Supporting information for

A Novel Mg(OH)\textsubscript{2} Binding Layer-based DGT Technique for Measuring Phosphorus in Waters and Sediment

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Fig. S1. Mass of PO$_4$ accumulated by Mg(OH)$_2$ binding gel with time in well-stirred solution containing 20mg P L$^{-1}$ at pH 7, ionic strength = 0.03 mol L$^{-1}$ and T = 25 °C.

Fig. S2. Mass of PO$_4$ accumulated by Mg(OH)$_2$ binding gel with pH in well-stirred solution containing 20 mg P L$^{-1}$ at time = 4 h, ionic strength = 0.03 mol L$^{-1}$ and T = 25 °C.

Fig. S3. The ratio of C$_{DGT}$ (i.e. the concentrations of PO$_4$ determined by the Mg(OH)$_2$-DGT) to C$_{soln}$ (i.e. the concentration of PO$_4$ measured directly in solution by the molybdenum-blue method) at different pH levels in well-stirred solution containing 2 mgP L$^{-1}$ at time = 4 h, ionic strength = 0.03 mol L$^{-1}$ and T = 25 °C. The vertical axis represents the ratio of DGT-measured concentration of P (C$_{DGT}$) to P concentration in well-stirred solution (C$_{soln}$), with the line showing the value at 1.0.

Fig. S4. The ratio of C$_{DGT}$ (i.e. PO$_4$ concentration calculated through the results from Mg(OH)$_2$-DGT) to C$_{solu}$ (i.e. PO$_4$ concentration measured in solution) at different ionic strengths in well-stirred solution containing 2 mg P L$^{-1}$ at time = 4 h, T = 25 °C, pH =7. The vertical axis represents the ratio of DGT-measured concentration of P (C$_{DGT}$) to P concentration in well-stirred solution (C$_{soln}$), with the line showing the value at 1.0.
Fig. S1. Mass of PO₄ accumulated by Mg(OH)₂ binding gel with time in well-stirred solution containing 20mg P L⁻¹ at pH 7, ionic strength = 0.03 mol L⁻¹ and T = 25 °C.
Fig. S2. Mass of PO$_4$ accumulated by Mg(OH)$_2$ binding gel with pH in well-stirred solution containing 20 mg P L$^{-1}$ at time = 4 h, ionic strength = 0.03 mol L$^{-1}$ and T = 25 °C.
Fig. S3. The ratio of $C_{\text{DGT}}$ (i.e. the concentrations of $\text{PO}_4$ determined by the Mg(OH)$_2$-DGT) to $C_{\text{soln}}$ (i.e. the concentration of $\text{PO}_4$ measured directly in solution by the molybdenum-blue method) at different pH levels in well-stirred solution containing 2 mgP L$^{-1}$ at time = 4 h, ionic strength = 0.03 mol L$^{-1}$ and $T = 25$ °C. The vertical axis represents the ratio of DGT-measured concentration of P ($C_{\text{DGT}}$) to P concentration in well-stirred solution ($C_{\text{soln}}$), with the line showing the value at 1.0.
Fig. S4. The ratio of $C_{DGT}$ (i.e. PO$_4$ concentration calculated through the results from Mg(OH)$_2$-DGT) to $C_{solv}$ (i.e. PO$_4$ concentration measured in solution) at different ionic strengths in well-stirred solution containing 2 mg P L$^{-1}$ at time = 4 h, $T = 25$ °C, pH = 7. The vertical axis represents the ratio of DGT-measured concentration of P ($C_{DGT}$) to P concentration in well-stirred solution ($C_{solv}$), with the line showing the value at 1.0.