## In silico modelling and characterization of Epstein–Barr virus LMP1 protein

Dayang-Sharyati D.A. Salam<sup>1</sup>, Kavinda Kashi Juliyan Gunasinghe<sup>1</sup>, Siaw San Hwang<sup>1</sup>, Irine Runnie Henry Ginjom<sup>1</sup>, Xavier Chee Wezen<sup>1,3\*</sup>, Taufiq Rahman<sup>2\*</sup>

<sup>1</sup>Faculty of Engineering, Computing and Science, Swinburne University of Technology Sarawak, Kuching 93350, Malaysia.

<sup>2</sup>Department of Pharmacology, University of Cambridge, Cambridge CB2 1PD, United Kingdom.

<sup>3</sup>Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore, Singapore 117596

Corresponding authors:

- \* Email: mtur2@cam.ac.uk;
- \* Email: <u>xchee@swinburne.edu.my</u>

## Supporting Information

Model No.	No. of Subunits	Interface Area (in Angstrom <sup>2</sup> )	Docking Score
1	2-mer	2279.7	2350.543
2	2-mer	2173.8	2206.530
3	2-mer	1804.2	2103.901
4	5-mer	7891.9	1012.986
5	3-mer	3869.4	914.557

Table S1 Ab initio docking results for LMP1 predicted structure.

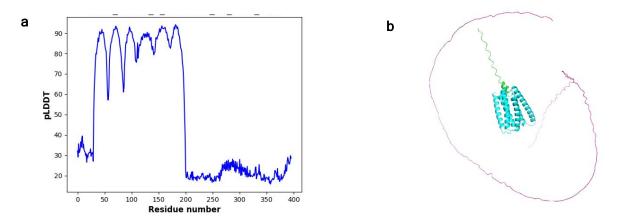
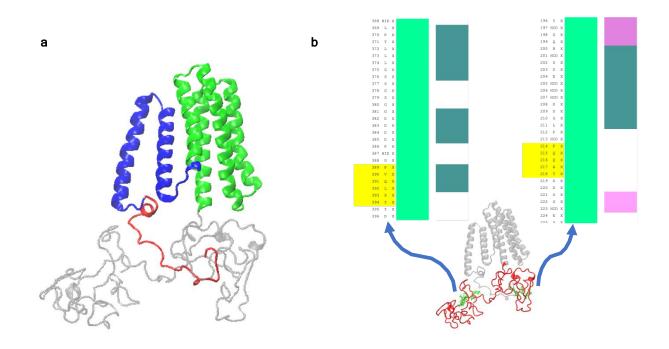
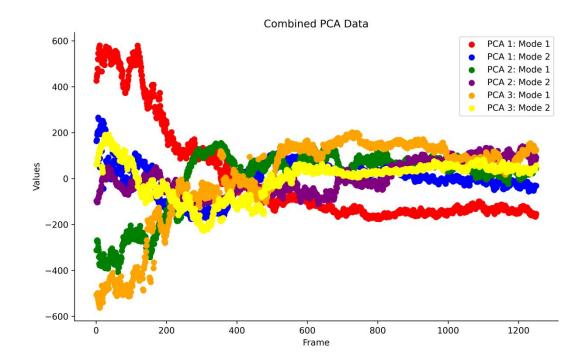


Figure S1 (a) Per-residue confidence score for LMP1 model 3 (b) AlphaFold2 LMP1 model 3 image



**Figure S2 (a)** The molecular image of TMD3-6 (green colour) and TMD1-2 (blue colour) responsible for the oligomerisation of the LMP1 protein. The red-colour chain represents the N-terminal domain of the LMP1 protein. (b) The CTAR1 and CTAR2 domains activate the cells.



**Figure S3** Graph shows combined PCA data for all the triplicate runs with the values on the y-axis and frame on the x-axis.