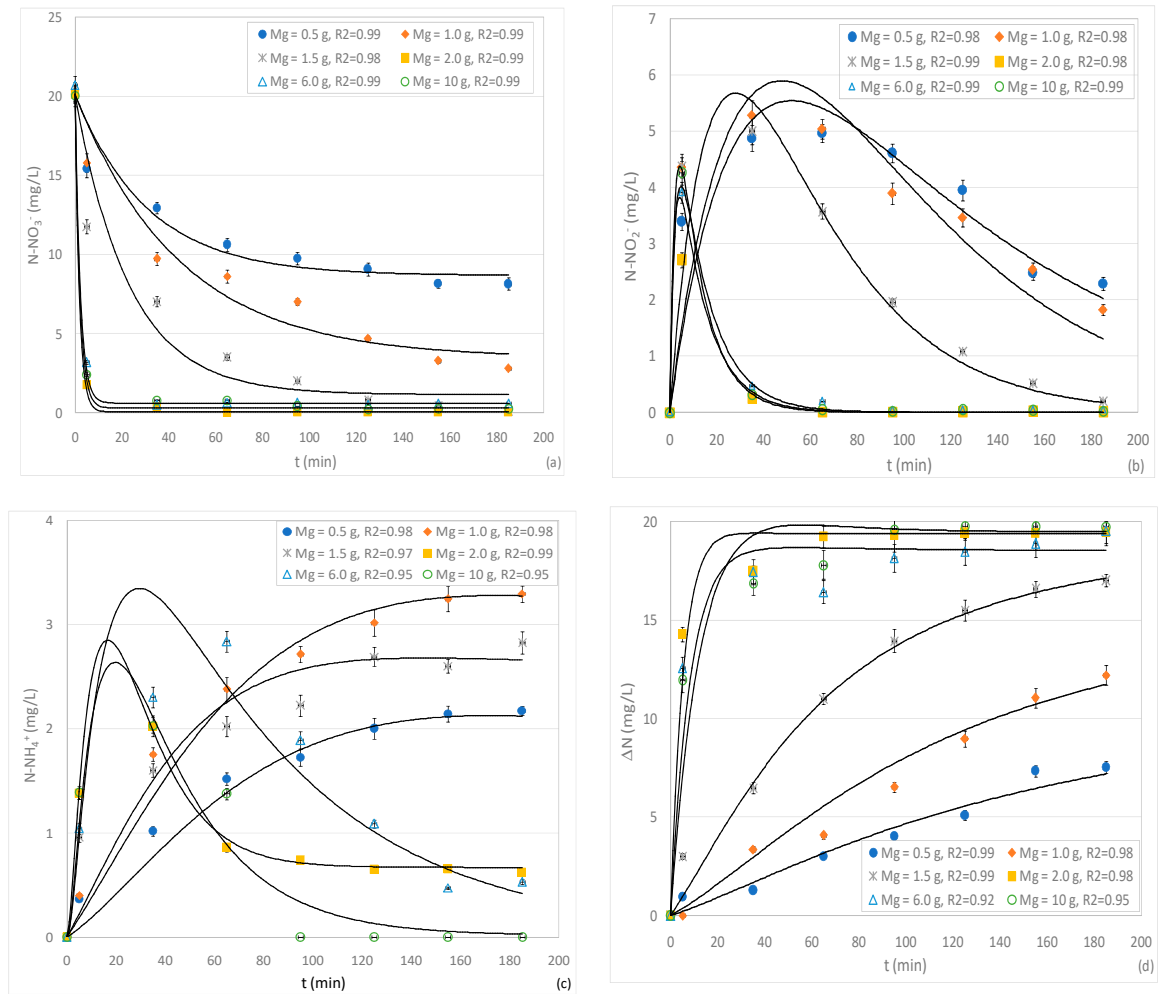
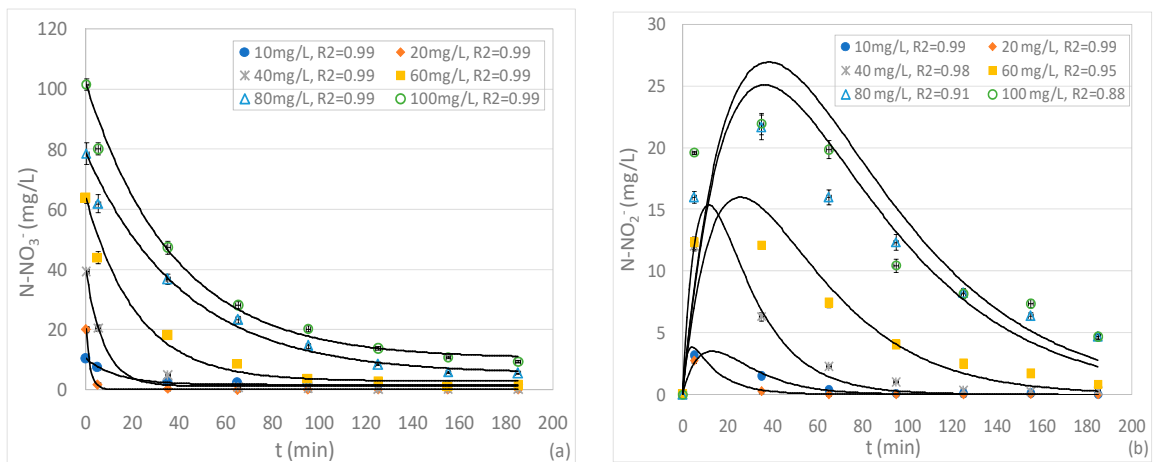
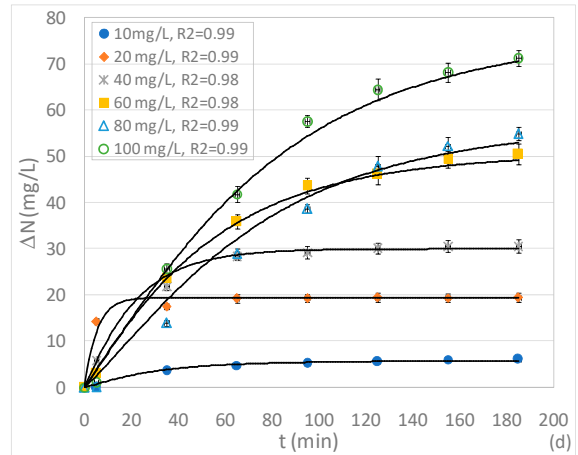
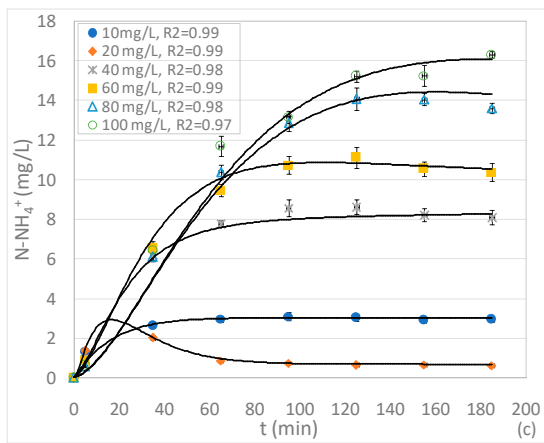


## Supplementary Section (S1) - Simulation of Experimental Curves

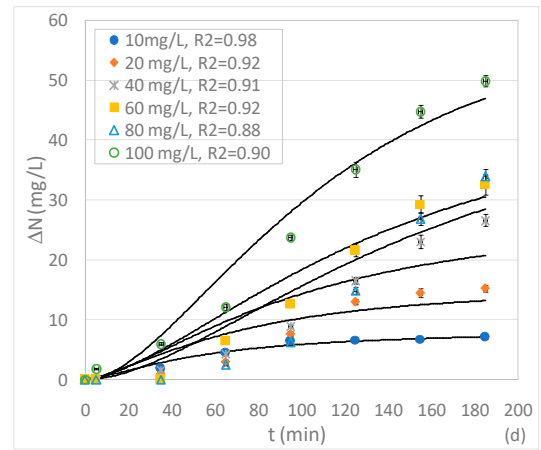
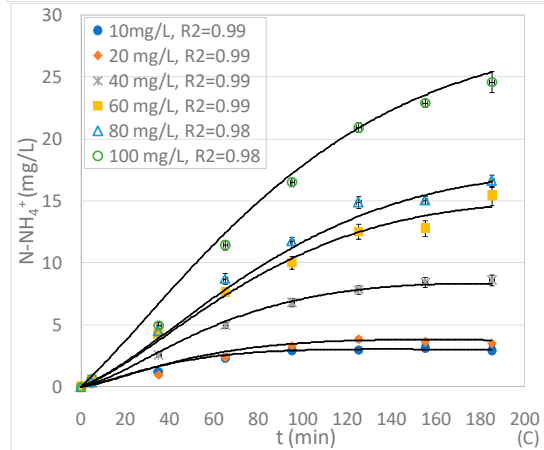
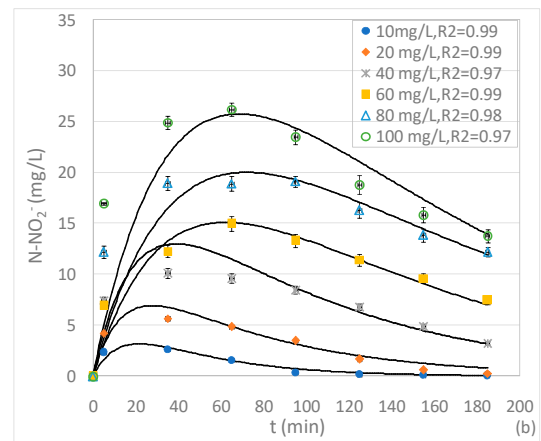
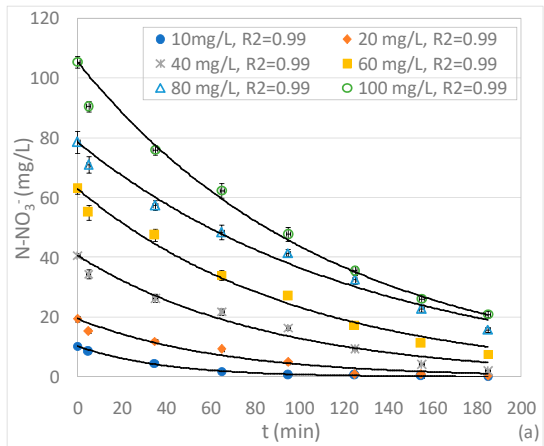


**Figure 1.** Modeling of the experimental curves of  $\text{N-NO}_3^-$  (a),  $\text{N-NO}_2^-$  (b),  $\text{N-NH}_4^+$  (c) and  $\Delta\text{N}$  (d) obtained during the tests carried out at pH = 3, initial  $\text{N-NO}_3^-$  concentration of 20 mg/L and varying the  $\text{Mg}^0$  amount.

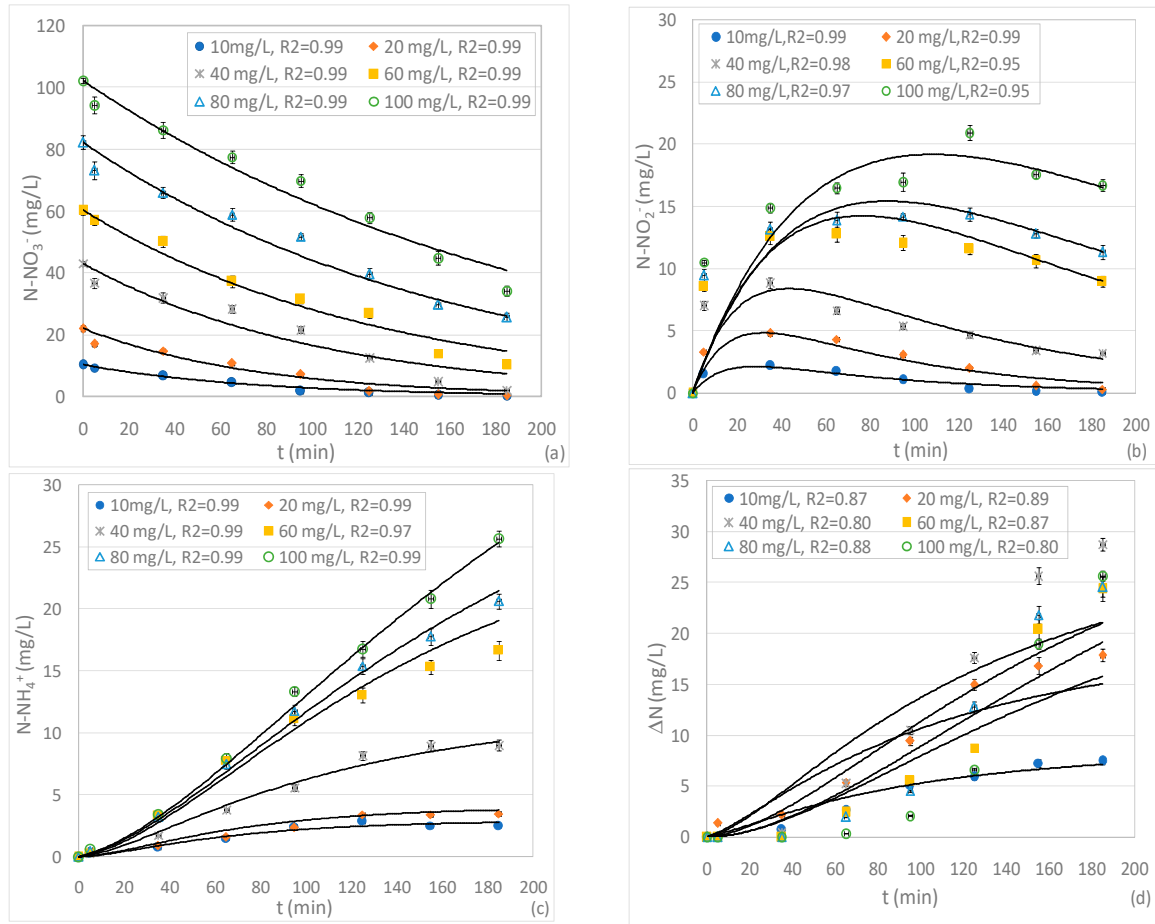




**Figure 2.** Modeling of the experimental curves of  $\text{N-NO}_3^-$  (a),  $\text{N-NO}_2^-$  (b),  $\text{N-NH}_4^+$  (c) and  $\Delta\text{N}$  (d) obtained during the tests carried out at  $\text{pH} = 3$ , with  $\text{Mg}^0 = 2$  g and varying the initial  $\text{N-NO}_3^-$  concentration between 10 mg/L and 100 mg/L.



**Figure 3.** Modeling of the experimental curves of  $\text{N-NO}_3^-$  (a),  $\text{N-NO}_2^-$  (b),  $\text{N-NH}_4^+$  (c) and  $\Delta\text{N}$  (d) obtained during the tests carried out at  $\text{pH}=5$ , with  $\text{Mg}^0=2$  g and varying the initial  $\text{N-NO}_3^-$  concentration between 10 mg/L and 100 mg/L.



**Figure 4.** Modeling of the experimental curves of  $N-NO_3^-$  (a),  $N-NO_2^-$  (b),  $N-NH_4^+$  (c) and  $\Delta N$  (d) obtained during the tests carried out at pH = 7, with  $Mg^0 = 2$  g and varying the initial  $N-NO_3^-$  concentration between 10 mg/L and 100 mg/L.