**Supplementary Figures**

**Supplementary Figure 1**

Predicted errors of chamber placement broken down to positional (a) and angular (b) components for the case where markers are packed too close to each other on the implant.

**Supplementary Figure 2**

Predicted errors for chamber placement in the case where the DH model representation of the stereotactic manipulator is inaccurate. (a) predicted errors for the case in which the relative joint rotation is inaccurate. For example, when DV and ML axes are not perfectly orthogonal. (b) predicted errors for the case in which the joint length is inaccurate.

**Supplementary Figure 3**

Stereotactic frame adapter mounted to a primate chair. Notice that the frame is actually in the reverse direction.