For in vivo applications, a class of probes have been developed based on conformationally flexible and pi-conjugated polyelectrolytes targeted at probing amyloid protein aggregations---these probes have been denoted luminescent conjugated polyelectrolytes (LCPs). The interaction between the probe and the target compound is taking place, in this case, not by means of covalent bonding but rather by altered molecular probe dynamics, and it is the overall ambition of the our work to provide a microscopic insight as to how the molecular dynamics are interconnected with the luminescence properties.

Experimental ECD measurements on natural nucleosome core particles (NCPs) unambiguously show that DNA adopts three distinct conformational states. By means of first-principles calculations, we address the coupling of conformational states and circular dichroism responses.