

**Competing Transfer Pathways in Direct and Indirect Dynamic Nuclear Polarization
MAS NMR Experiments on HIV-1 Capsid Assemblies: Implications for Sensitivity
and Resolution**

Ivan V. Sergeyev¹, Caitlin M. Quinn², Jochem Struppe¹, Angela Gronenborn^{3,4*}, Tatyana Polenova^{2,3*}

¹Bruker Biospin Corporation, 15 Fortune Drive, Billerica, Massachusetts 01821, United States; ²Department of Chemistry and Biochemistry, University of Delaware, Newark, Delaware 19716, United States; ³Pittsburgh Center for HIV Protein Interactions, University of Pittsburgh School of Medicine, 1051 Biomedical Science Tower 3, 3501 Fifth Avenue, Pittsburgh, Pennsylvania 15261, United States; ⁴Department of Structural Biology, University of Pittsburgh School of Medicine, 3501 Fifth Ave., Pittsburgh, PA 15261, United States;

***Corresponding authors:** Tatyana Polenova, Department of Chemistry and Biochemistry, University of Delaware, Newark, DE, USA, Tel.: (302) 831-1968; Email: tpolenov@udel.edu; Angela M. Gronenborn, Department of Structural Biology, University of Pittsburgh School of Medicine, 3501 Fifth Ave., Pittsburgh, PA 15260, USA, Tel.: (412) 648-9959; Email: amg100@pitt.edu

Keywords: magic angle spinning NMR, dynamic nuclear polarization, DNP, HIV-1 capsid

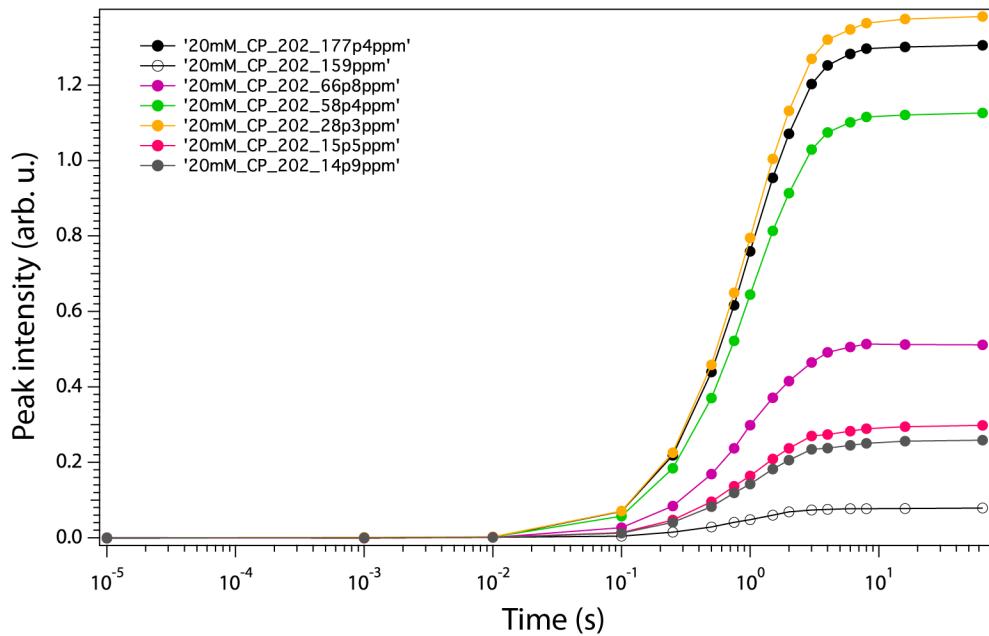


Figure S1. Buildup profiles for ^{13}C signals in DNP-enhanced CPMAS spectra of tubular assemblies of 5F-Trp, U- ^{13}C , ^{15}N CA containing 22.8 mM AMUPol. Signals corresponding to different functional groups are color coded and the corresponding chemical shifts are displayed on the bottom right. The spectra were acquired at 14.1 T (150.96 MHz ^{13}C Larmor frequency) at MAS frequency of 24 kHz and temperature of 120 K.