

## SUPPORTING INFORMATION

### Intermolecular Interactions in Electron Transfer through Stretched Helical Peptides

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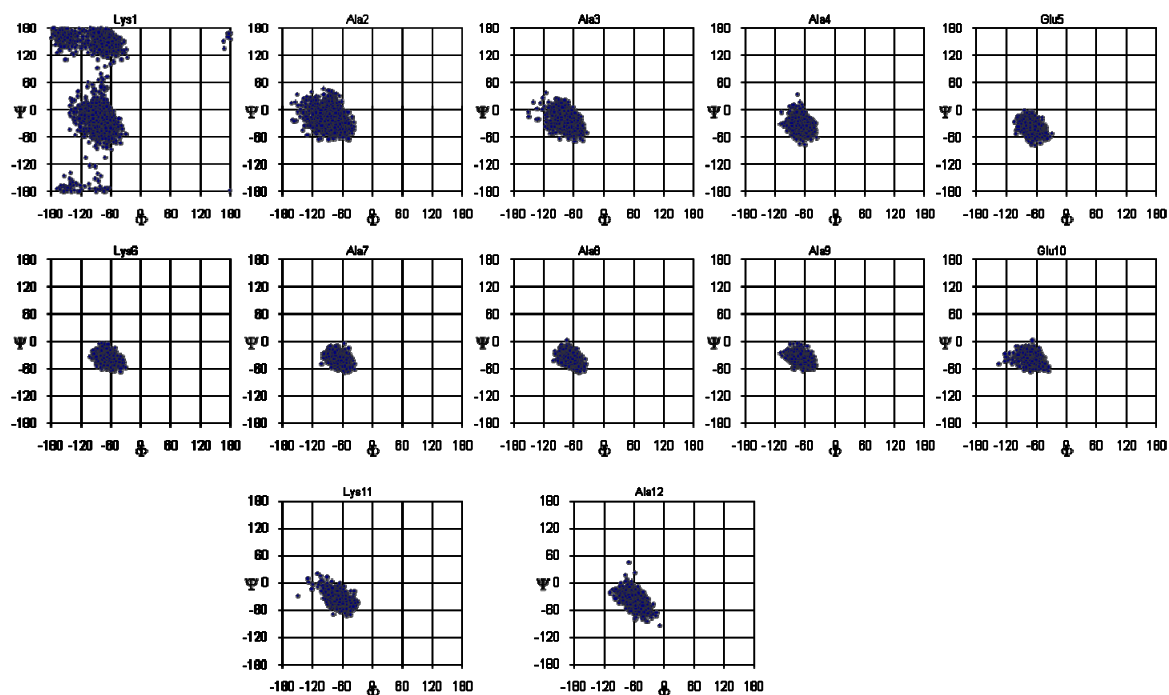
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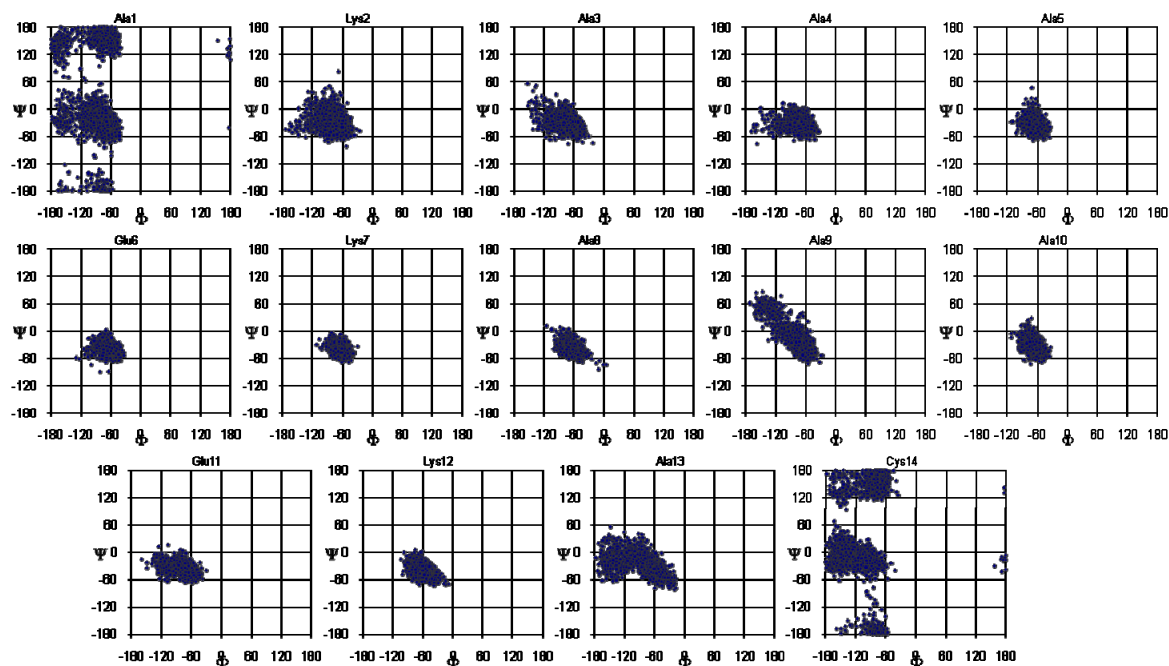
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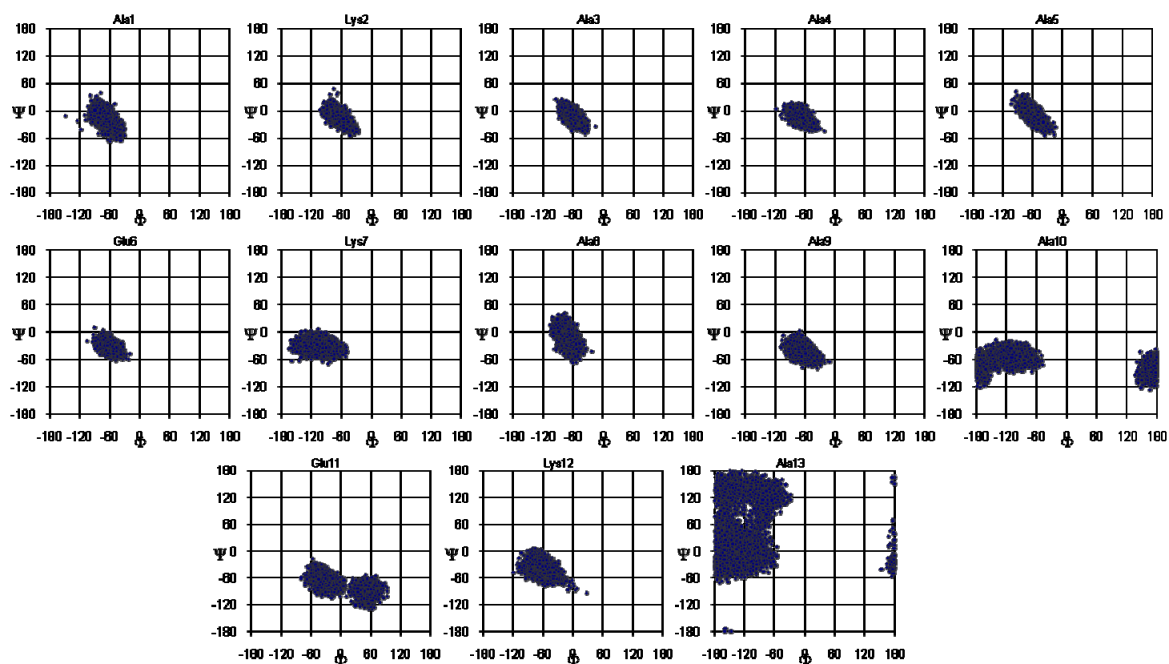
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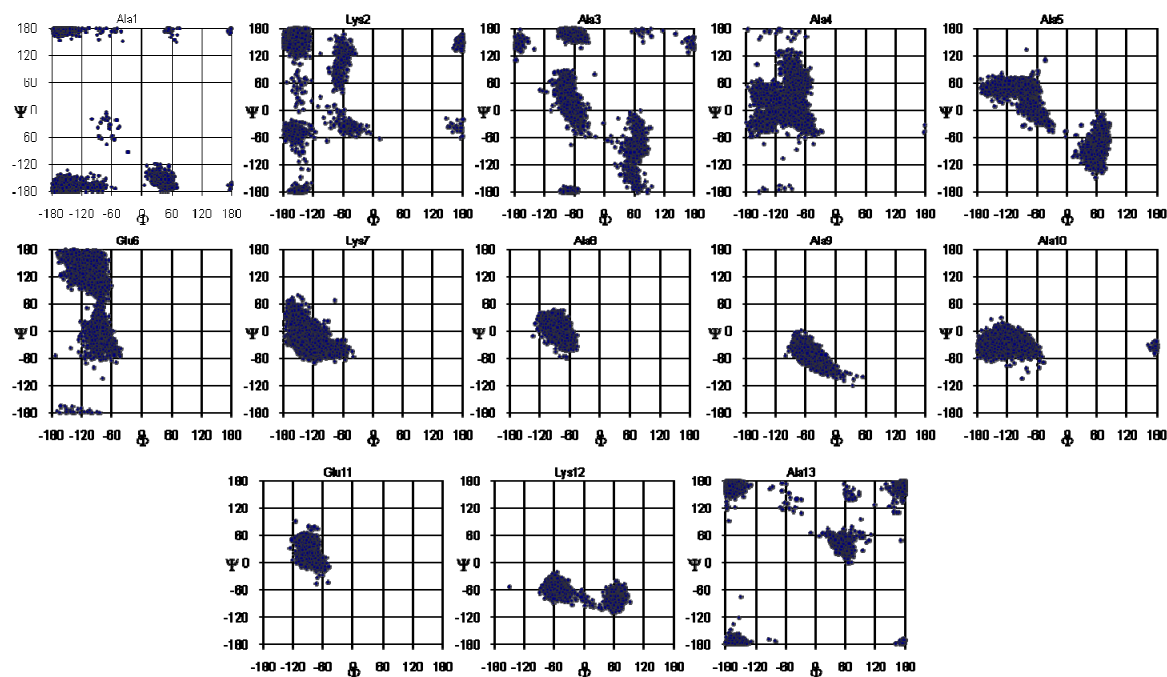
**Figure S1.** Comparison of the accumulated Ramachandran maps derived from the simulation of the ionized PI peptide in diluted aqueous solution. The maps show the backbone dihedral angles ( $\Phi, \Psi$ ) distribution of the 12 central residues.



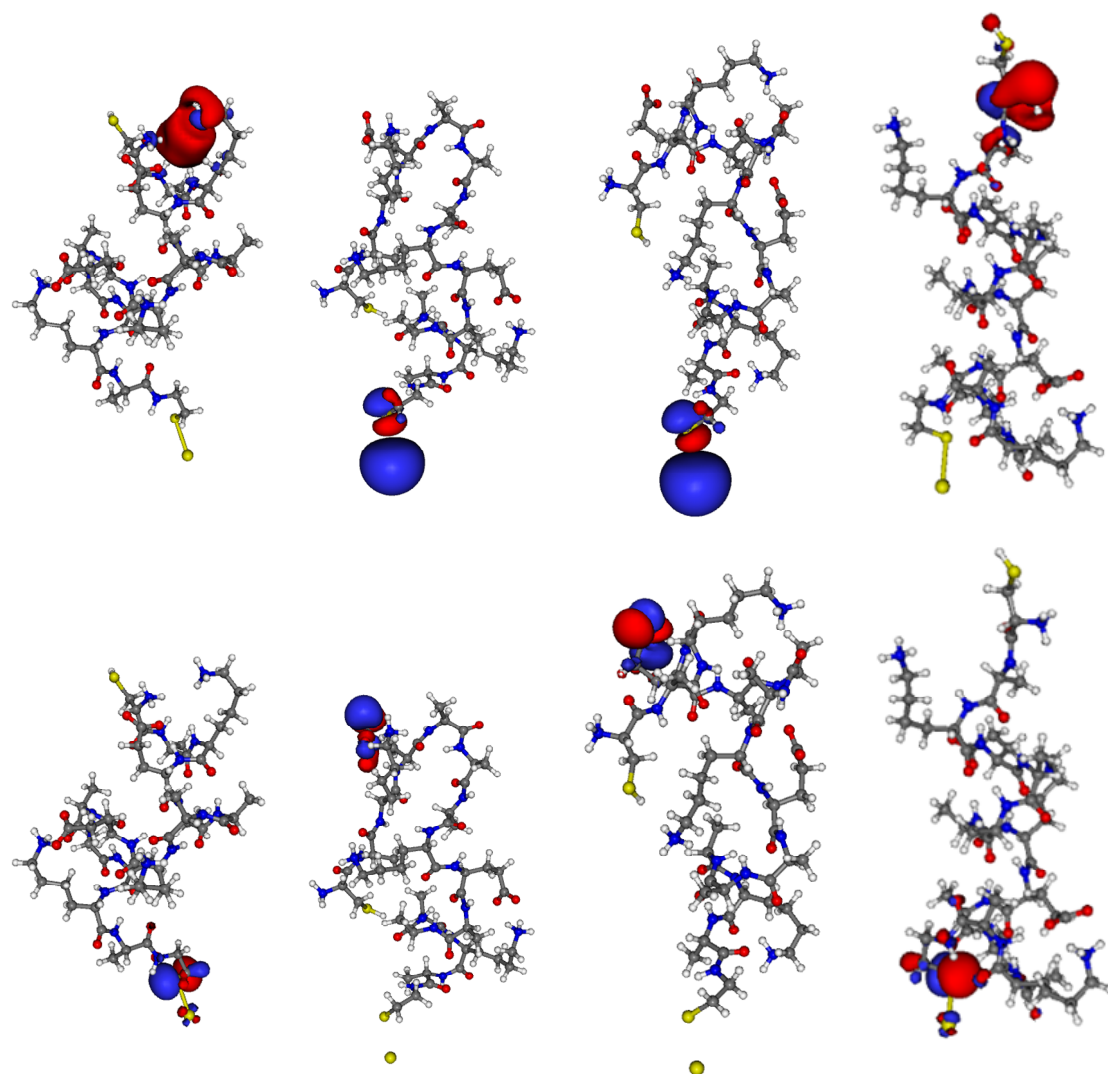
**Figure S2.** Comparison of the accumulated Ramachandran maps derived from the simulation of the blocked PI peptide in diluted aqueous solution. The maps show the backbone dihedral angles ( $\Phi, \Psi$ ) distribution for all residues.



**Figure S3.** Comparison of the accumulated Ramachandran maps derived from the simulation of the PAuS-I peptide in water/TFE solution. The maps show the backbone dihedral angles ( $\Phi, \Psi$ ) distribution for all residues.



**Figure S4.** Comparison of the accumulated Ramachandran maps derived from the simulation of the PAuS-I peptide in the gas phase. The maps show the backbone dihedral angles ( $\Phi, \Psi$ ) distribution for all residues.



**Figure S5.** Representation of frontier orbitals (HOMO at the bottom, LUMO at the top) for typical snapshots of the (from left to right) unconstrained,  $d_{S-S}=1.00$  nm,  $d_{S-S}=1.50$  nm and  $d_{S-S}=2.75$  nm PAuS-I peptide.