



سمینار هفتگی ماده چگال نرم

Glycosylated SARS-COV-2 infusion into human cells; biological prospect and structural dynamics

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Abstract

SARS-COV-2 is a positive-sense single-stranded RNA virus that caused the pandemic of COVID-2019 that is still going on. Spike protein of SARS-COV-2 is the fusion protein and is highly glycosylated. The structural role of the glycans in the regulation of SARS-COV-2 infections is poorly understood. Molecular modelling and simulation techniques have proven to be a very efficient tool for discoveries of the molecular mechanism behind various biological phenomena. Thus, here a combination of molecular modelling techniques are used to explore the structural role of glycosylation in SARS-COV-2 fusion into human cells. The biological prospect to support these in-silico investigations will be reviewed thoroughly and the insights for future directions will be discussed.

Useful references:

1. Fung, T.S. and D.X. Liu, Post-translational modifications of coronavirus proteins: roles and function. *Future Virology*, 2018. 13(6): p. 405-430.
2. Watanabe, Y., et al., Exploitation of glycosylation in enveloped virus pathobiology. *Biochimica et Biophysica Acta (BBA) - General Subjects*, 2019. 1863(10): p. 1480-1497.

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مکان (کلاس مجازی آقای دکتر اجتهادی):

<https://vclass.ecourse.sharif.edu/ch/ejtehadi>