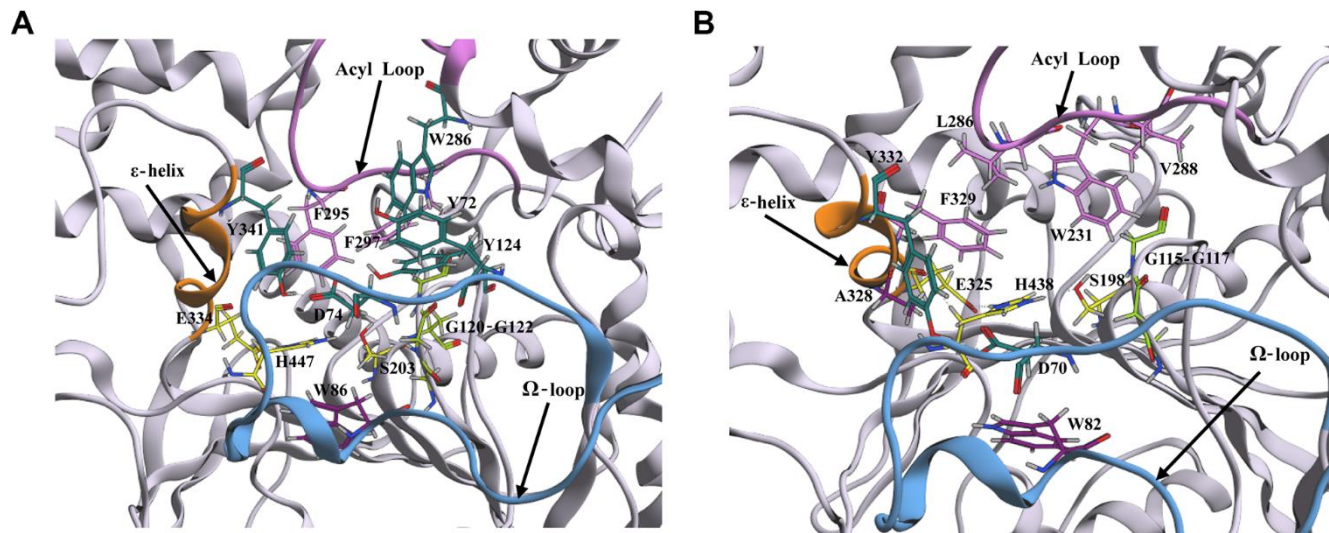


## SUPPLEMENTARY FIGURES

### Supplementary Figure



**Supplementary Figure 1.** Features and key amino acid residues of the active site gorge of acetylcholinesterase (AChE, **(A)** PDB: 4M0E, 2.00 Å [90] and butyrylcholinesterase (BChE, **(B)** PDB: 4TPK, 2.70 Å). The catalytic triad is shown in yellow (**(A)** S203, E334, H447; **(B)** S198, E325, H438), acyl binding pocket residues are shown in pink (**(A)** F295, F297; **(B)** W231, L286, V288, F329), peripheral anionic site residues are shown in teal (**(A)** Y72, D76, Y124, W286, Y341; **(B)** D70, Y332),  $\pi$ -cationic site residues are shown in purple (**(A)** W86; **(B)** W82, A328), and oxyanion hole residues are shown in lime green (**(A)** G120-G122; **(B)** G115-G117). Acyl loop,  $\Omega$ -loop, and  $\epsilon$ -helix are shown as pink, blue, and orange ribbon structures, respectively. Images were generated with Molecular Operating Environment 2022.02 (Chemical Computing Group ULC, Montreal, Quebec, Canada).