

Table S1: Mutant Stable residue and their energy

Residue	Mutation	Mutation Energy	Effect of Mutation
Arg82	CYS	-0.82	Stabilizing
	ILE	-0.79	Stabilizing
	TRP	-0.73	Stabilizing
	LEU	-0.71	Stabilizing
	PRO	-0.58	Stabilizing
	GLN	0.26	Neutral
	GLY	0.37	Neutral
	ALA	0.39	Neutral
	ASP	0.72	Destabilizing
	HSC	0.76	Destabilizing
Ile123	LEU	-0.28	Neutral
	TRP	-0.13	Neutral
	ILE	0.02	Neutral
	CYS	0.04	Neutral
	PHE	0.06	Neutral
	LYS	1.19	Destabilizing
	HSC	1.55	Destabilizing
	ARG	1.63	Destabilizing
	GLY	2.21	Destabilizing
	PRO	2.52	Destabilizing
Gln126	TRP	-1.59	Stabilizing
	TYR	-0.61	Stabilizing
	ILE	-0.42	Neutral
	LEU	-0.4	Neutral
	PHE	-0.37	Neutral
	SER	1.16	Destabilizing
	ALA	1.4	Destabilizing
	ASP	1.71	Destabilizing
	GLY	2.54	Destabilizing
	PRO	6.67	Destabilizing
Glu144	TRP	-1.93	Stabilizing
	ILE	-0.32	Neutral
	GLU	-0.03	Neutral
	LYS	0.09	Neutral
	CYS	0.1	Neutral
	ALA	1.16	Destabilizing
	TYR	1.24	Destabilizing
	ASPH	1.65	Destabilizing
	HSC	2.09	Destabilizing
	GLY	2.16	Destabilizing