AbstractID: 1470 Title: Depth dose profiles measured in the MAGAS normoxic polymer gel dosimeter

Depth dose profiles were measured in a cylindrical glass phantoms and test tubes using MAGAS normoxic polymer gel dosimeters (De Deene 2002). Both phantoms and tests tube were irradiated to 15 Gy at d_{max} using a 6MV photons with a 100 cm SSD in a water tank. Magnetic resonance imaging R_2-depth dose profiles were compared with both EGS4 Monte Carlo code and Pinnacle treatment planning computer. The build up region in the cylindrical glass phantom was steeper and shorter than what would be acquired in a water depth dose profile due to the 4 mm of glass at beam entry. The profiles had excellent agreement post d_{max}. The effect of glass on the depth dose profile was found not to have any effect on the profile shape post d_{max} but only on the depth of d_{max}. The MAGAS normoxic polymer gel dosimeter was shown to have great potential as a polymer gel dosimeter.

De Deene Y, Hurley C, Venning A *et al* 2002. *Phys. Med. Biol*. 47 3441–3463.