

Journal Discussion 12, Quiz **Golman et al, 2006: Metabolic Imaging and Other Applications of Hyperpolarized <sup>13</sup>C1**

Name:

**Due:** Dec 4<sup>th</sup> by the end of the day. Please turn in by hand, email, or submission to Canvas.

**Question 1. Briefly explain the differences between the DNP and PHIP methods of hyperpolarization with respect to the nuclei involved, time requirements, etc.. (3 points)**

**Question 2: How does a paramagnetic contrast medium cause a change in signal? (2 points)**

**Question 3: How is the contrast-to-noise ratio (signal over background) in C-13 different from proton imaging? (2 points)**

**Question 4: Briefly explain two clinical applications of C-13 imaging. (3 points)**