Supplementary materials

Drug repurposing: Deferasirox inhibits the anti-apoptotic activity of Mcl-1

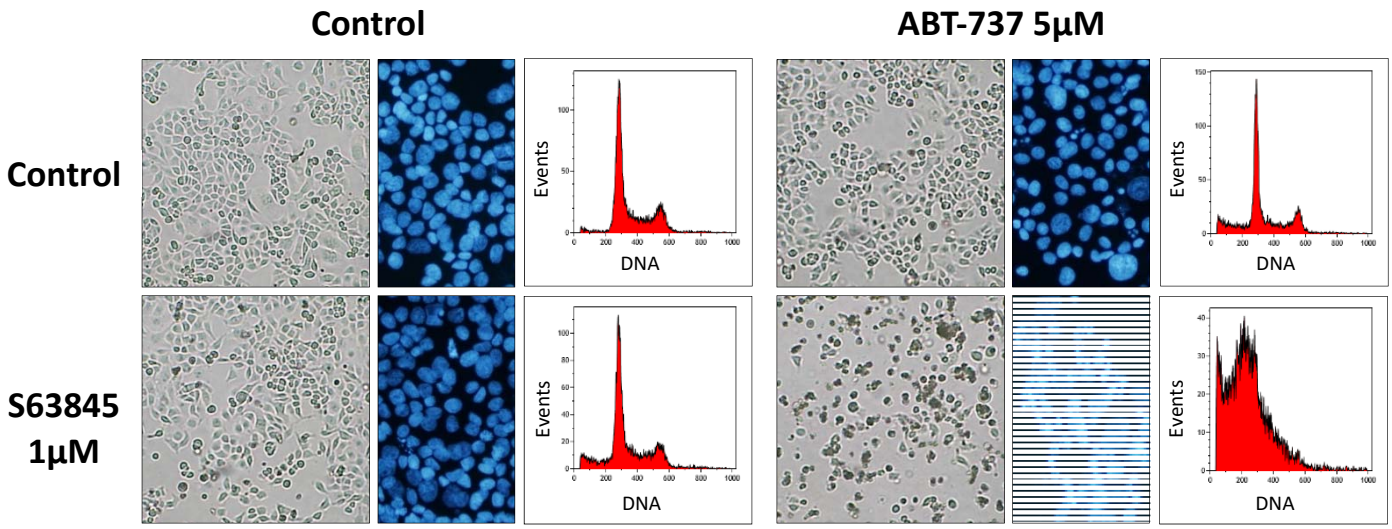


Figure S1. Effect of S63845 in combination with ABT-737 on apoptosis on IGROV1-R10 cell line. Twenty-four hours after seeding, IGROV1-R10 ovarian cancer cells were exposed to 1µM S63845 for 24 h in absence or presence of 5µM ABT-737 and effects on cellular morphophology were analyzed

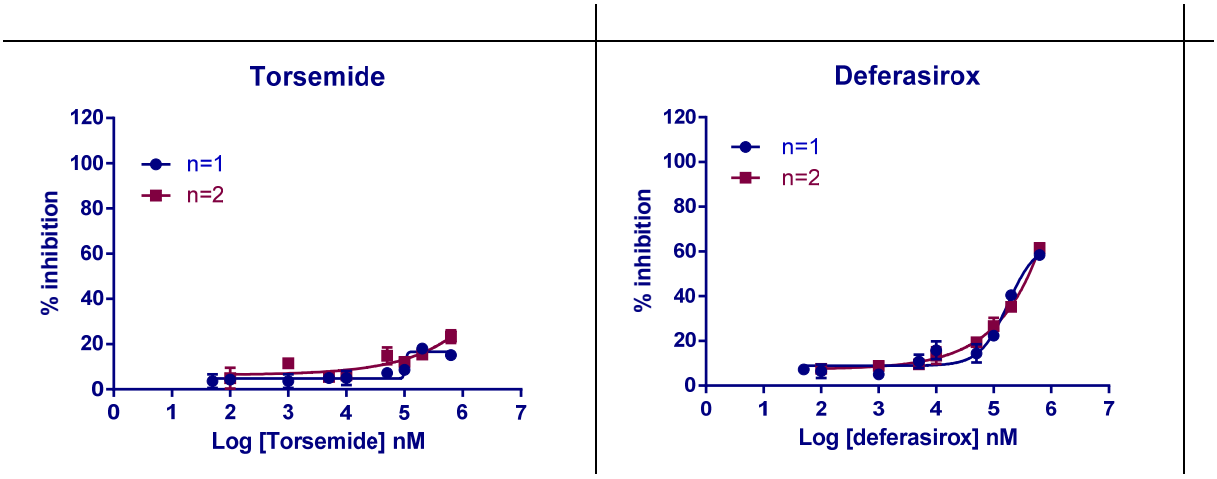
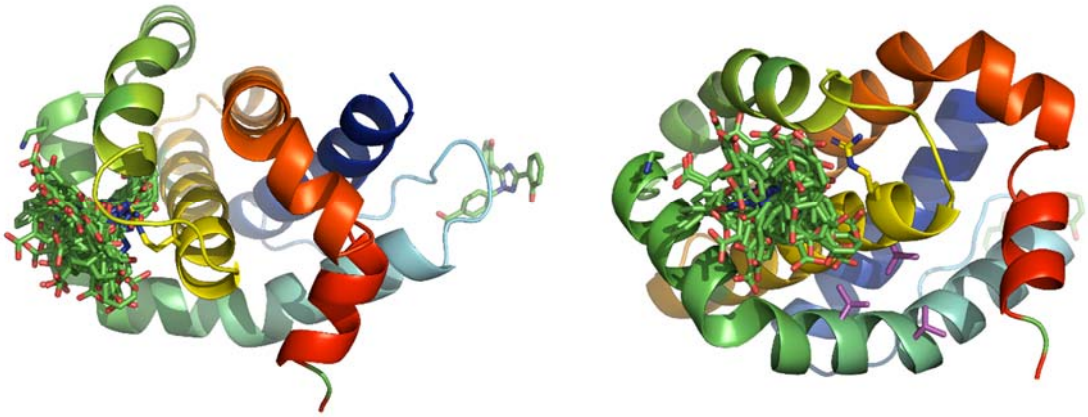


Figure S2. Competitive inhibition binding curves of Deferasirox and torsemide. The experiments were duplicated; n is the assay number

A.



B.

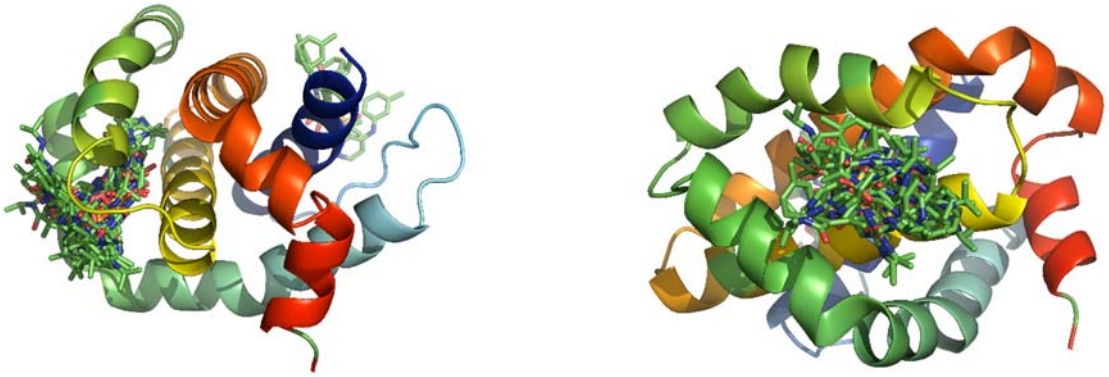


Figure S3. Generated docking binding poses of Deferasirox in Mcl-1 (A) and of Torsemide (B) by blind docking. The residues of P4 pocket perturbed during NMR study are colored in pink

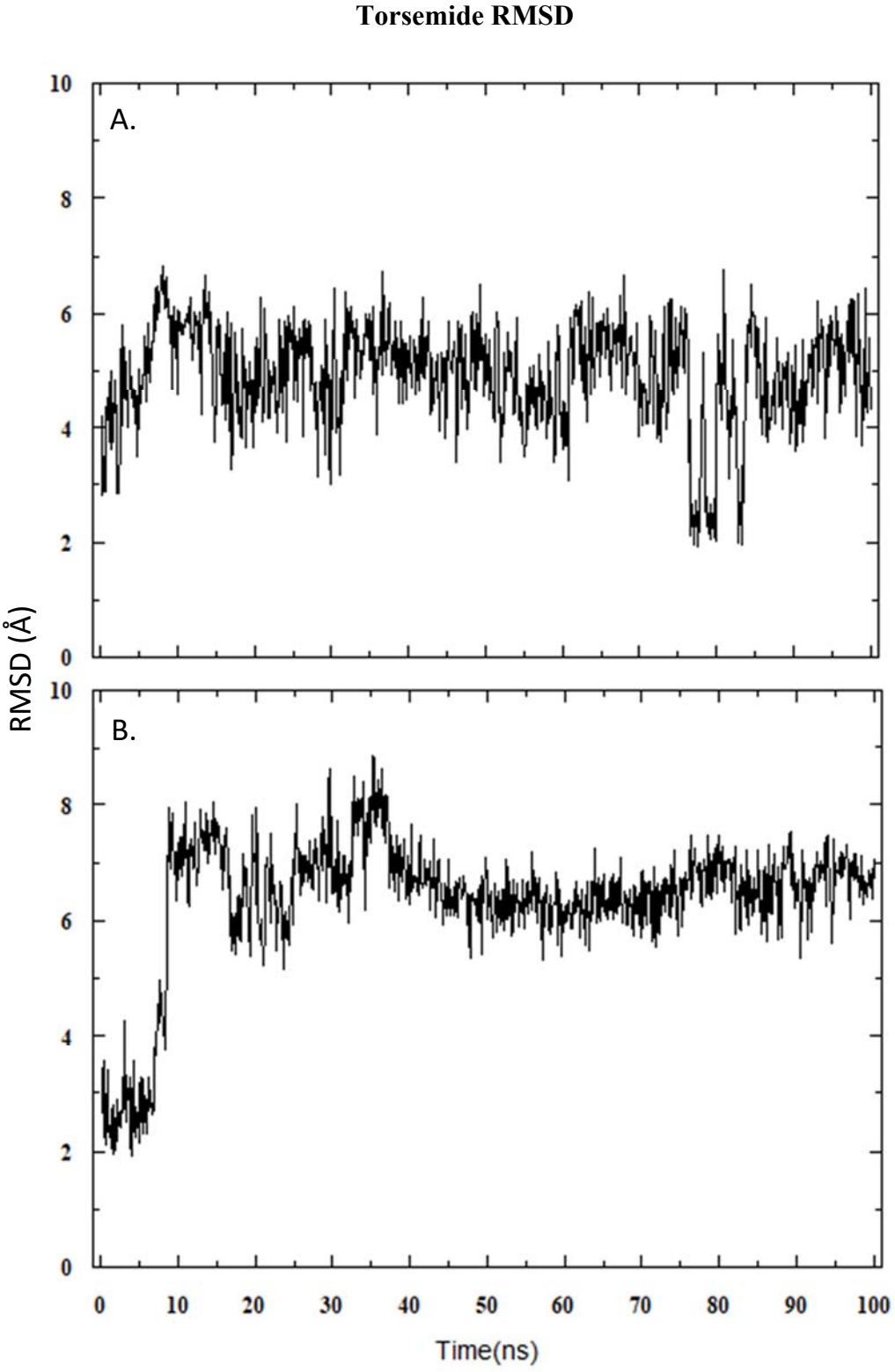


Figure S4A. Torsemide RMSD evolution. A. Pose 1; B. Pose 2

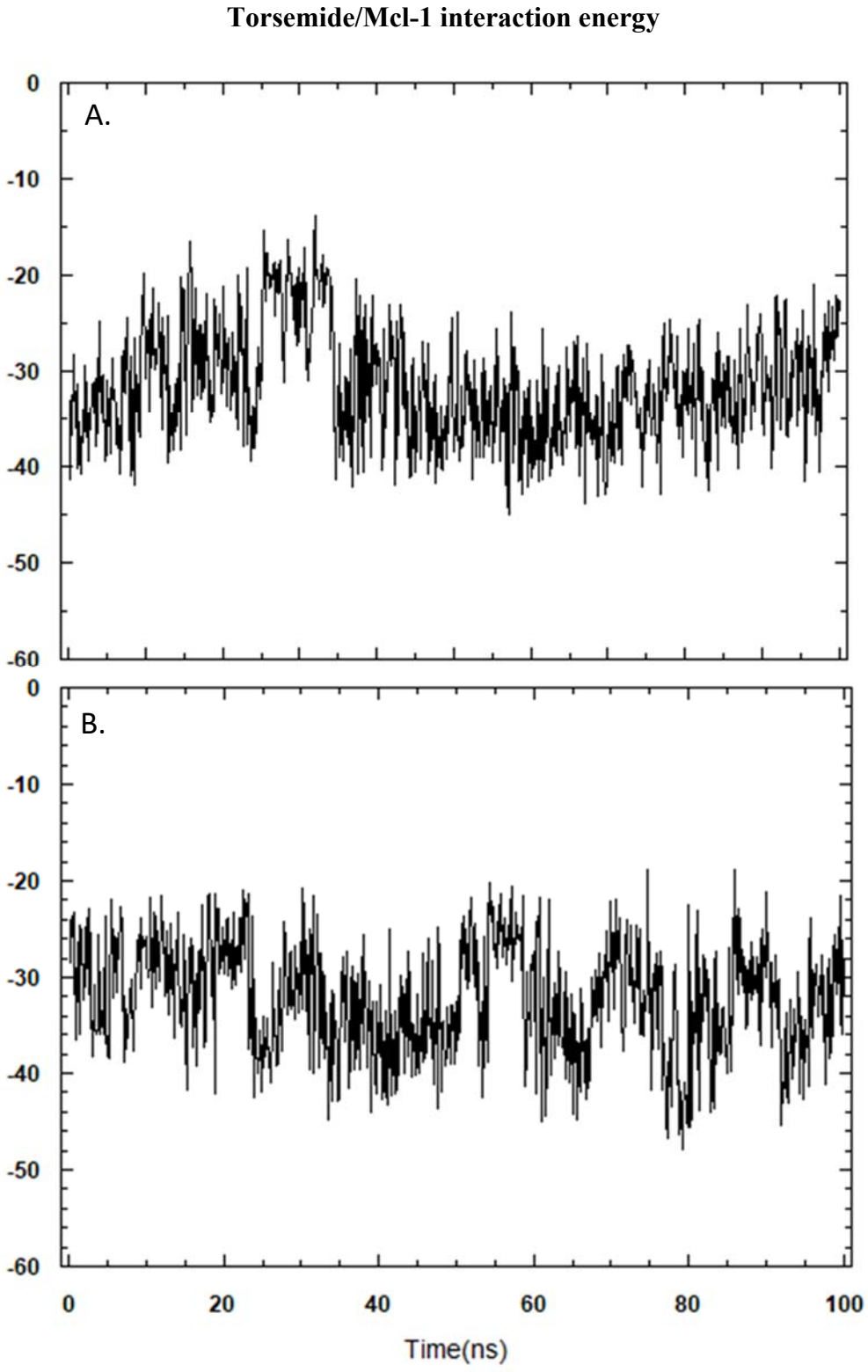


Figure S4B. Torsemide/Mcl-1 interaction energy: A. Pose 1; B. Pose 2
Interaction energy statistics: mean ± sd
Pose 1 : -31.5 ± 5.7 kcal/mol
Pose 2 : -32.3 ± 5.7 kcal/mol

Deferasirox RMSD

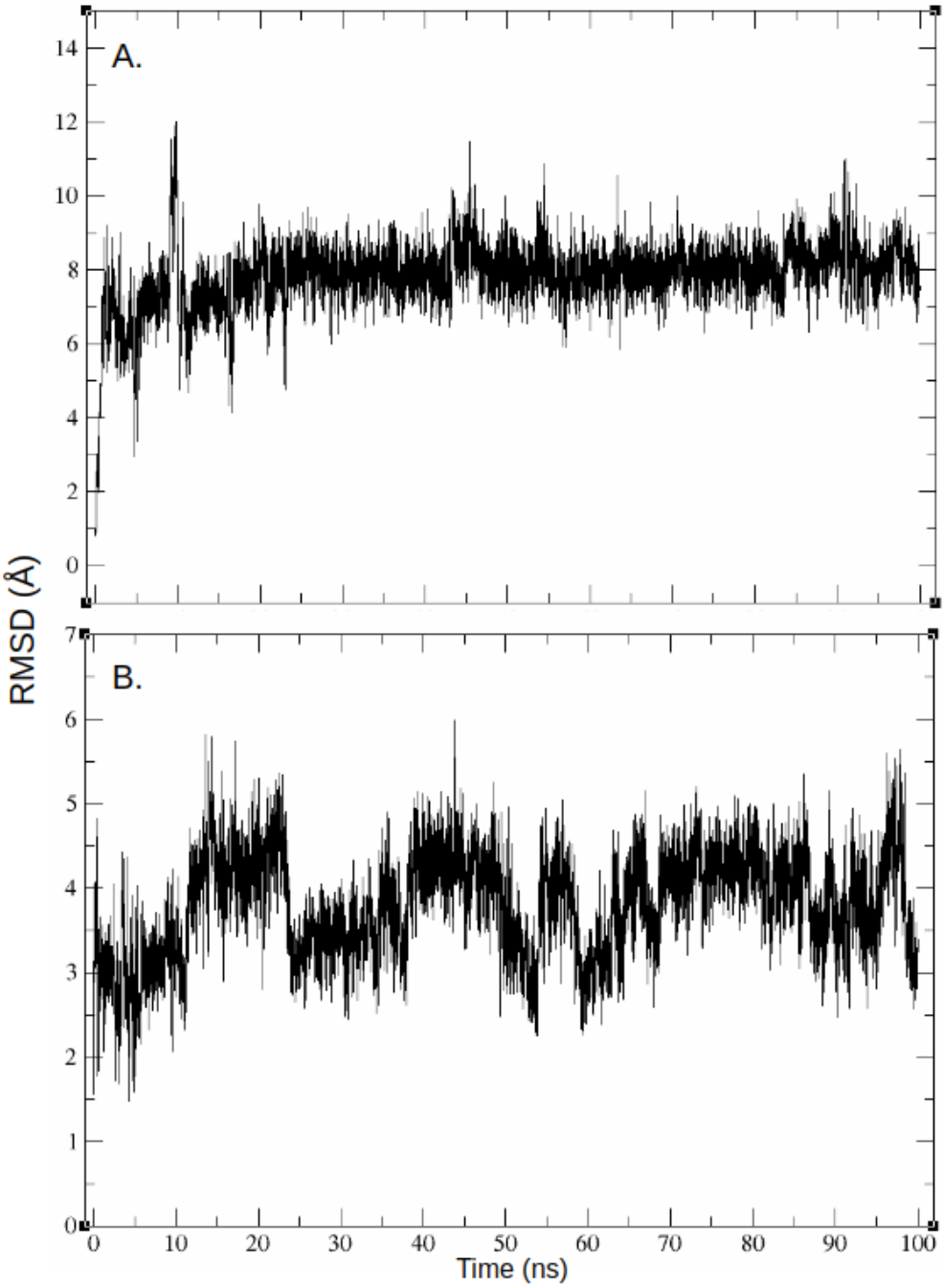


Figure S5A. Deferasirox RMSD evolution. A. Pose 1; B. Pose 2

Defrasirox/Mcl-1 interaction energy

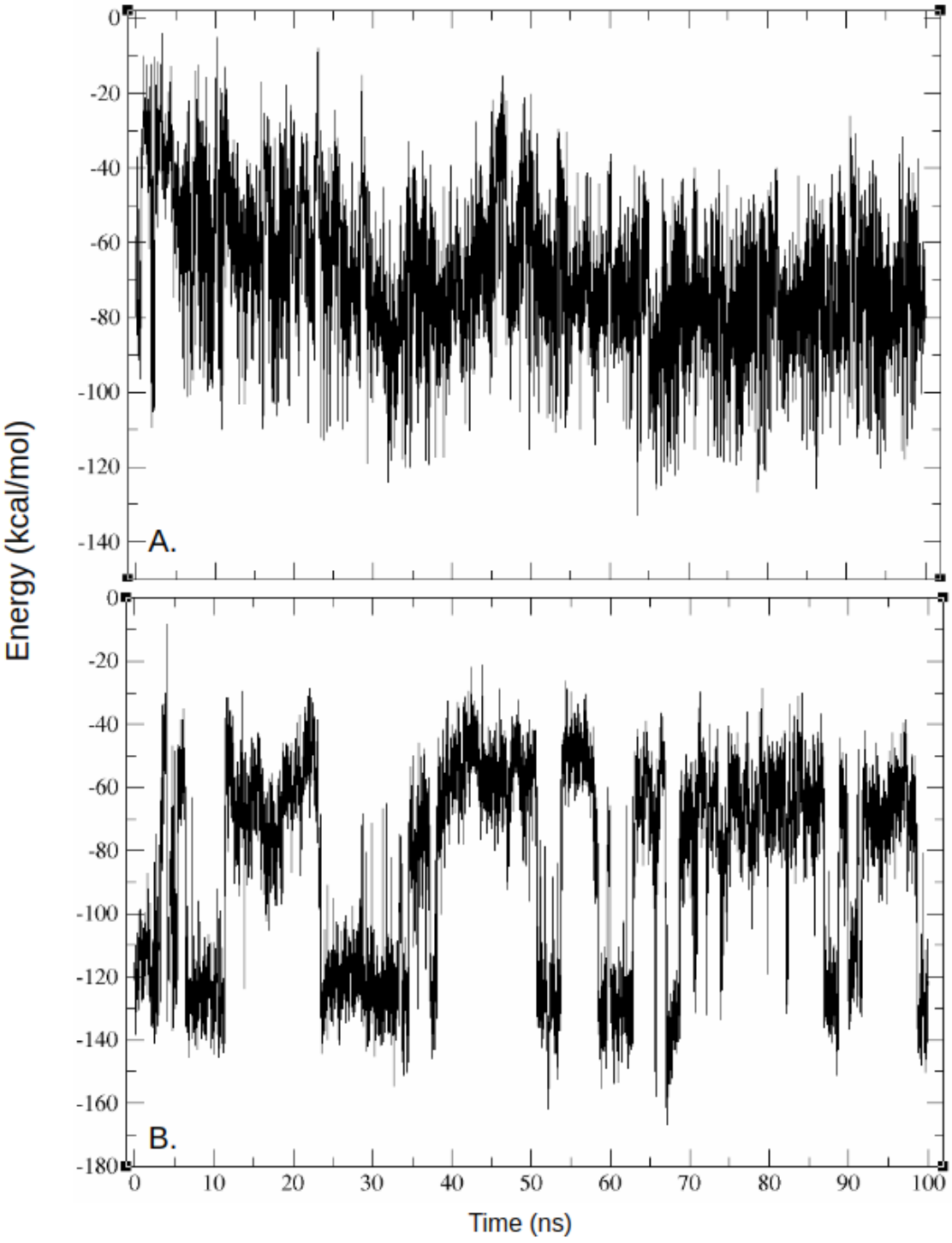


Figure S5B. Defrasirox/Mcl-1 interaction energy: A. Pose 1; B. Pose 2

Interaction energy statistics: mean ± sd

Pose 1 : **-68.2 ± 19.1** kcal/mol

Pose 2 : **-84.6 ± 31.8** kcal/mol => Pose 2 is more favorable.

Deferasirox intramolecular H-bonds

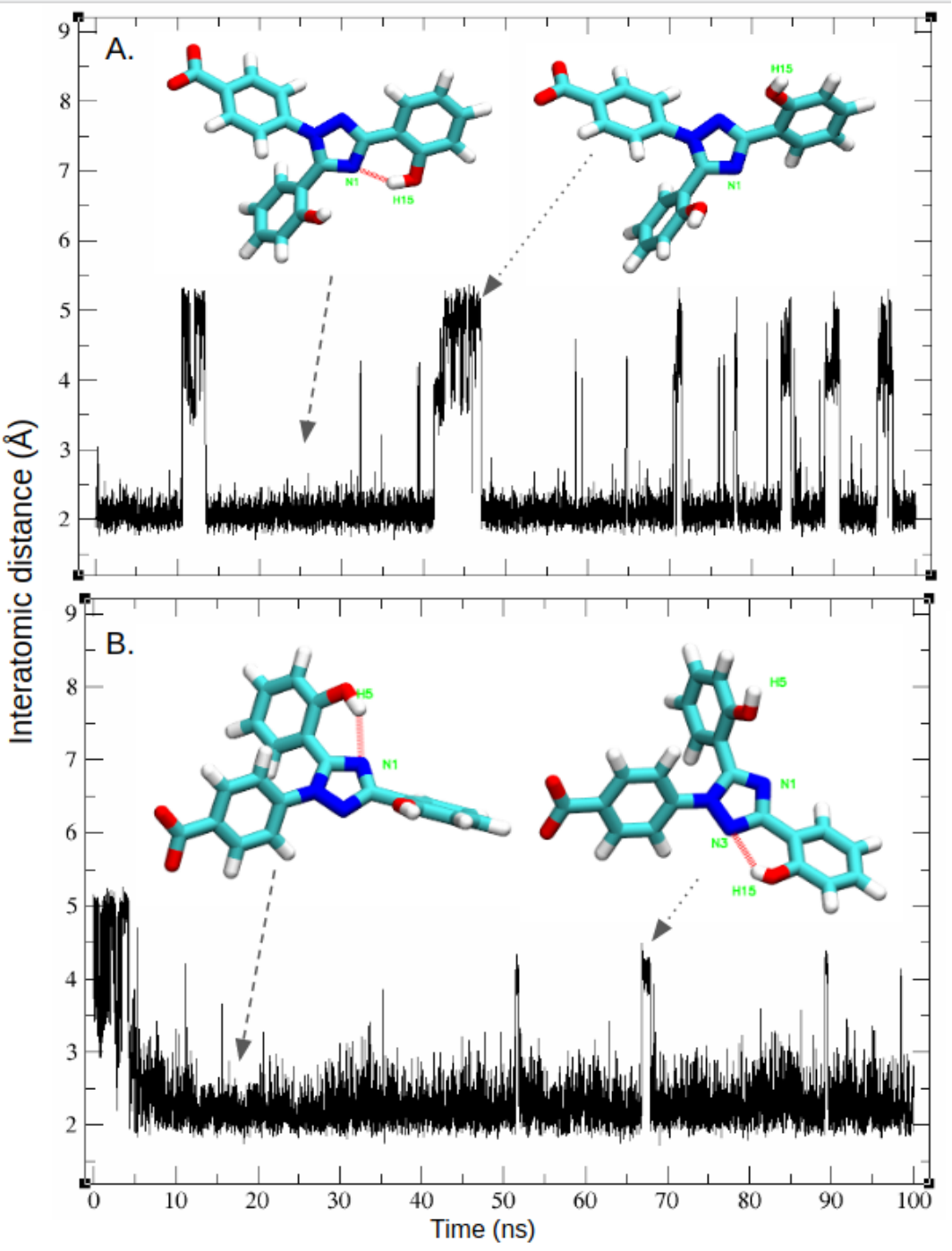


Figure S6. Deferasirox interatomic distance analysis. A. Pose 1: distance (N1-H15) and H-bond evolution. B. Pose 2: distance (N1-H5) and H-bond evolution

The interatomic distance analysis shows as well that the pose 2 is favored: the intramolecular H-bonds are more persistent.