

## **Supporting Information**

### **Protein Structure Refinement through Structure Selection and Averaging from Molecular Dynamics Ensembles**

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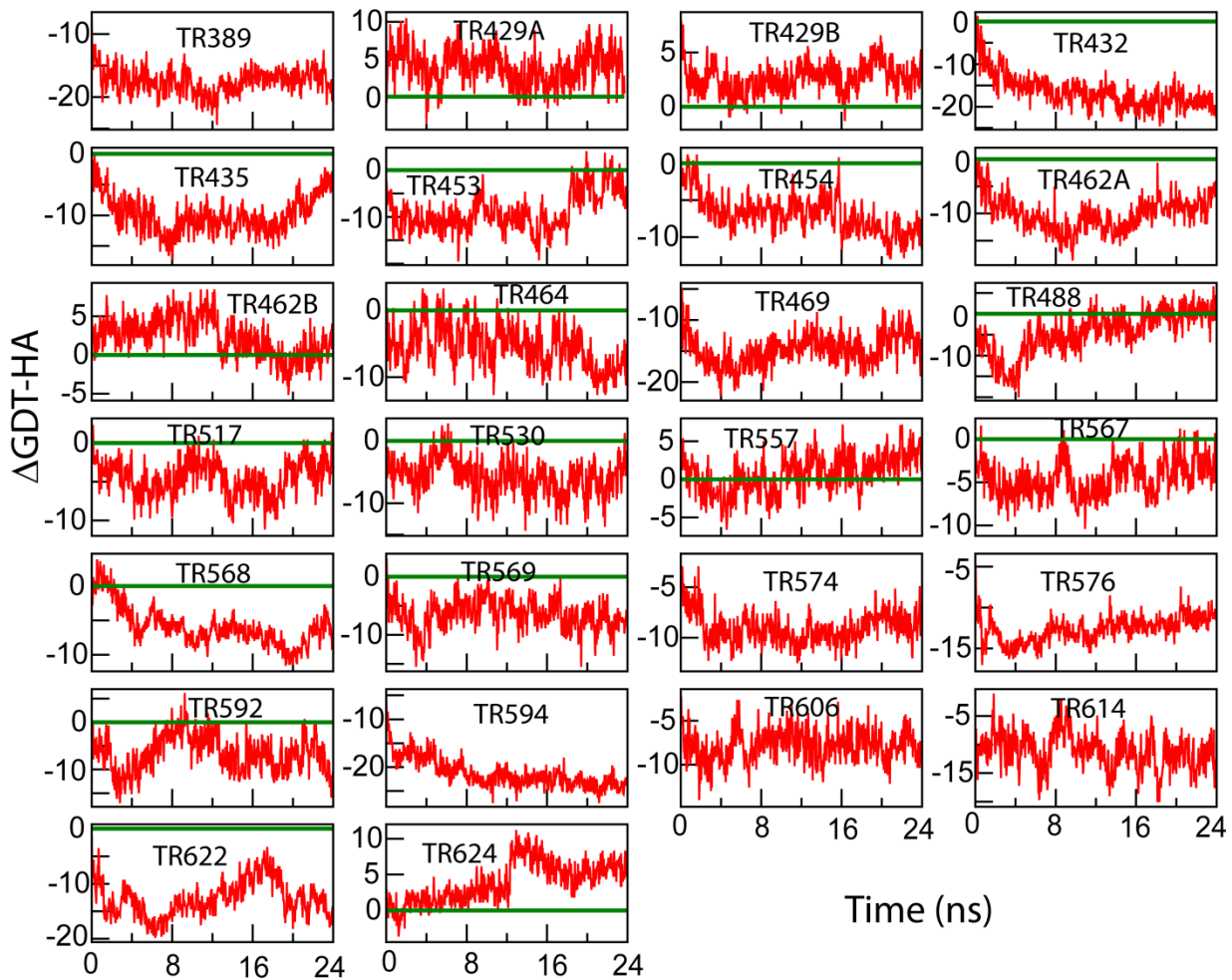
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**Table S1:** Change in RMSD (Å) and GDT-HA for the structure closest to the subset average relative to their respective values from the initial models.

Target	200 ns		8 × 3 ns	
	Δ RMSD	Δ GDT-HA	Δ RMSD	Δ GDT-HA
TR592	<b>-0.08</b>	<b>3.1</b>	<b>-0.03</b>	-0.2
TR453	0.15	-0.3	0.07	-0.3
TR432	<b>-0.20</b>	<b>0.4</b>	<b>-0.11</b>	<b>0.4</b>
TR462a	0.20	<b>2.7</b>	0.11	<b>0.7</b>
TR594	0.24	-0.2	0.04	-0.9
TR614	0.44	-1.1	0.19	-2.5
TR435	0.26	-3.8	0.08	-3.3
TR530	<b>-0.11</b>	-1.6	<b>-0.09</b>	-2.2
TR488	<b>-0.14</b>	<b>2.1</b>	<b>-0.07</b>	<b>0.5</b>
TR469	0.03	-2.8	0.00	-3.2
TR462b	0.11	<b>0.4</b>	0.08	<b>0.4</b>
TR389	<b>-0.21</b>	-5.2	0.03	-4.9
TR464	0.03	<b>0.7</b>	0.04	-0.4
TR569	<b>-0.30</b>	-1.0	<b>-0.03</b>	<b>0.3</b>
TR454	<b>-0.08</b>	<b>1.4</b>	<b>-0.05</b>	-0.1
TR567	<b>-0.05</b>	<b>2.6</b>	0.01	<b>2.8</b>
TR574	0.79	<b>0.7</b>	0.14	-2.7
TR557	<b>-0.50</b>	<b>1.4</b>	<b>-0.16</b>	<b>2.2</b>
TR429a	<b>-0.11</b>	<b>8.9</b>	0.03	<b>2.4</b>
TR517	0.31	-1.0	0.07	<b>0.8</b>
TR606	<b>-0.48</b>	<b>1.2</b>	0.02	-2.9
TR429b	<b>-0.13</b>	-0.3	<b>-0.06</b>	<b>0.3</b>
TR624	<b>-0.42</b>	<b>4.0</b>	0.06	0.0
TR568	<b>-0.06</b>	<b>1.6</b>	0.22	<b>0.5</b>
TR622	0.21	<b>2.5</b>	0.39	-0.6
TR576	0.40	-0.7	0.72	-3.3
Avg.	0.01	<b>0.6</b>	0.07	-0.6

**Figure S1.** Change in GDT-HA of all CASP8 and CASP9 targets after refinement without imposing restraints using C36ff



**Figure S2.** Change in GDT-HA vs. time for all targets with 200 ns simulation with imposed restraints

