

Supplementary Materials for

Robust deep learning based protein sequence design using ProteinMPNN

J. Dauparas^{1,2}, I. Anishchenko^{1,2}, N. Bennett^{1,2,4}, H. Bai^{1,2}, R. J. Ragotte^{1,2}, L. F. Milles^{1,2}, B. I. M. Wicky^{1,2}, A. Courbet^{1,2,3}, R. J. de Haas⁶, N. Bethel^{1,2,3}, P. J. Y. Leung^{1,2,4}, T. F. Huddy^{1,2}, S. Pellock^{1,2}, D. Tischer^{1,2}, F. Chan^{1,2}, B. Koepnick^{1,2}, H. Nguyen^{1,2}, A. Kang^{1,2}, B. Sankaran⁵, A. K. Bera^{1,2}, N. P. King^{1,2}, D. Baker^{1,2,3*}

¹ Department of Biochemistry, University of Washington, Seattle, WA, USA.

² Institute for Protein Design, University of Washington, Seattle, WA, USA.

³ Howard Hughes Medical Institute, University of Washington, Seattle, WA, USA.

⁴ Molecular Engineering Graduate Program, University of Washington, Seattle, WA, USA

⁵ Berkeley Center for Structural Biology, Molecular Biophysics and Integrated Bioimaging, Lawrence Berkeley Laboratory, 1 Cyclotron Road, Berkeley, CA 94720, USA.

⁶ Department of Physical Chemistry and Soft Matter, Wageningen University and Research, Wageningen, The Netherlands.

Correspondence to: dabaker@uw.edu

This PDF file includes:

Tables S1 to S1

	HALC1_878 (PDB ID: 8CYK)
Data Collection	
Space group	I 1 2 1
Cell dimensions	
a, b, c (Å)	64.17, 55.45, 82.81
α , β , γ (°)	90.00, 94.00, 90.00
Resolution (Å)	48.98 - 1.65 (1.709 - 1.65)
Rmerge (%)	2.1 (19.4)
Rpim (%)	2.1 (19.4)
$\sigma(I)$	15.91 (3.96)
CC 1/2	0.999 (0.942)
Completeness (%)	96.85 (95.70)
Redundancy	2.0 (2.0)
Refinement	
No. unique reflections	33946 (3322)
Rwork / Rfree (%)	18.5 (24.0) / 21.7 (28.1)
No. non-hydrogen atoms	2366
Macromolecules	2151
Water	215
Ramachandran favoured/allowed	98.83/1.17
R.m.s. deviations	
Bond lengths (Å)	0.011
Bond angles (°)	1.12
B-factors (Å²)	
Macromolecules	28.36
Solvent	39.25

Table S1. Crystallographic statistics for HALC1_878.