Chapter 8

Limitations and future scopes

Limitations

This section discusses the limitations that we had to work within throughout the course of the thesis.

- One of the studied compounds, gallic acid (GA) absorbs in the similar range of wavelength with that of DNA, which restricted us to observe GA-DNA interaction in the ground-state.
- The fluorescence emission of GA and BSA falls in the same region, which restricted us to observe the interaction between GA and BSA.
- Interaction mechanism of dietary PAs with Ct-DNA could have been enhanced further with the assistance of certain advanced instruments/methods.
- Sinapic acid (SA) is weakly fluorescent and has a very short excited-state lifetime, which hampered the lifetime measurements of SA-DNA system.

Future scopes

Some future aspects of these works are as follows

- Synthesis of PEGylated-SA can be performed to increase the water solubility of SA, which can lead to its enhanced bio-efficacy.
- Further modification of the β-CN system can be done in order to achieve better results with targeted delivery.
- Further modification of PAs can be done, e.g., metal complexation, attaching to polymer backbone, synthetic modifications, etc., in order to enhance the applicability of PAs.