Figure 1. Uptake of ^{99}Tc by the TEVA resin-gel as a function of time. Error bars indicate the standard deviation of the mean, for triplicate samples. The dashed line is an indicative uptake curve for ^{99}Tc to the TEVA resin-gel over 2 h.

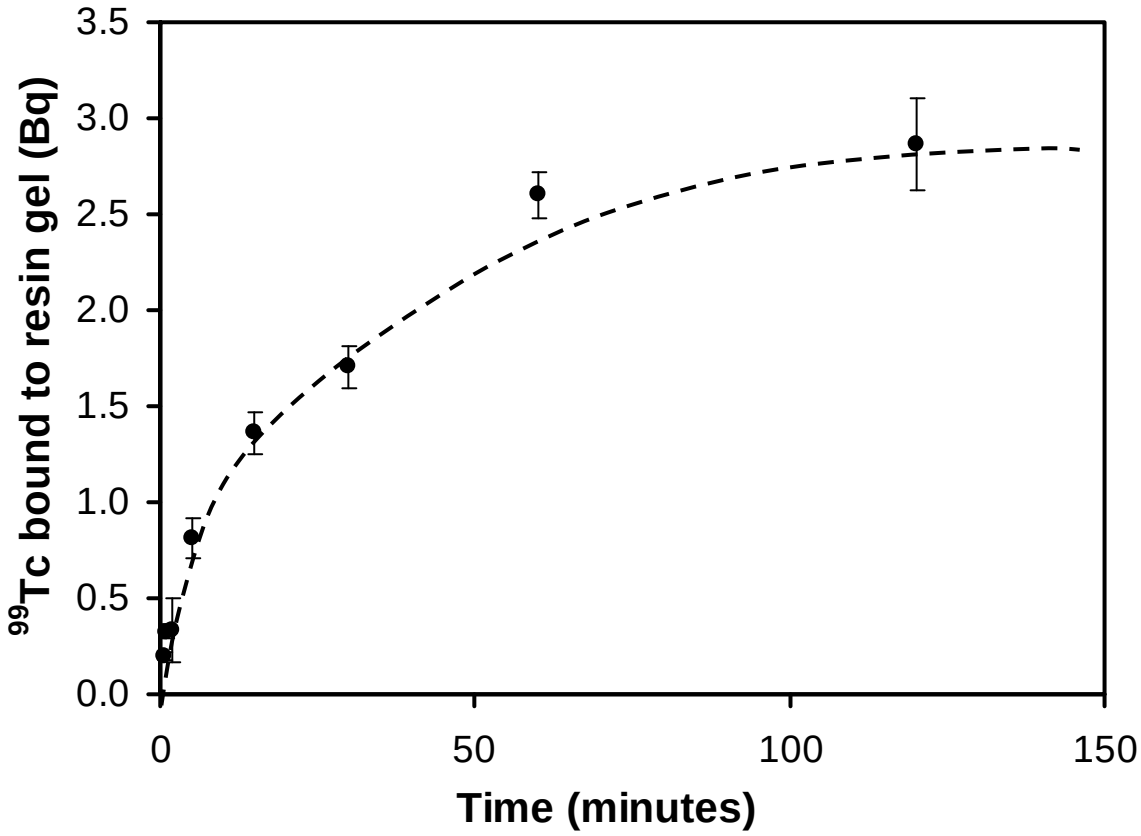

Figure 2. Uptake of ^{99}Tc taken up by the TEVA DGT devices as a function of solution activity (*I* = 0.01 M NaCl, pH ~ 6.5, deployment time 24 h). Regression equations: diffusive layer absent (y = 0.0482x, R^2 = 0.9986); diffusive layer present (y = 0.0103x, R^2 = 0.9787). Error bars indicate the standard deviation of the mean, for triplicate samples. (open circles, diffusive layer present; closed squares, diffusive layer absent).

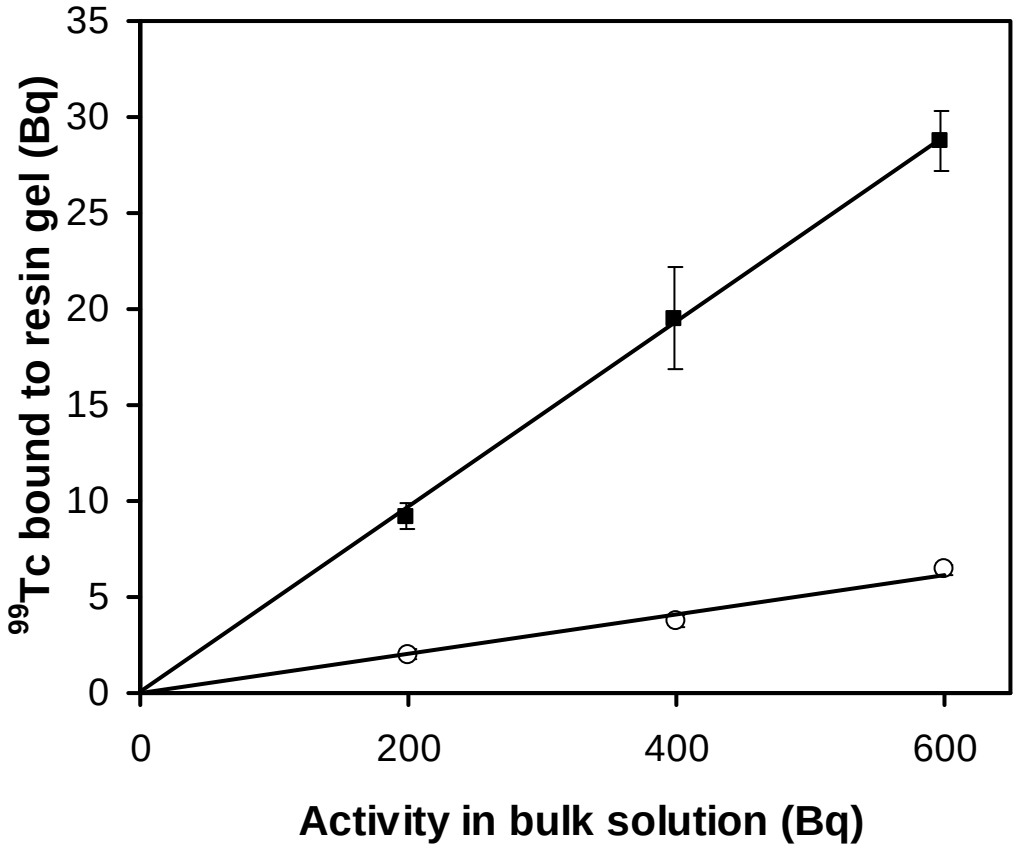

Figure 3. Mean ^{99}Tc taken up to the TEVA DGT devices over 2 weeks (y = 0.2794x; R^2 = 0.9955) (bulk solution activities ~ 800 Bq, *I* = 0.01 M NaCl, pH ~ 6.5). Inset is the first 44 h (y = 0.3635x; R^2 = 0.9884). Error bars indicate the standard deviation of the mean, for triplicate samples.

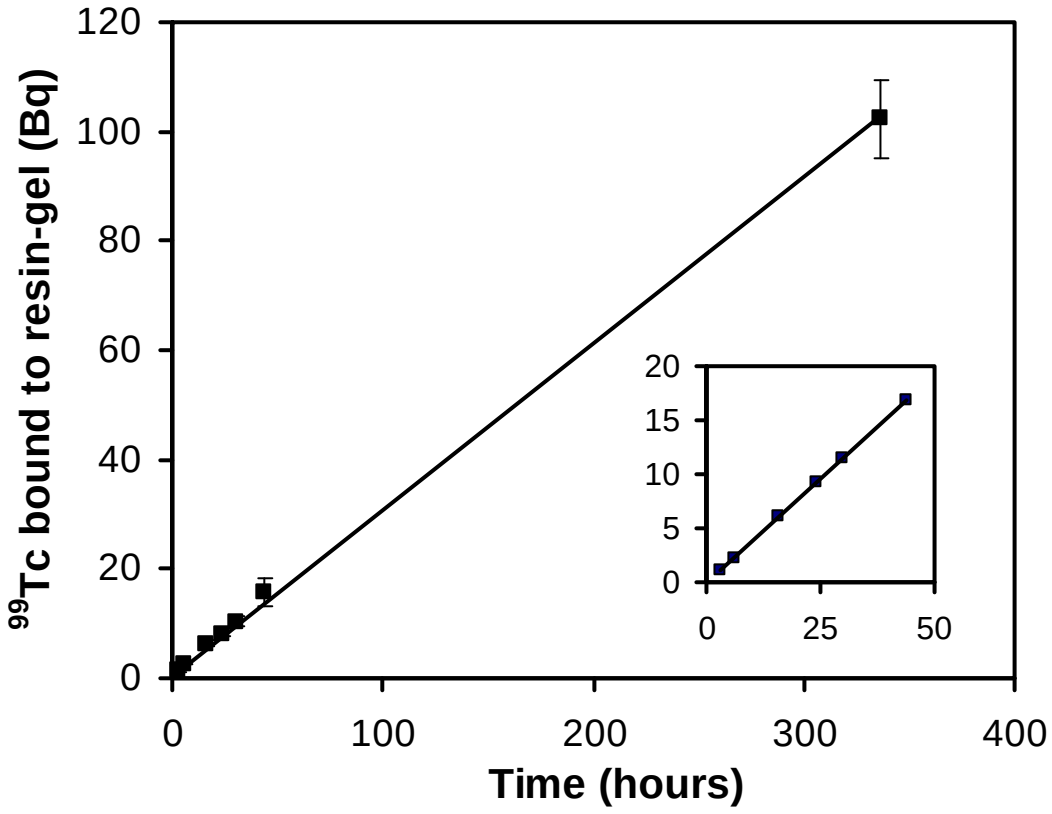

Figure 4. Ratio of solution concentration predicted by DGT (C_{dgt}) against known solution concentration ($C_{solution}$), over pH range 3-8. Dashed lines indicate 10% deviation above and below the theoretical value of unity. Error bars indicate standard deviation of the mean, for triplicate samples.

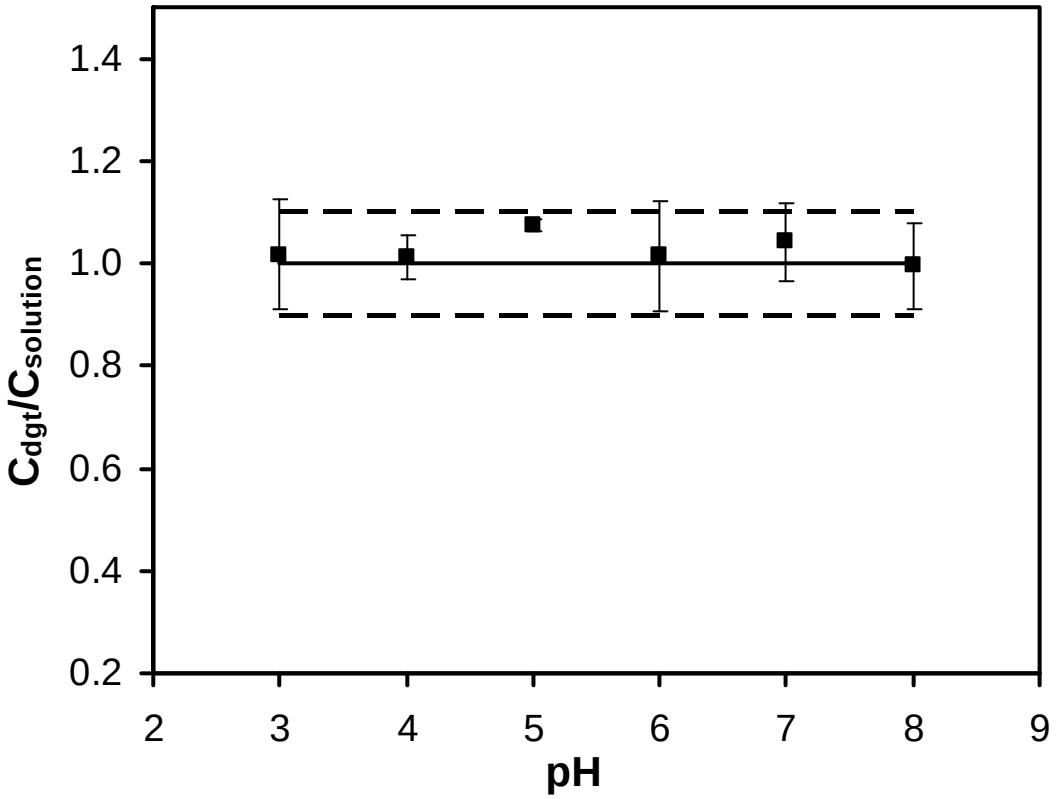

Figure 5. Ratio of solution concentration predicted by DGT (C_{dgt}) over known solution concentration ($C_{solution}$), across ionic strength range 0.01-1.3 M NaCl. Dashed lines indicate 15% deviation above and below theoretical value of unity. Error bars indicate standard deviation of the mean, for triplicate samples.