



Table 2: Summary of the  $^1\text{H}$  and  $^{15}\text{N}$  NMR chemical shifts for WT hPRL and H180A hPRL mutants from the  $^1\text{H}$ - $^{15}\text{N}$  HSQC NMR spectrum.

WT	pH	H27				H30				H46				H59				H138				H173				H180				H195			
		$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$	$^{15}\text{N}_{\delta_1}$	$^{15}\text{N}_{\epsilon_2}$	$^1\text{H}_{\epsilon_1}$	$^1\text{H}_{\delta_2}$
	4.22	179.63	173.53	8.56	7.33					176.87	173.62	8.52	7.19	179.69	176.05	8.73					177.25	173.53	8.13	6.80	186.66	174.40	8.44	7.18					
	4.49	180.79	173.59	8.55	7.34					177.30	173.60	8.52	7.18	181.02	176.33	8.74	7.45					178.47	173.59	8.09	6.77	190.20	174.87	8.38	7.13				
	5.15	184.11	174.25	8.51	7.32	188.87		7.67		179.13	174.16	8.48	7.17	185.69	180.00	8.70						181.69	174.25	7.88	6.73	199.02	176.47	8.22	6.99			181.32	8.48
	5.82	190.35	176.96	8.38	7.28	188.26	208.71	7.68	6.95	184.73	176.06	8.39	7.14	195.94	182.14	8.54	7.46					223.19	184.05	7.72	6.72	209.29	179.56	7.99	6.86			189.10	8.12
	6.03	190.63	177.41	8.37	7.27	188.13	208.25	7.69	6.94	185.84	176.53	8.37	7.13	196.95	182.92	8.50	7.44					223.15	184.38	7.72	6.71	208.67	179.76	8.00	6.86			190.02	8.08
	6.14	192.54	178.70	8.33	7.26	188.40	209.95	7.65	6.93	188.61	177.50	8.31	7.11	201.88	184.26	8.41	7.41					224.31	184.74	7.69	6.70	210.88	180.69	7.95	6.83			191.99	8.01
	6.33	194.59	180.05	8.28	7.24	188.73	211.65	7.62	6.92	191.74	178.64	8.25	7.09	189.07	178.64	8.25	7.09					225.27	185.07	7.67	6.70	212.96	181.66	7.89	6.81	207.75		193.87	7.94
	6.52	197.85	182.19	8.21	7.21	188.82	214.37	7.57	6.90	196.60	180.41	8.16	7.06	190.19	179.00							226.38	185.49	7.65	6.70	216.06	183.07	7.82	6.77			195.86	7.85
	6.76	202.12	185.02	8.11	7.17	188.40	217.65	7.52	6.88	202.65	182.65	8.04	7.02	191.29	178.83							227.32	185.85	7.62	6.70	218.80	184.48	7.75	6.74	206.11		197.38	7.77
	7.06	207.00	188.92	8.00	7.13	188.00	221.18	7.48	6.87	210.22	185.47	7.89	6.96	194.93	177.5							227.76	185.88	7.61		221.06	186.12	7.69	6.71			199.85	7.71
	7.14	207.11	189.36	7.98	7.13	188.71	220.94	7.48	6.86	211.10	185.67	7.88	6.96									227.75	186.02	7.61		221.32	186.30	7.68	6.71			199.76	7.71
	7.52	211.59	193.13	7.87	7.08	187.82	224.51	7.45	6.86	216.98	187.82	7.76	6.92													222.95	187.63	7.63	6.68				
	7.96	214.20	195.73	7.80	7.06	187.00	226.59	7.42	6.89	220.38	189.02	7.69	6.89													223.79	188.45	7.60	6.66				
H180A	pH	H27				H30				H46				H59				H138				H173				H180				H195			
	4.40	180.64	173.67	8.57	7.34	177.63	179.26	8.58	7.18	177.34	173.82	8.52	7.18	180.99	176.55	8.74	7.45					203.14	178.56	8.12	6.76								
	4.94	182.86	174.39	8.52	7.32	181.52	186.25	8.43	7.13	178.60	173.93	8.50	7.18	184.47	178.04	8.74	7.49					213.51	180.99	7.93	6.72								
	6.02	190.51	178.69	8.37	7.26	185.19	203.06	8.05	6.98	186.81	177.30	8.35	7.12	198.81	183.30	8.47	7.43					224.85	184.84	7.70	6.70					190.69		8.09	
	6.34	193.29	180.75	8.29	7.23	185.76	208.53	7.93	6.94	192.02	178.81	8.25	7.09	205.27	185.05	8.33						226.30	185.06	7.66	6.70					194.19		7.95	
	6.83	202.55	187.93	8.07	7.14	186.42	219.25	7.72	6.86	206.93	184.25	7.96	6.99									228.30	186.04	7.62	6.70					199.18		7.75	
	7.45	208.77	193.71	7.91	7.08	186.35	224.75	7.64	6.81	215.91	187.49	7.80	6.93									228.63	187.31	7.60	6.69					202.29		7.68	