

**Supplementary Table 2.** The energy changes of “severe” and “mild” mutations

Phenotype	cDNA and AA change	Energy (kcal/mol)	Delta G
WT	WT	-4122.158154	NA
Severe	p.G227R	-4156.487340	-34.32919
Severe	p.P335Q	-4271.486670	-149.32852
Severe	p.L363P	-4088.924467	33.23369
Severe	p.Y370C	-4049.763027	72.39513
Severe	p.G68V	-3947.818341	174.33981
Severe	p.R78C	-3848.474524	273.68363
Severe	p.P80L	-4183.764372	-61.60622
Severe	p.L91R	-4193.856456	-71.69830
Severe	p.P200L	-4093.083901	29.07425
Severe	p.R225P	-4114.760980	7.39717
Severe	p.W240R	-4404.282639	-282.12449
Severe	p.F260Y	-4056.007748	66.15041
Severe	p.L270P	-4065.357339	56.80082
Severe	p.R290Q	-4148.659324	-26.50117
Severe	p.A298V	-4142.849198	-20.69104
Mild	p.S182G	-4120.521901	1.63625
Mild	p.P210L	-4205.455197	-83.29704
Mild	p.G248C	-4056.375774	65.78238
Mild	p.S67I	-3969.459816	152.69834
Mild	p.Q282H	-4113.406235	8.75192
Mild	p.P316S	-3976.951986	145.20617
Mild	p.G328S	-4050.323965	71.83419
Mild	p.D234N	-4114.160244	7.99791
Mild	p.R305C	-4038.748307	83.40985
Mild	p.D135N	-4017.733308	104.42485
Mild	p.V143E	-4155.179736	-33.02159

WT, wild type; cDNA, complementary DNA; AA, amino acid; NA, not applicable.