Supplementary Material (ESI) for Dalton Transactions

Supporting Information for:

Glycosylated Tetrahydrosalens as Multifunctional Molecules for Alzheimer's Therapy

Tim Storr, Lauren E. Scott, Meryn L. Bowen, David E. Green, Katherine H. Thompson, Harvey J. Schugar,* Chris Orvig*

Enzymatic glycosidase cleavage of glycosylated tetrahydrosalen pro-ligands by β-glucosidase: analysis by TLC and ESI-MS+. Cell toxicity of a representative tetrahydrosalen pro-ligand by MTT assay.

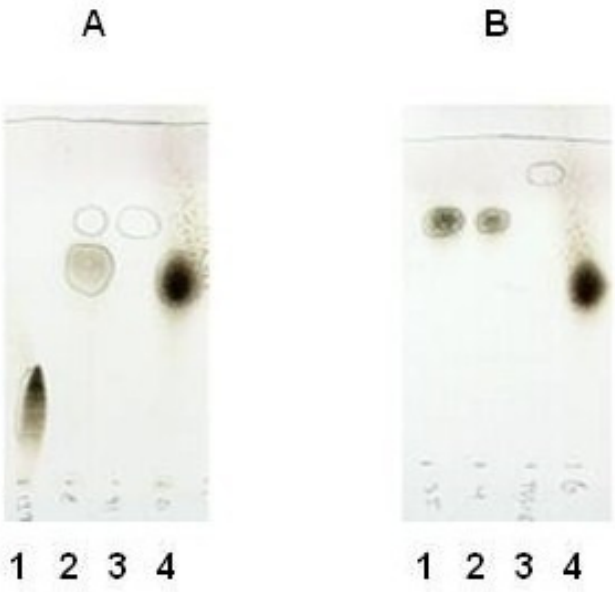

Figure S1: Silica-gel monitoring of enzymatic (Abg) deglycosylation reactions of selected tetrahydrosalen glycosides. Spots containing sugars are dark (exposed with H_2SO_4 / EtOH, heat), and UV-active (254-nm lamp) spots are outlined. Reactions were monitored by TLC after 2 hours. **A**: 1) **GL^3**. 2) **GL^3** and Abg. 3) **H$_2$L^3**. 4) Glucose. **B**: **GL^4**. 2) **GL^4** and Abg. 3) **H$_2$L^4**. 4) Glucose.

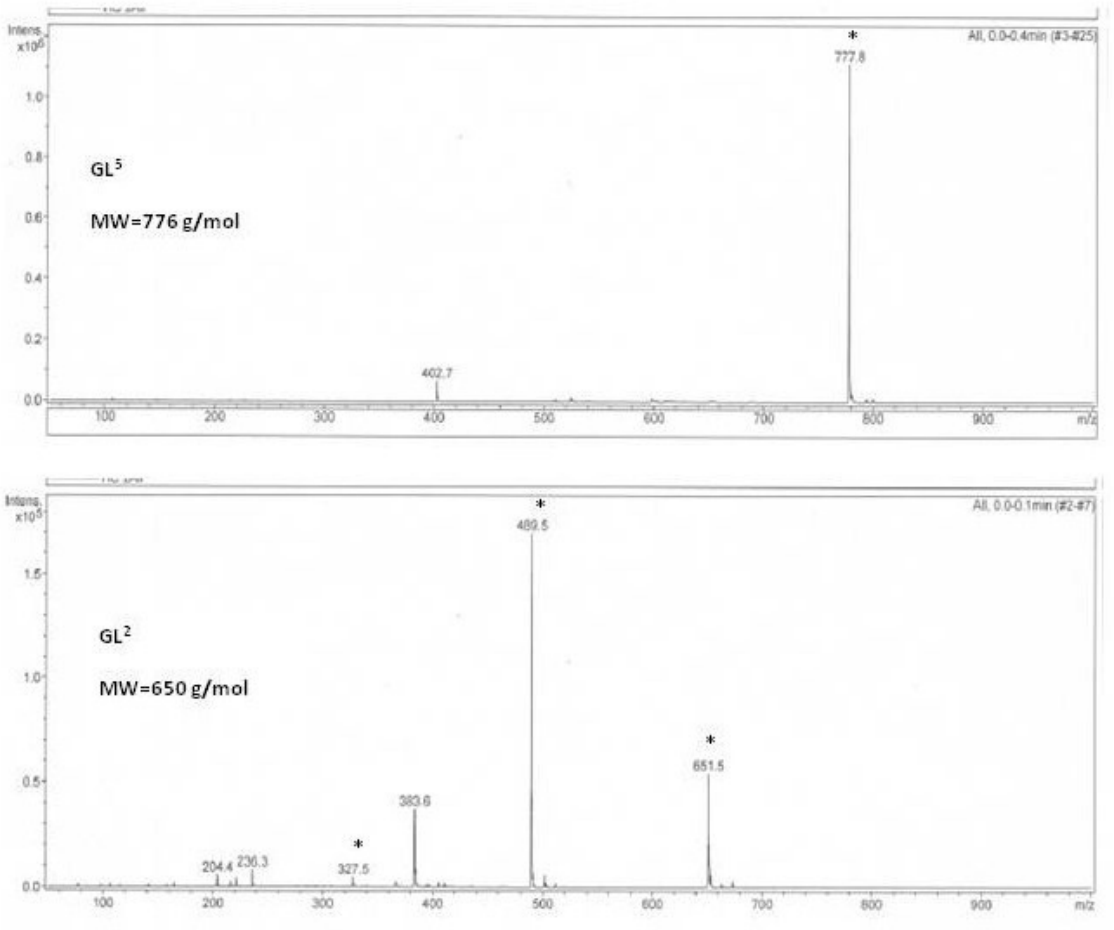

Figure S2: ESI-MS+ assay of enzymatic (Abg) deglycosylation trials of selected tetrahydrosalen glycosides. Upper mass spectrum of **GL^5** (MW = 776 g/mol) reaction displays the proton adduct of the *bis*-glycosyl conjugate (at 777 m/z), but not the expected *mono*-glycosyl conjugate (615 m/z) or the fully deglycosylated tetrahydrosalen compound (453 m/z); enzymatic deglycosylation is not observed. Lower spectrum of **GL^2** (MW = 650 g/mol) displays proton adducts of the *bis*-glycosyl conjugate (at 651 m/z), mono-glycosyl conjugate (489 m/z) and fully deglycosylated tetrahydrosalen compound (327 m/z), indicating successful deglycosylation by Abg.

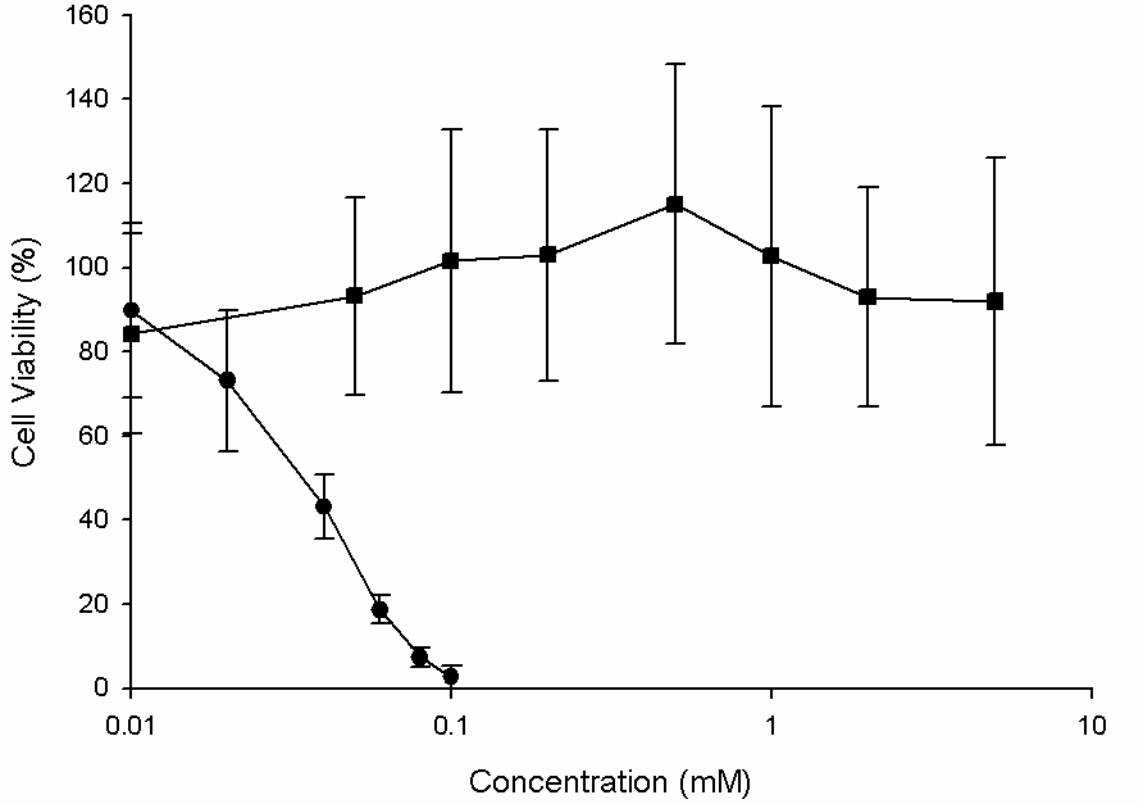

Figure S3: Cell toxicity assay for **GL^3** (■), and cisplatin (•). The IC_{50} value for cisplatin in this study was determined to be 35 ± 5 μM. The error bars indicate one standard deviation above and below the average cell percent viability. Each point is an average of six wells.