SUPPORTING INFORMATION

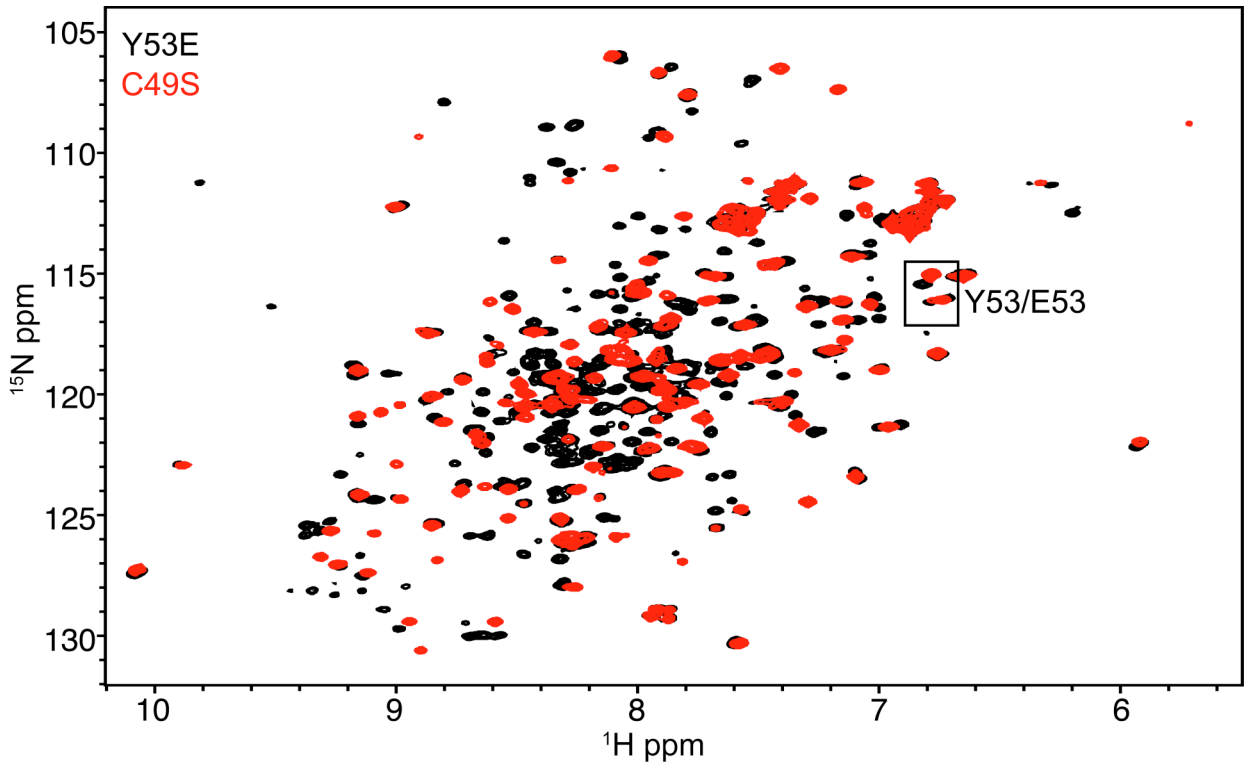

Figure S1. *Structural Comparison of C49S and Y53E.* The ^{1}H-^{15}N HSQC spectrum of PRL-1-C49S (red) is overlaid with that of PRL-1-Y53E (black). The number of peaks in the Y53E spectrum indicates that Y53E samples multiple conformations in solution. One of these conformations is similar to the structure of C49S. This is based on the fact that many of the Y53E peaks overlay remarkably well with the C49S. One specific example is the resonances for residue 53. Although, the chemical shift difference is significant, the change is rather small (compare to Figure 5C). The small difference is likely a direct result of the side chain substitution.

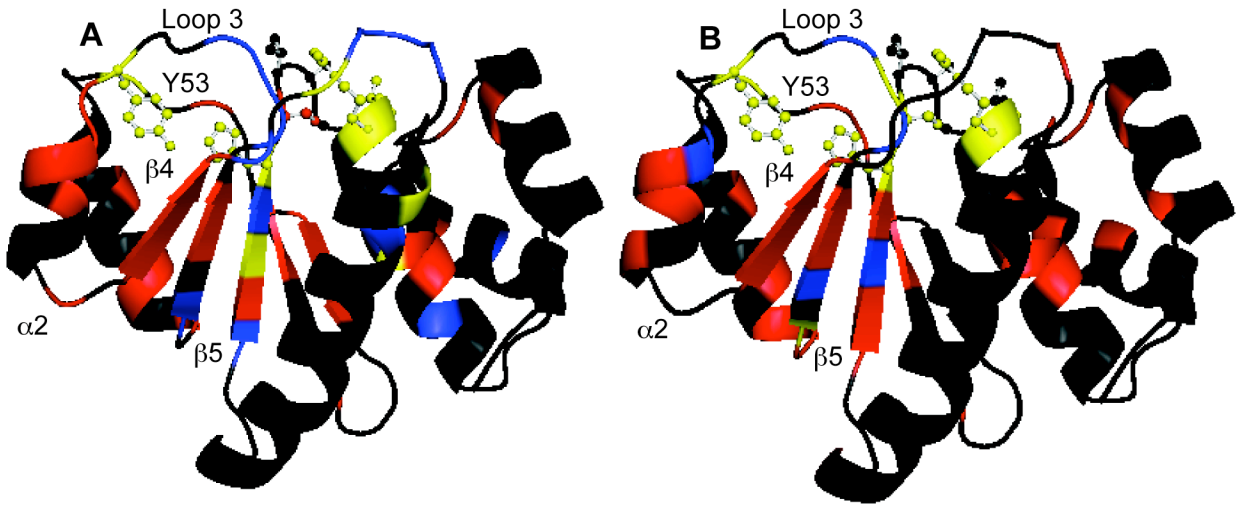

Figure S2. *Chemical Shift Mapping of PRL-1.* The same information is provide in panels A and B as that presented in Figures 5D and F, respectively. The molecule has been rotated 180° along the horizontal axis to better illustrate the changes that are observed in α2. This figure was generated using Pymol.