

Table S3. Notation for the substitution scores considered.

Our notation	Petrokovski, 1996	Panchenko, 2003	Mittelman <i>et al.</i> , 2003	Marti-Renom <i>et al.</i> , 2004	Edgar & Sjölander, 2004	Wang & Dunbrack, 2004	Edgar, 2004b	Ohlson <i>et al.</i> , 2004	First proposed
<i>Euclid-f</i> <i>Euclid-g</i> <i>Euclid-q</i> <i>Euclid-r</i> <i>Euclid-s</i>	d			S ⁽³⁾	euclidf euclidp				
<i>dot-f</i> <i>dot-g</i> <i>dot-q</i> <i>dot-r</i> <i>dot-s</i> <i>ldot-g</i> <i>ldot-r</i> <i>ldot-gr</i>	p		Dot Product2 Dot Product	S ⁽¹⁾	fdotf pdotp mdotm prc	DotPFreq DotPOdds		DP	Rychlewski <i>et al.</i> , 2000 Madera <i>et al.</i> , 2004 Söding, 2005
<i>corr-f</i> <i>corr-g</i> <i>corr-q</i> <i>corr-r</i> <i>corr-s</i> <i>rank-f</i> <i>rank-g</i> <i>rank-q</i> <i>rank-r</i>	r rho	Score function 3	Corr Coef1F Corr Coef1 Corr Coef2	S ⁽²⁾	correlf correlp rankf rankp		LAMA CORREL		
<i>aS-f</i> <i>aS-q</i> <i>laQ-f</i> <i>laQ-q</i> <i>laR-f</i> <i>laR-q</i>			Sum of Pairs2 Sum of Pairs		al la	CrossProduct LogAverage	PSF LE LA		Bacon & Anderson, 1986 von Ohsen & Zimmer, 2001
<i>sre-q</i> <i>JS-f</i> <i>JS-q</i> <i>YL-f</i> <i>YL-q</i>				S ⁽⁴⁾	re yldf yld ylf yl				Sjölander, 1998
<i>sdot-fs</i> <i>comp-fs</i> <i>sdot-cs</i> <i>comp-cs</i> <i>sdot-qs</i> <i>BILD</i>		Score function 2	Prof_Sim Picasso3 Compass2 Compass1 Picasso3Q			JensenShannon LogOddsMultin	YL	prof_sim prob_score	Yona & Levitt, 2002 Sadreyev & Grishin, 2003 Heger & Holm, 2003 Altschul <i>et al.</i> , 2010