B. cellulosilyticus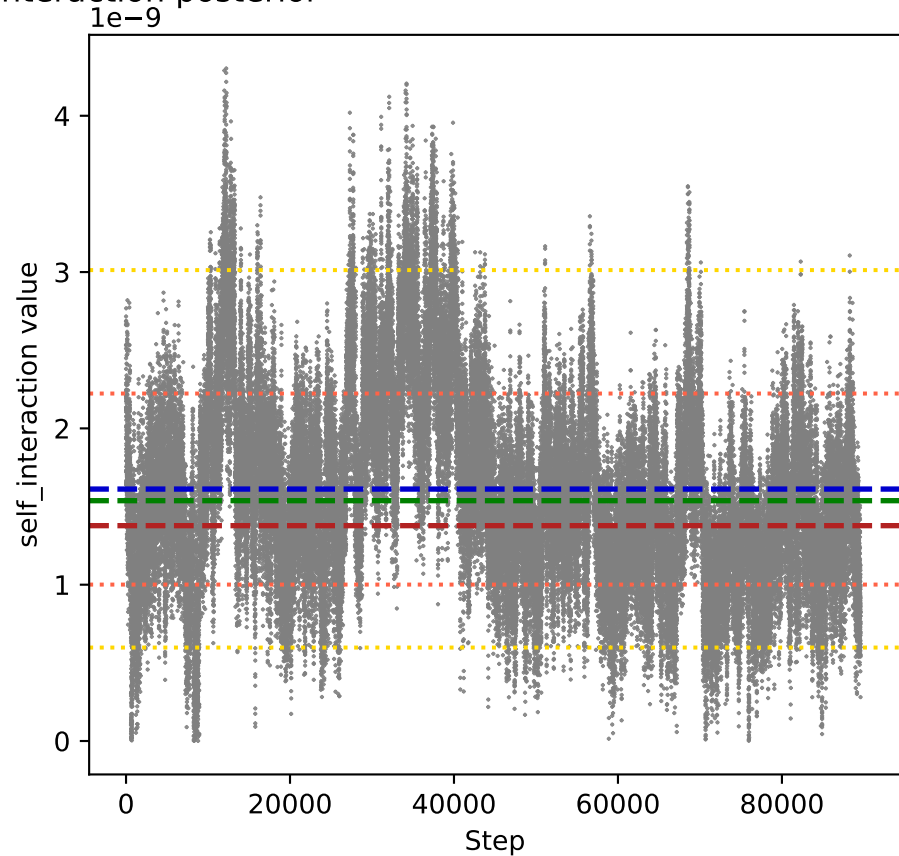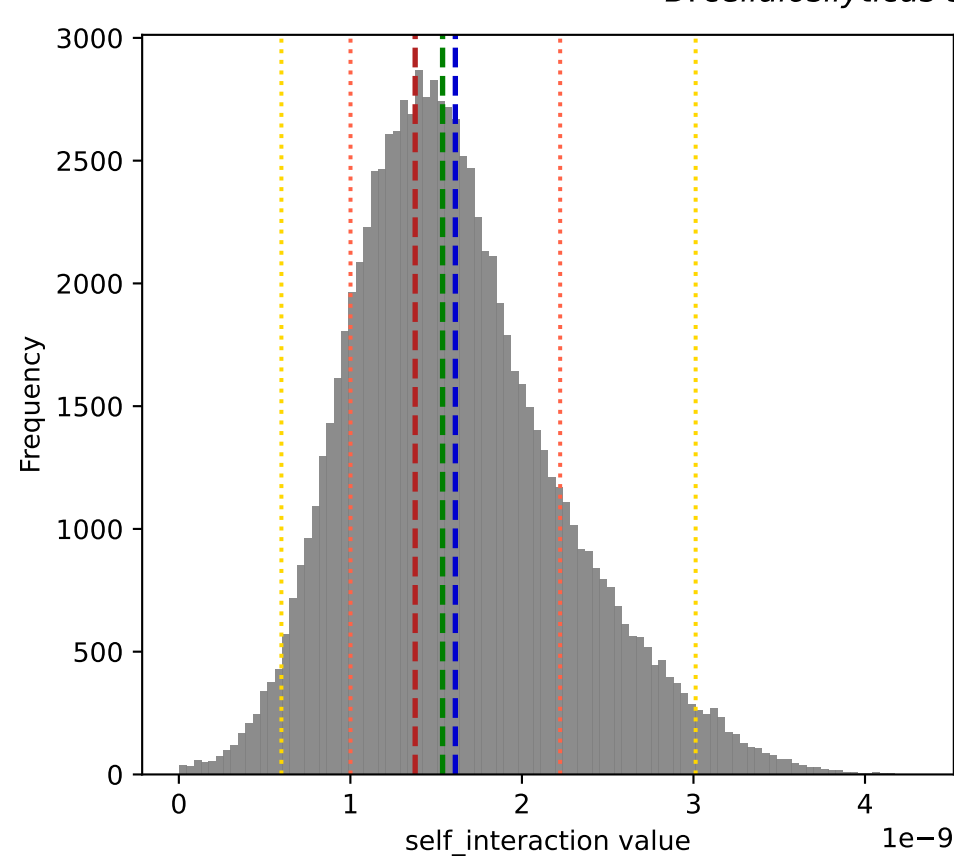 self_interaction posterior