

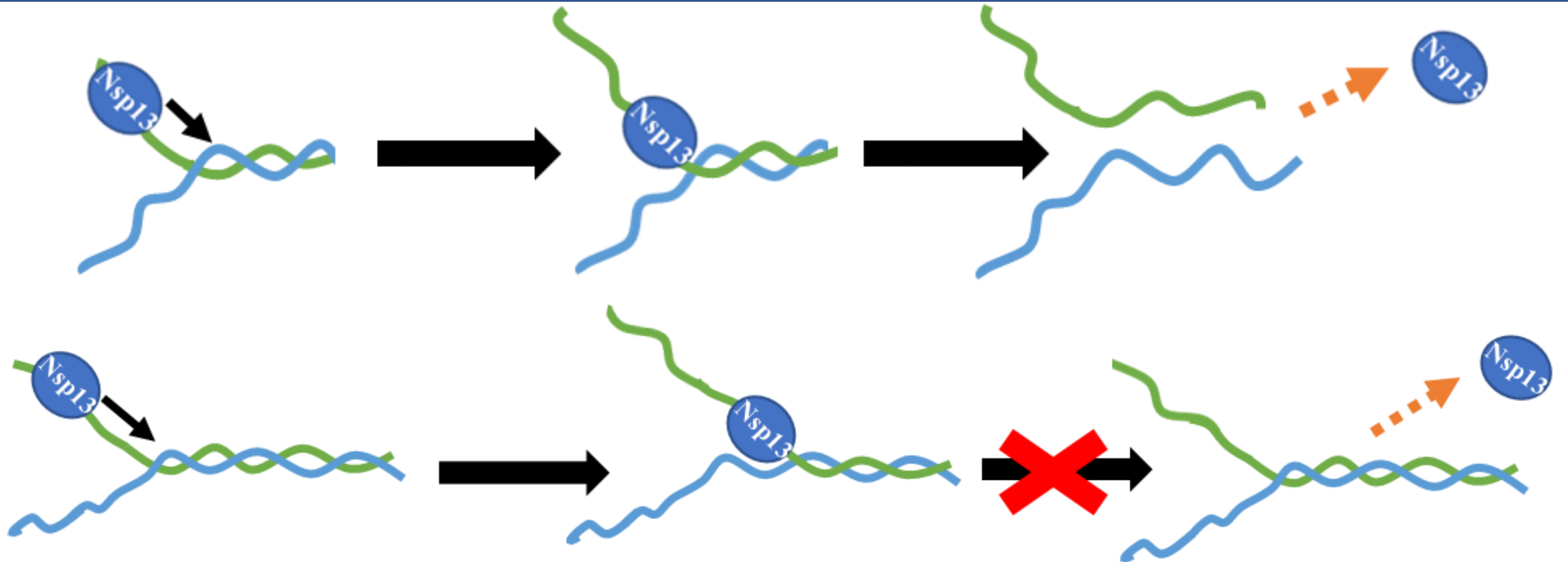
# Biochemical studies of the COVID-19 Nsp13 helicase required for coronavirus replication



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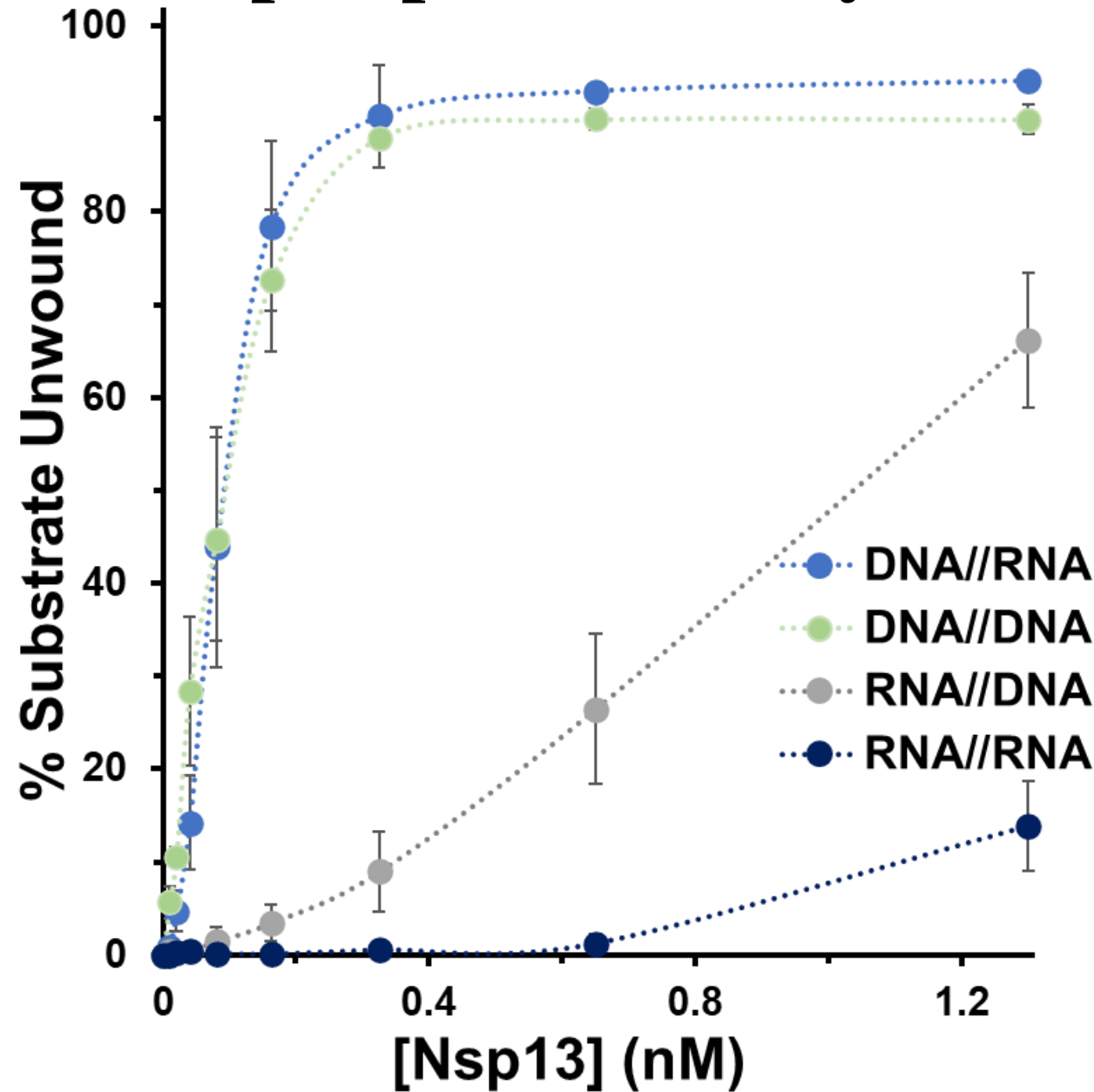
\* [Rebecca.lee@nih.gov](mailto:Rebecca.lee@nih.gov), [BroshR@grc.nia.nih.gov](mailto:BroshR@grc.nia.nih.gov)



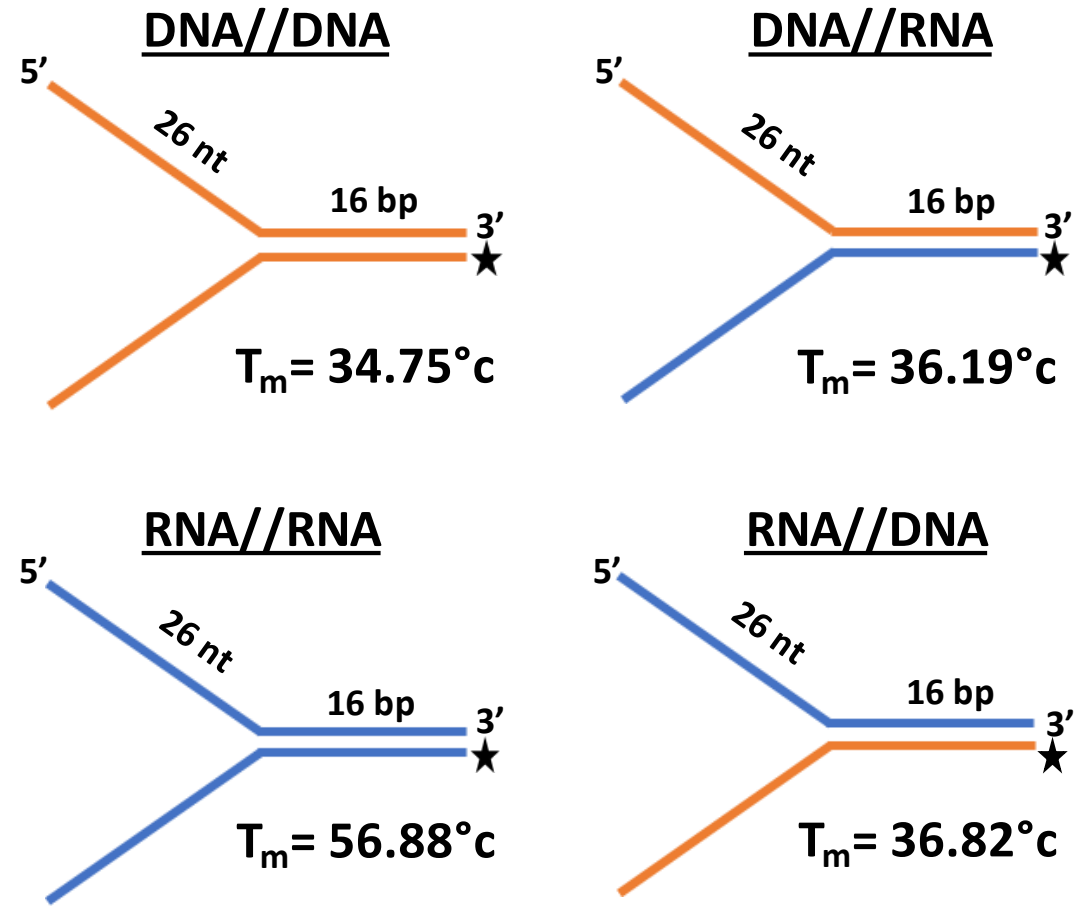




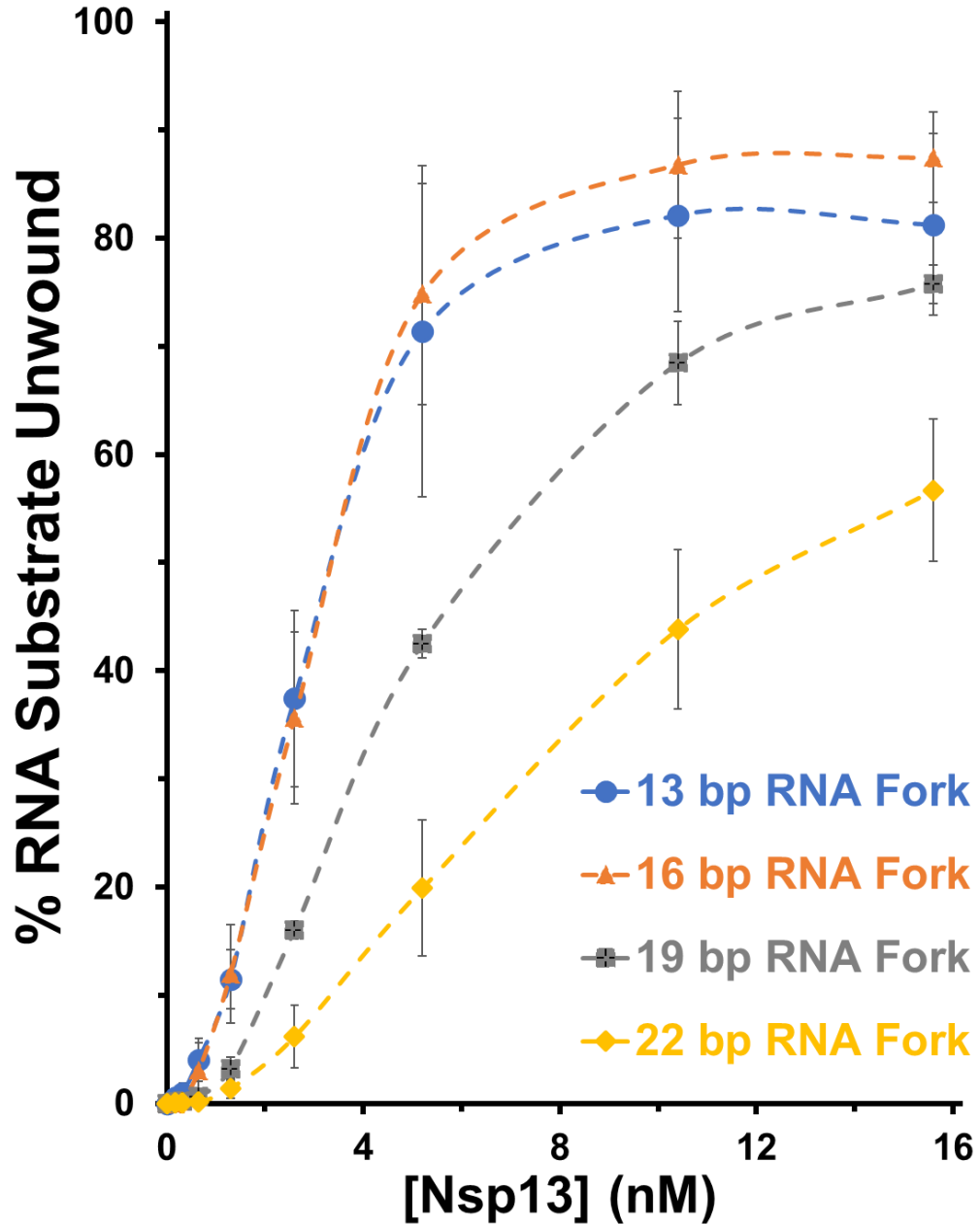
# Nsp13 preferentially loads ssDNA of forked duplex



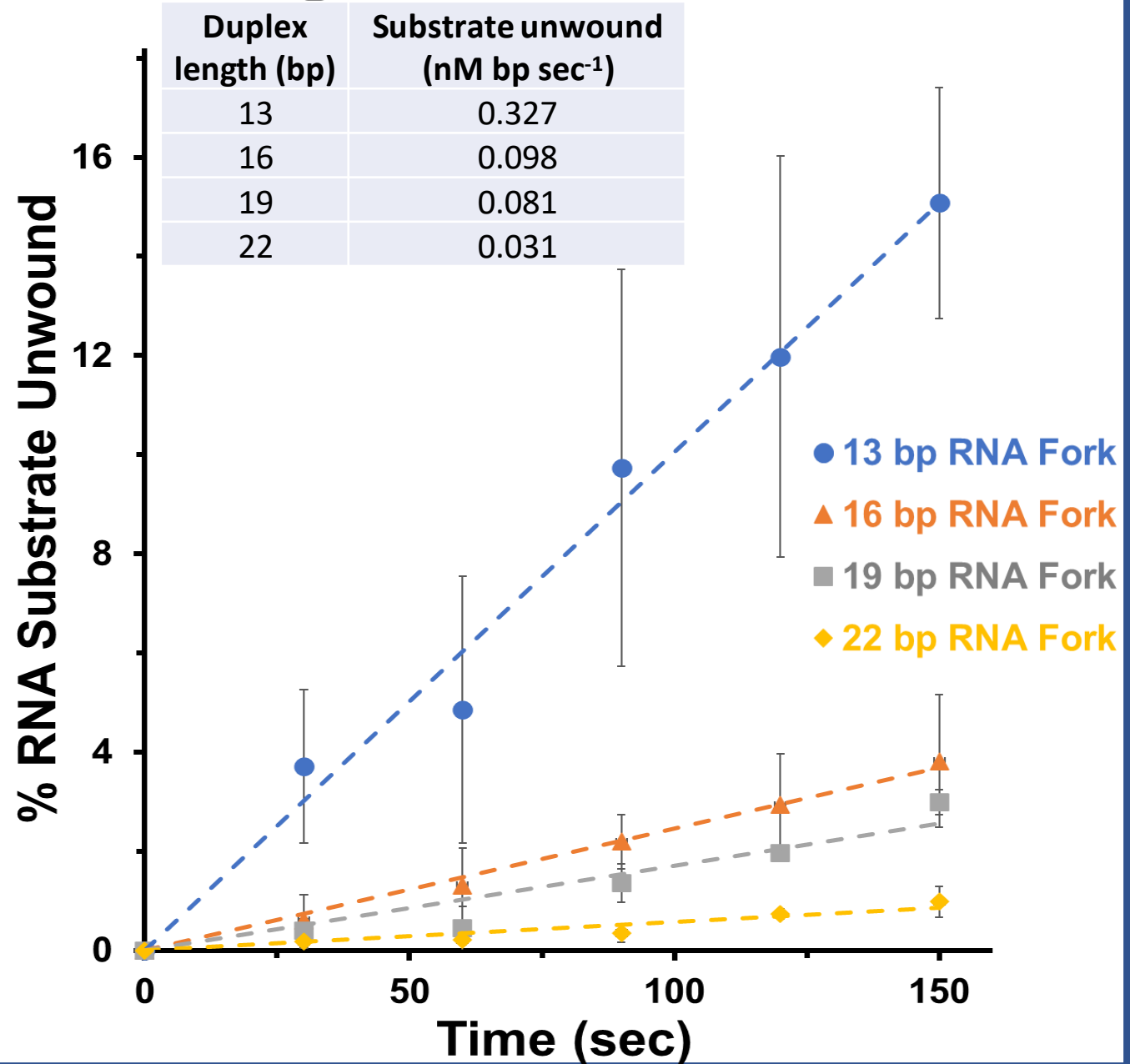
— DNA      — RNA



## Multi-turnover conditions



## Single-turnover kinetics



# Current and Future Directions

- Characterize Nsp13 substrate specificity, translocation, & unwinding mechanism
- Identify accessory factors (viral or host) that modulate Nsp13 helicase
- Screen compounds to identify Nsp13 helicase inhibitors

## Working Model

