- 3 (B.1.1.529) with medicinal compounds to disrupt the RBD-hACE2 complex
- 4 using Molecular screening and Simulation approach
- 5 Abbas Khan^{1*}, AsfandYar Waheed Randhawa², Ali Raza Balouch², Naila Mukhtar³, Abrar
- 6 Mohammad Sayaf⁴, Muhammad Suleman⁵, Taimoor Khan¹, Shahid Ali⁵, Syed, Shujait Ali⁵,
- 7 Yanjing Wang^{6*}, Anwar Mohammad⁷, Dong-Qing Wei^{1,8,9*}
- 8 ¹Department of Bioinformatics and Biological Statistics, School of Life Sciences and
- 9 Biotechnology, Shanghai Jiao Tong University, Shanghai, 200240, P.R. China.
- 10 ²Central Park Medical College, Lahore.
- 11 ³Department of Botany, University of Okara, Punjab, Pakistan.
- 12 ⁴Department of Chemistry, University of Swat, Kanju, Khyber Pakhtunkhwa, Pakistan.
- 13 ⁵Centre for Biotechnology and Microbiology, University of Swat, Kanju, Khyber Pakhtunkhwa,
- 14 Pakistan.

1

- 15 ⁶Engineering Research Center of Cell and Therapeutics Antibody, School of Pharmacy, Shanghai
- 16 Jiao Tong University, Shanghai, 200240, P.R. China.
- 17 Department of Biochemistry and Molecular Biology, Dasman Diabetes Insitutue, Dasman,
- 18 Kuwait.

25

27

28

- 19 8State Key Laboratory of Microbial Metabolism, Shanghai-Islamabad-Belgrade Joint Innovation
- 20 Center on Antibacterial Resistances, Joint Laboratory of International Laboratory of Metabolic
- 21 and Developmental Sciences, Ministry of Education and School of Life Sciences and
- 22 Biotechnology, Shanghai Jiao Tong University, Shanghai 200030, P.R. China.
- 23 Peng Cheng Laboratory, Vanke Cloud City Phase I Building 8, Xili Street, Nashan District,
- 24 Shenzhen, Guangdong, 518055, P.R China.

26 *Corresponding Authors

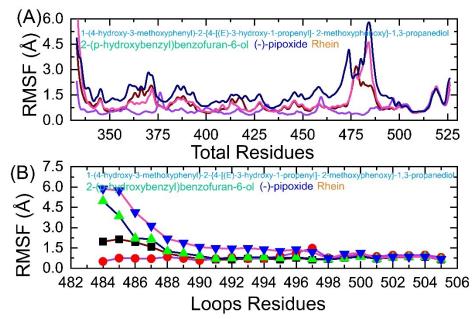


Figure S1: RMSF analysis of the top complexes replica 2. **(A)** Whole structure RMSF, **(B)** loop residues RMSF.

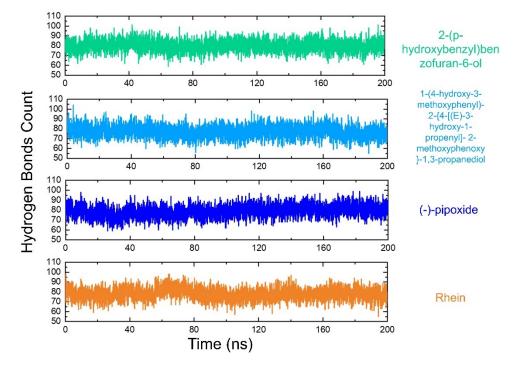


Figure S2: Hydrogen bonding analysis of the top complexes replica 2.