

Supplementary Material

Table S1: Intrinsic Fluorescence spectra (Excited at 195 nm) of pro-pap-RSS-C25mA

pH	Time of incubation	Temperature (°C)	Peak height at	Maxima (nm)
			maxima	
8	-	30	107.75	330.92
5.5	~10min	30	102.46 (95%)	330.92
4.0	~10min	30	95.48 (88.6%)	330.92
4.0	~45min	60	74.52 (69.2%)	333.83

Table S2: Data from Domain motion analyses by DYNDOM using two low frequency modes from NMA

Mode	Domain	No. of residues	Backbone RMSD (Å)	Residues	Property	Rotation angle (°)	Translation (Å)	Closure (%)	Bending residues
9	1	44	1.19	49p – 82p 137m – 146m	Fixed Domain	-	-	-	
	2	37	1.1	12p – 48p	Moving Domain	41.6	0.1	16.0	47p – 53p
	3	225	0.59	83p – 136m 147m – 210m	Moving Domain	17.6	0.0	100.0	82p – 84p 134m – 137m 146m – 154m
11	1	73	2.3	49p – 82p 135m – 157m 175m – 190m	Fixed Domain	-	-		
	2	37	2.8	12p – 48p	Moving Domain	33.3	0.5	34.6	47p – 54p
	3	196	1.84	83p – 134m 158m – 174m 191m – 210m	Moving Domain	30.1	0.7	99.6	82p – 83p 134m – 135m 157m – 158m 174m – 175m 190m – 191m