

**Table S1. NMR Shifts in Hsp90's Isoleucine Side Chains upon Tau Binding, Related to Figure 2**

Isoleucines in methyl-TROSY-NMR spectra of Hsp90+Tau in apo and ATP $\gamma$ S bound states (“+”, residues splitting or shifting with the combined chemical shift difference ( $\Delta\nu$ ) > 0.015 ppm upon Tau binding; “o”, weak shifts, 0.010 <  $\Delta\nu$  < 0.015 ppm; “-”, no shifts,  $\Delta\nu \leq 0.01$  ppm; NA, not applicable;  $\Delta\nu$  is calculated as in Fig S3)

Isoleucine	Visible in Spectrum	Shifts/Splits upon Tau Binding		Combined Chemical Shift Difference ( $\Delta\nu$ ; ppm)	
		apo	ATP $\gamma$ S	apo	ATP $\gamma$ S
20	+	+	-	Splits, 0.021 and 0.007	0.002
27	+	o	+	0.014	Splits, 0.039 and 0.015
28	+	-	+	0.003	Splits 0.008 and 0.002
43	+	o	-	0.012	0.005
53	+	-	-	0.002	0.003
74	+	Broadened	+	NA	Splits 0.019 and 0.014
75	+	o	-	0.013	0.002
90	+	+	+	Splits, 0.005 and 0.011	Splits, 0.030 and 0.026
122	+	o	+	0.014	0.057
125	+	-	-	0.009	0.007
174	+	+	-	0.016	0.006
208	-	NA	NA	NA	NA
249	+	-	o	0.003	0.013
287	-	NA	NA	NA	NA
369	+	+	+	0.024	Splits 0.013 and 0.016
399	-	NA	NA	NA	NA
440	+	+	+	Splits, 0.043 and 0.021	Splits, 0.035 and 0.056
482	+	o	-	0.013	0.008