## **Description of Additional Supplementary Files**

File name: Supplementary Data 1

Description: Gromacs \*mdp input file for the production run.

File name: Supplementary Data 2

Description: Representative snapshot after 250ns production run for antagonist bound

APJR.

File name: Supplementary Data 3

Description: Representative snapshot after 250ns production run for apo APJR.

File name: Supplementary Data 4

Description: Representative snapshot after 250ns production run for AP13 bound APJR.