

Supplementary Materials: L-Fucose synthesis using a halo- and thermophilic L-fucose isomerase from polyextremophilic *Halo-thermothrix orenii*

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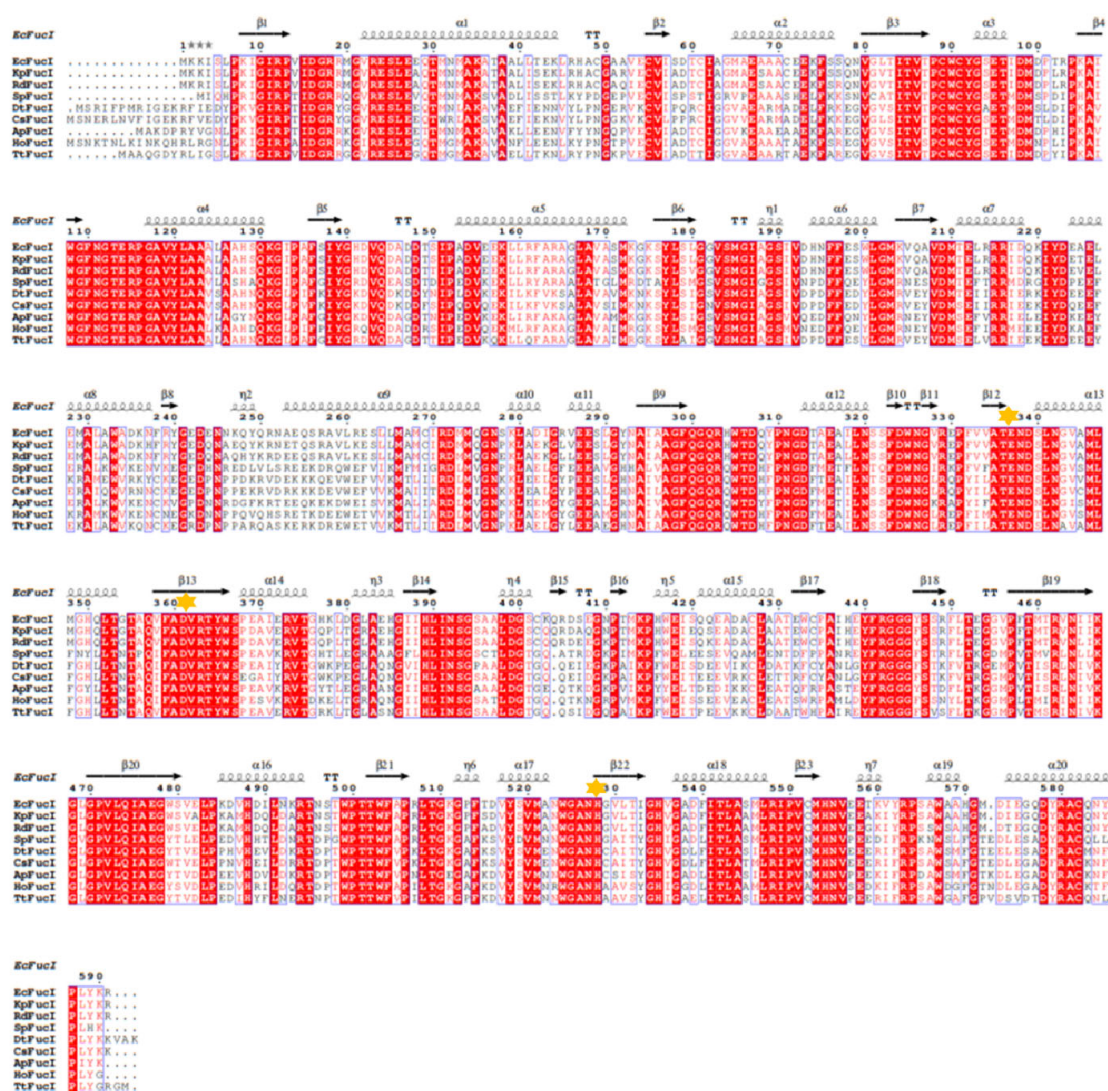


Figure S1. Multiple sequence alignment of L-Fucose isomerase (L-FucI) from *Halo-thermothrix orenii* (HoFucI) and previously characterized L-FucIs, including L-FucI from *Escherichia coli* (EcFucI), L-FucI from *Klebsiella pneumoniae* (KpFucI), L-FucI from *Raoultella* sp. (RdFucI), SpFucI, L-FucI from *Dictyoglomus turgidum* (DtFucI), L-FucI from *Caldicellulosiruptor saccharolyticus* (CsFucI), L-FucI from *Aeribacillus pallidus* (ApFucI), and L-FucI from *Thermanaeromonas toyohensis* (TtFucI). Metal-coordinating residues play a crucial role in the catalytic activities of L-FucIs, as shown by the yellow stars.

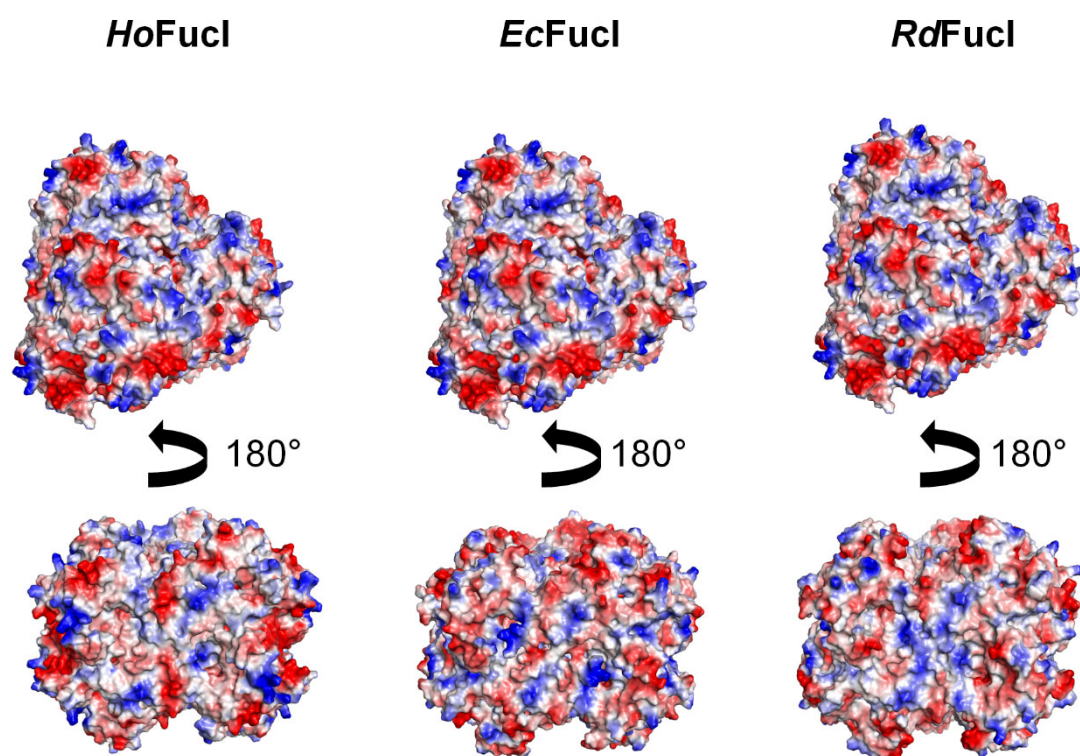


Figure S2. Electrostatic surface potentials of L-FucI from *Halothermothrix orenii* (*HoFucI*) (homology model), *EcFucI* (PDB code: 1FUI), and *RdFucI* (PDB code: 6K1F).