

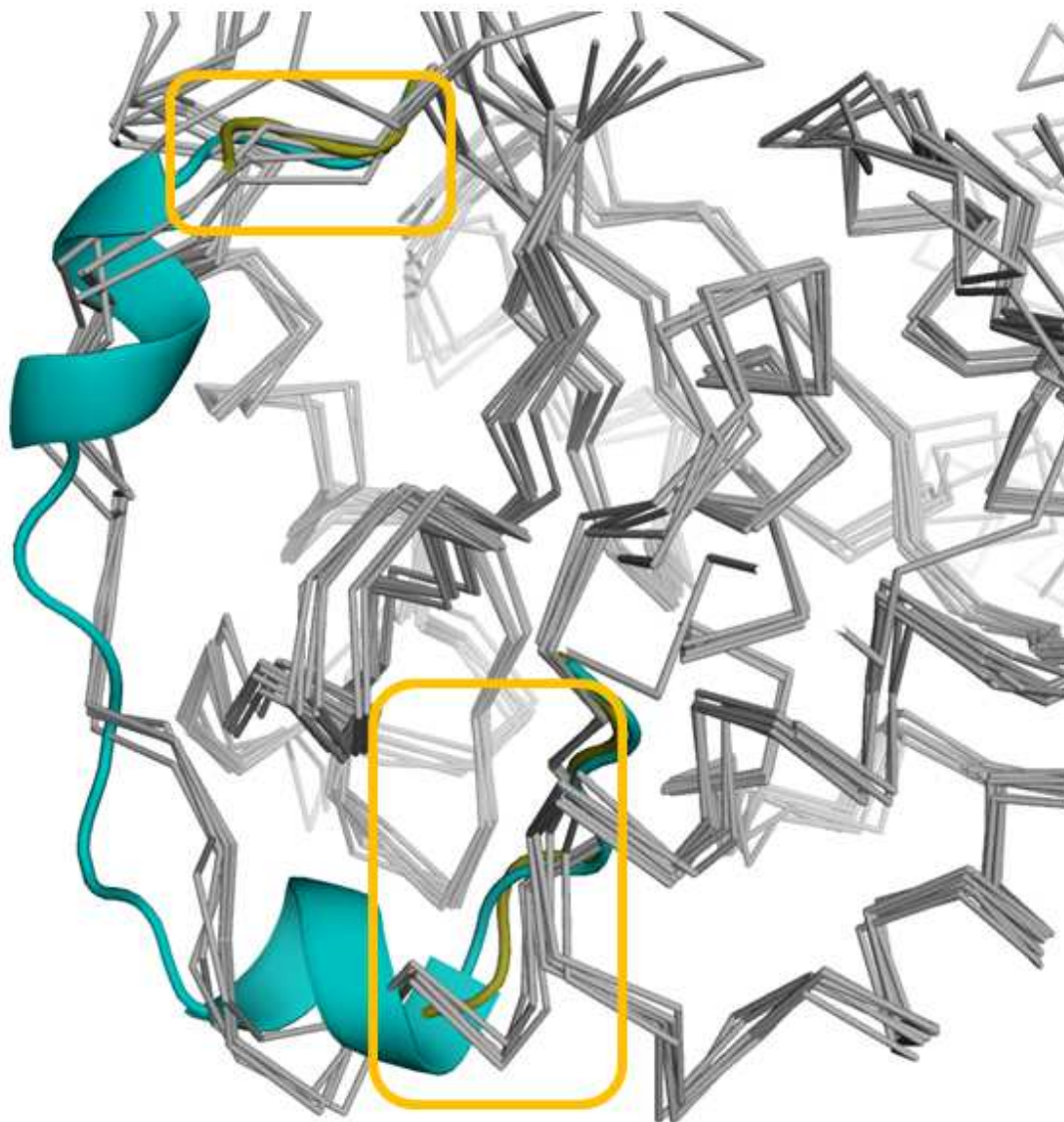
**Supplementary Material**

**Stabilization of an unusual salt bridge in ubiquitin by the extra C-terminal domain of the proteasome-associated deubiquitinase UCH37 as a mechanism of its exo specificity**

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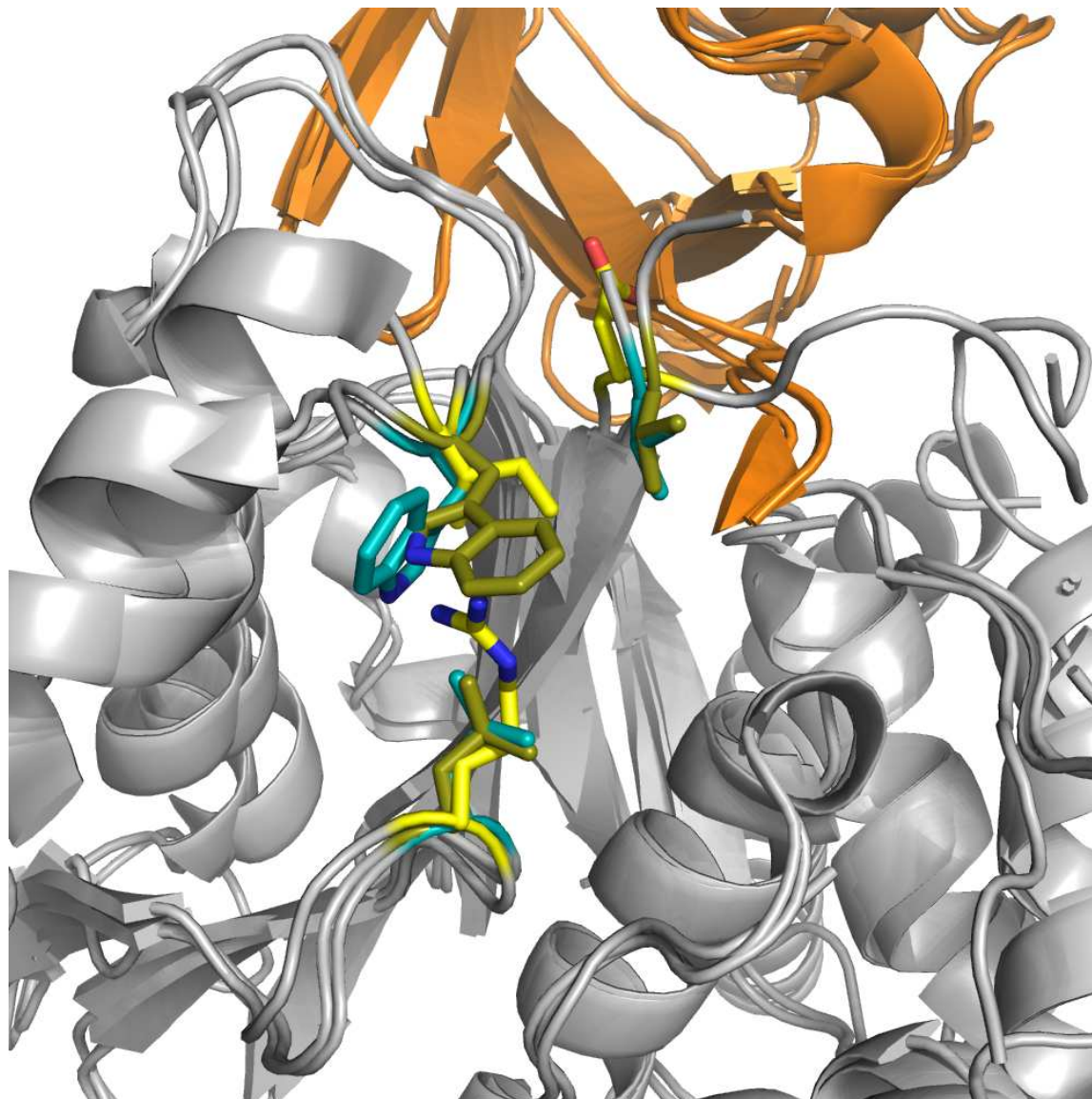
## Supplementary Figures

### Supplementary Figure 1.



**Figure S1:** Superposition of all human UCH37 structures (PDB IDs 3IHR, 3RIS, 3RII, 3A7S, 3TB3) with TsUCH37<sup>cat</sup>-UbVME (teal) and TsUCH37<sup>ΔC46</sup>-UbVME (olive). Residues 57-71 are missing in TsUCH37<sup>ΔC46</sup>-UbVME, as highlighted by the orange boxes.

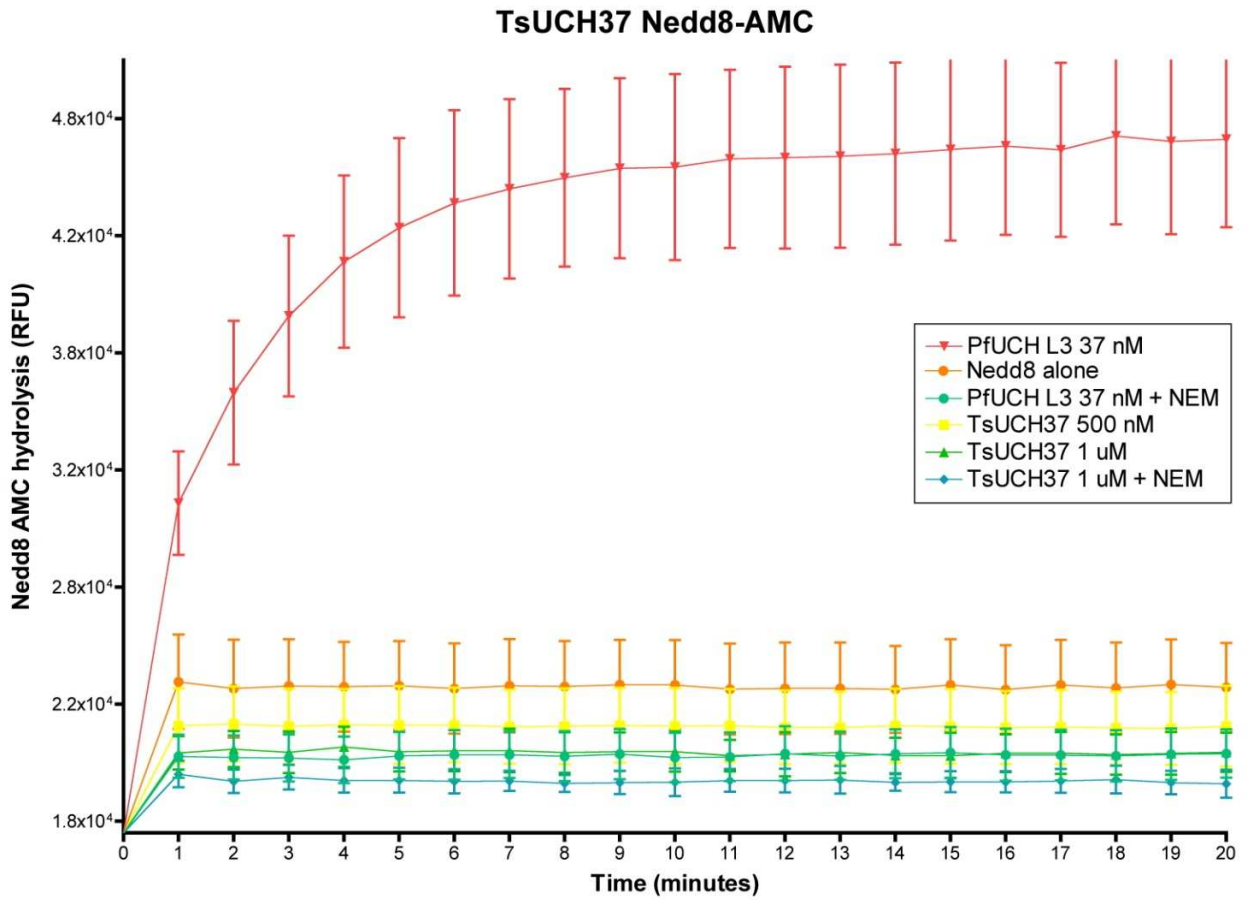
Supplementary Figure 2.



**Figure S2:** Dynamics of Trp55 from the structures of the TsUCH37-UbVME constructs. TsUCH37 <sup>$\Delta$ C46</sup>-UbVME is shown in olive, TsUCH37<sup>cat</sup>-UbVME is shown in teal, UbVME is orange, and also shown is the analogous residue in the UCHL3-UbVME structure (PDB ID 1XD3), Ile58, in yellow.



Supplementary Figure 4.



**Figure S4:** NEDD8-AMC hydrolysis assay using TsUCH37, the same assay was used to investigate PfUCHL3, a dual ubiquitin and NEDD8 C-terminal hydrolase.

