Titrated fluorescent binding of Thioflavin-T with bovine serum albumin

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University of Texas at San Antonio — Thioflavin-T (ThT) can be used as a bio-
marker to detect protein aggregation. ThT can be applied towards detecting protein
structural changes, and possibly, protein structure. Spectroscopic analysis was used
to investigate the interaction of bovine serum albumin (BSA), a globular \( \alpha \)-helix
structured protein, with Thioflavin-T in titrated phosphate buffer solutions from
pH 2 – 10. The objective for this study was to analyze the binding characteristics
of BSA, with the fluorescent marker, ThT. Under constant concentrations of 40 \( \mu \)M
ThT and 10 \( \mu \)M BSA, absorbance spectra and fluorescence spectroscopy was used
to determine the binding characteristics of Thioflavin-T to BSA. Evidence is not
certain on whether binding occurred or not, and future plans are to investigate the
protein folding dynamics of partial \( \beta \)-sheet proteins such as lactoglobulin.