# Characterizing Minor Peaks in DSC Thermograms of HSA: Unveiling Thermal Transition Insights

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Previous studies on Human Serum Albumin (HSA) DSC thermogram have been reports of either two distinct $T_m$ or just a single $T_m$. This study analyzes their DSC thermograms by examining the differential thermodynamic behaviors of HSA and HSA-Fatty Acid (HSA-FA) complexes. Notably, minor peaks in the DSC profiles underscore subtle thermal transitions. the minor peak in the DSC thermogram seems to belong to the protein's domain I ($D_I$). The melting temperature (Tm) variations between HSA and HSA-FA reveal significant insights into their stability and interaction mechanisms. These findings highlight the nuanced impact of fatty acid binding on the thermal properties of HSA, offering valuable implications for biochemical and pharmaceutical applications.

***Keywords:*** HSA, DSC thermogram of HSA, minor peak