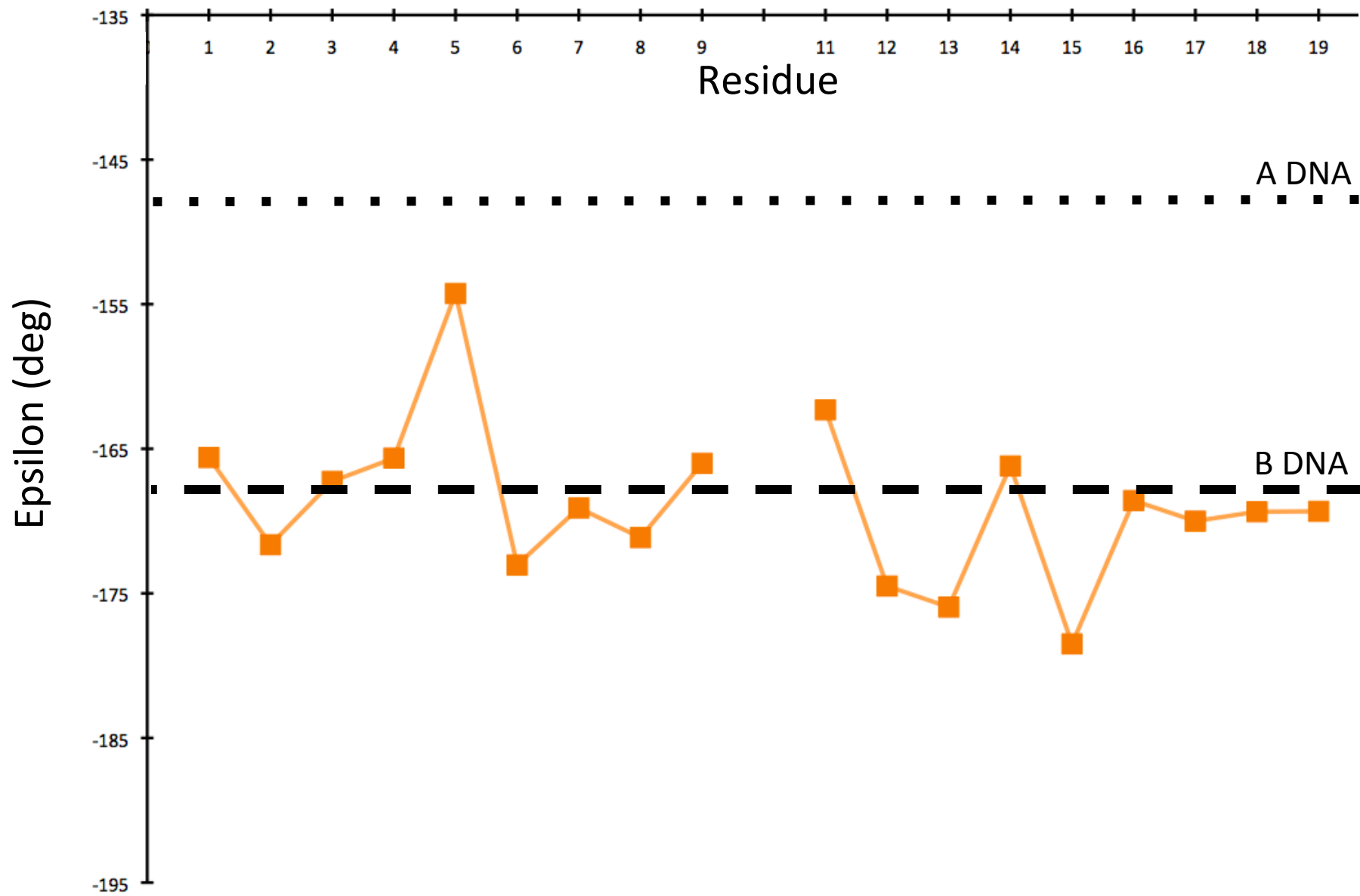
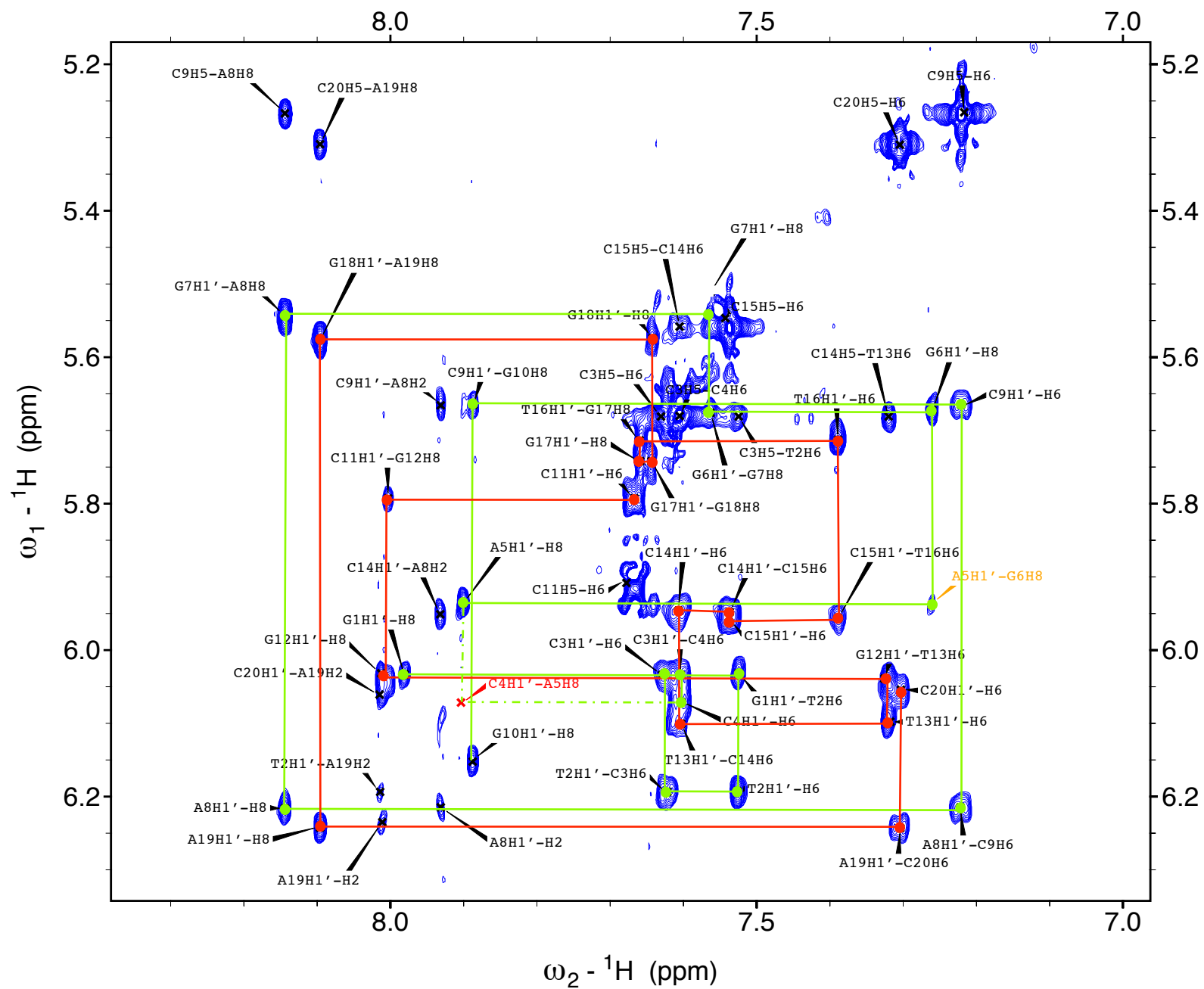
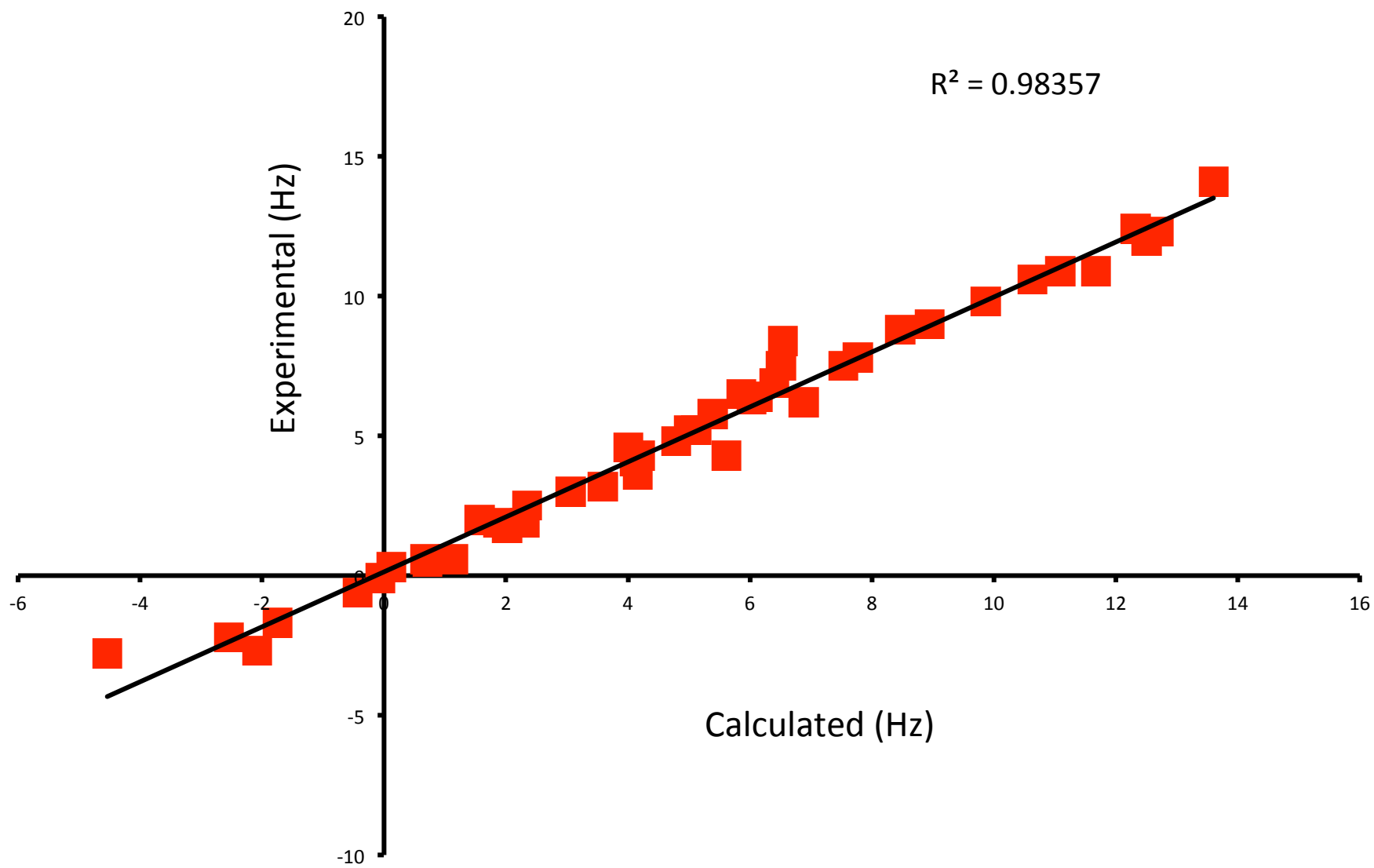


SI\_1

# DNA Backbone Epsilon

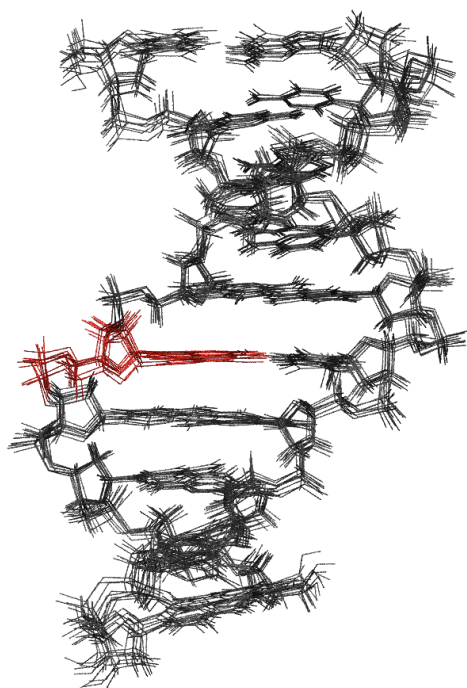


Base-H1' pathway for the C $\alpha$ AG Duplex

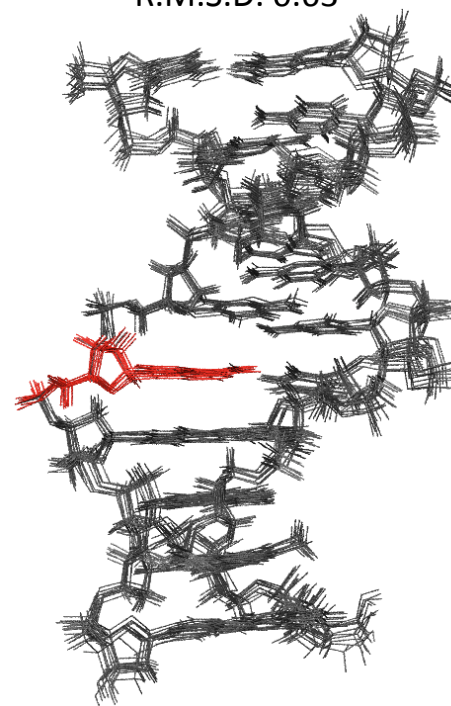
**C $\alpha$ AG**

**A**rMD without RDC data

R.M.S.D. 0.65

**B**rMD with RDC

R.M.S.D. 0.63

**C**Restraint SetRMSD

No restraints	0.86 Å
RDC restraints only	0.69 Å
RDC, BB, WC, Sugar	0.72 Å
BB, WC, Sugar, Distance	0.62 Å
RDC, BB, WC, Sugar, Distance	0.54 Å

SI\_5

