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Protein/Ligand Interactions

Spectroscopic techniques are frequently used to quantify interactions of proteins with ligands. Fluorescence probes, both intrinsic and extrinsic, often undergo spectral changes upon ligand binding to the protein. This fluorescence change is used to monitor binding during the ligand titration.

Fluorescence: Fluorescence is particularly useful in binding studies due to its sensitivity and potentially large spectral changes upon ligand binding. Spectral changes also provide information about what type of environmental change the probe is undergoing. Binding affinities are quantified by fitting the fluorescence as a function of total ligand concentration as a function of total ligand concentration.

[All Olis fluorimeters](#) are capable of these studies, and these include the [DM 45](#), [DM 245](#), [SM 45](#), [SLM 8000](#), and [RSM 1000F](#).

Absorbance and CD: In addition to fluorescence, absorbance and CD can be utilized for binding studies. Any system that undergoes a change in absorbance or CD signal upon ligand binding, can be studied using an Olis spectrophotometer.

Absorbance models include the [HPDA 8452](#), [Cary 14](#), [Cary 17](#), [DW 2](#), [DW 2000](#), and [RSM 1000](#). Absorbance measurements in the presence of a highly scattering background are possible with a [CLARiTY](#) accessory, which is available on the Cary 14, Cary 17, and RSM 1000.

CD models include the [DSM 17](#), [DSM 20](#), [DSM 1000](#), or the [MultiScan](#).

Other useful accessories for binding studies include the [Peltier TLC 50](#), [Peltier four cell turret](#), and [titrators](#).

Links to client publications:

Download a PDF of client publications related to Protein/Ligand Interactions [here](#).