Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Multi-field C-13 NMR Relaxation Study of the Tripeptide Glycine-Proline-Glycine-NH_2 JOHN SHIBATA, MARY FORRESTER, University of the South — T_1 and T_2 C-13 NMR relaxation measurements were performed on the tripeptide Gly-Pro-Gly-NH_2 on 300 MHz, 500 MHz, and 800 MHz NMR instruments (1). T_1 and T_2 data at different field strengths were analyzed to reveal the internal dynamics of this tripeptide. The results are compared to the classification scheme of rigidity by Anishetty, et al. (2). The dynamics of the tripeptide at different carbons in the molecule probe the site-specificity of the motions. We compare the dynamics revealed at the glycines with the dynamics in the proline ring. These motions are also being studied by molecular dynamics using the molecular modeling program Tinker (3). (1) Measurements at 500 MHz and 800 MHz were performed at the Alabama High Field NMR Center, University of Alabama at Huntsville, Huntsville, AL. (2) Anishetty, S., Pennathur, G., Anishetty, R. BMC Structural Biology **2**:9 (2002). http://www.biomedcentral.com/1472-6807/2/9. (3) Dudek, M. J., Ramnarayan, K., Ponder, J. W. J. Comput. Chem. 19, 548 (1996). http://dasher.wustl.edu/tinker.

John Shibata
University of the South

Date submitted: 23 Nov 2009 Electronic form version 1.4