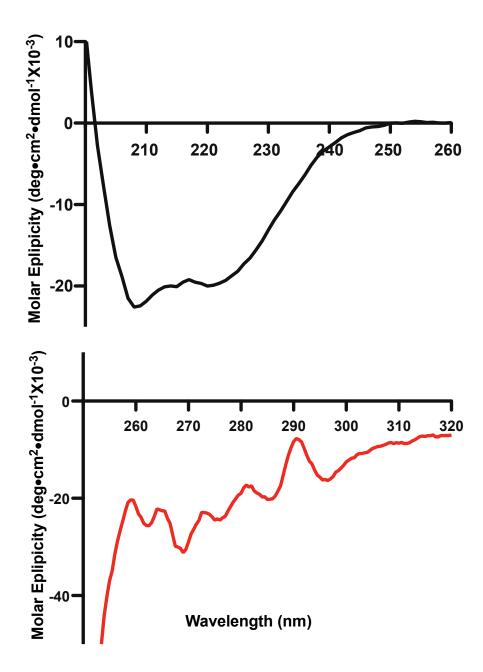
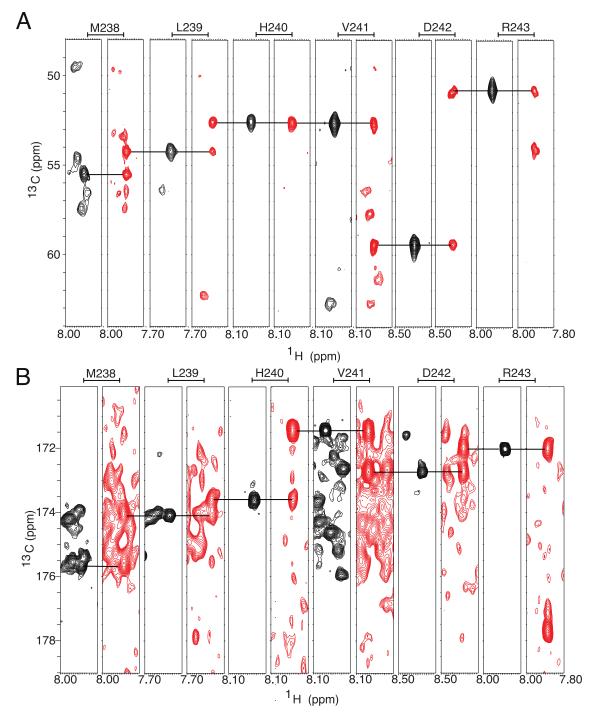
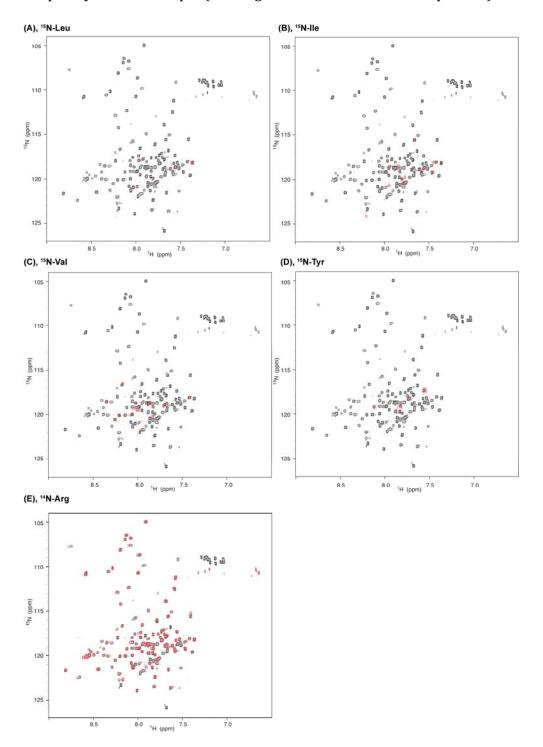
Figure S1. Far-UV (Top) and near-UV (Bottom) CD spectra of Q1-VSD in LPPG micelles at pH 5.5 and 50  $^{\circ}\mathrm{C}$ 



**Figure S2.** Example of sequential assignment of backbone NMR resonances for Q1-VSD in LPPG micelles. Shown are peak connectivities for sites M238-R243 based on TROSY-based **(A)** HNCA (red) and HNCOCA (black) and **(B)** HNCO (red) and HNCACO (black) spectra.



**Figure S3.** <sup>1</sup>H,<sup>15</sup>N-TROSY spectra of amino acid-selective isotopically-labeled Q1-VSD (100-143) samples (red spectra) superimposed on the spectrum for the uniformly <sup>15</sup>N-labeled Q1-VSD (black). These overlays assist in the completion of TROSY peak assignments for the following amino acid types. (A), <sup>15</sup>N-Leu; (B), <sup>15</sup>N-Ile;(C), <sup>15</sup>N-Val; (D), <sup>15</sup>N-Tyr; and (E), reverse isotopically-labeled sample (<sup>14</sup>N-Arg in otherwise <sup>15</sup>N-labeled protein).



**Figure S4.** Selected 2-D slices from a 3-D NOESY-TROSY NMR spectrum of wild type VSD, showing use of this data in making or confirming backbone amide peak assignments.

