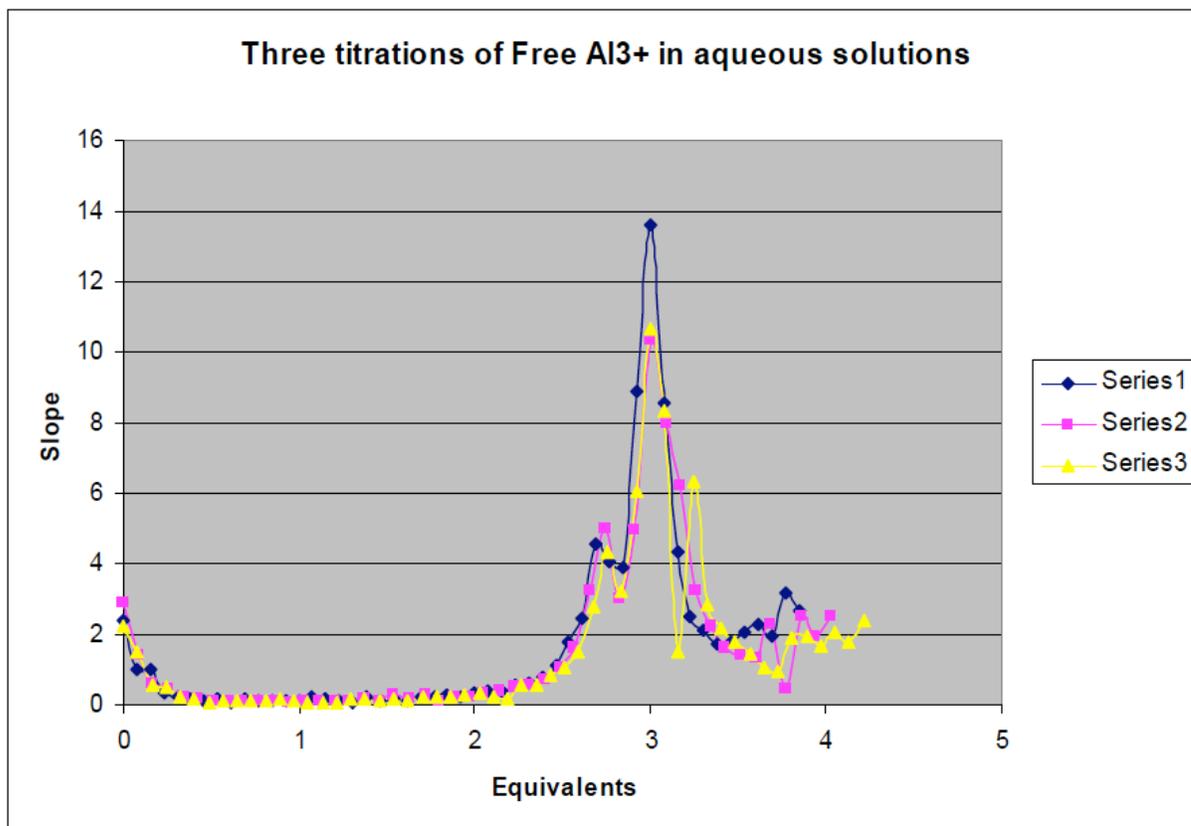
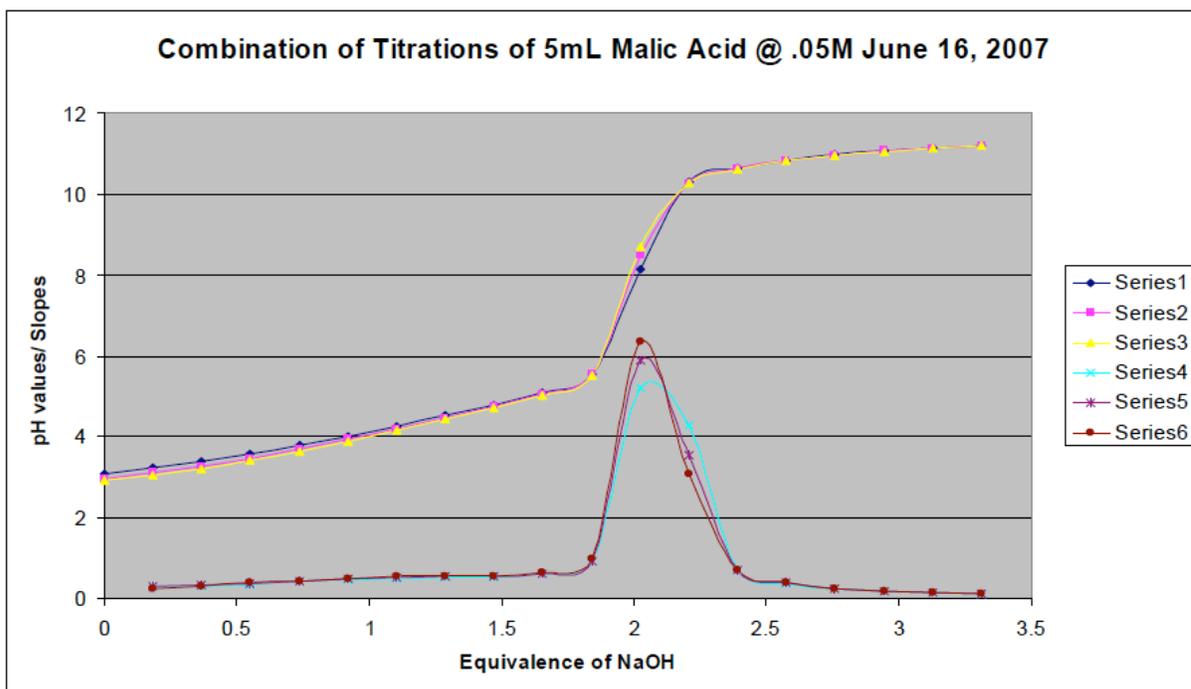


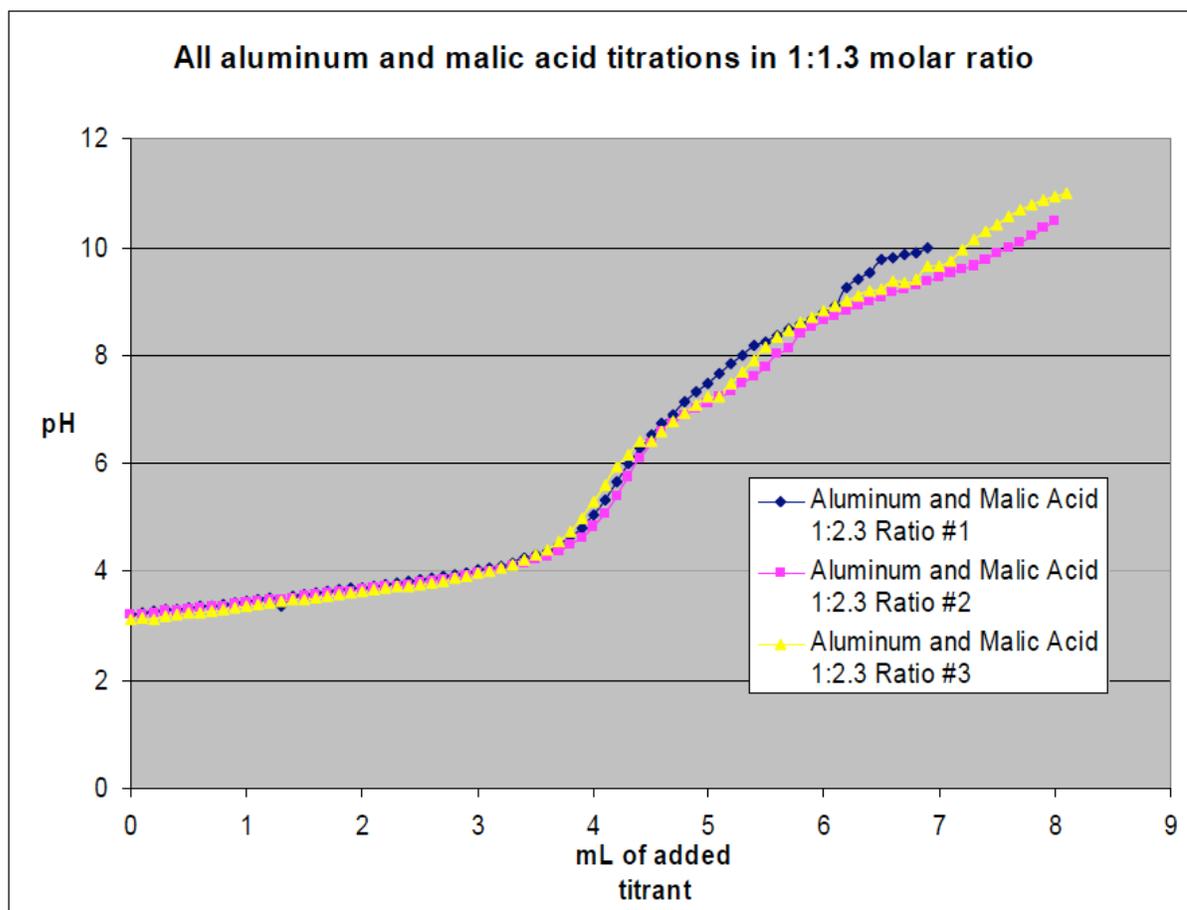
Supplementary Figures



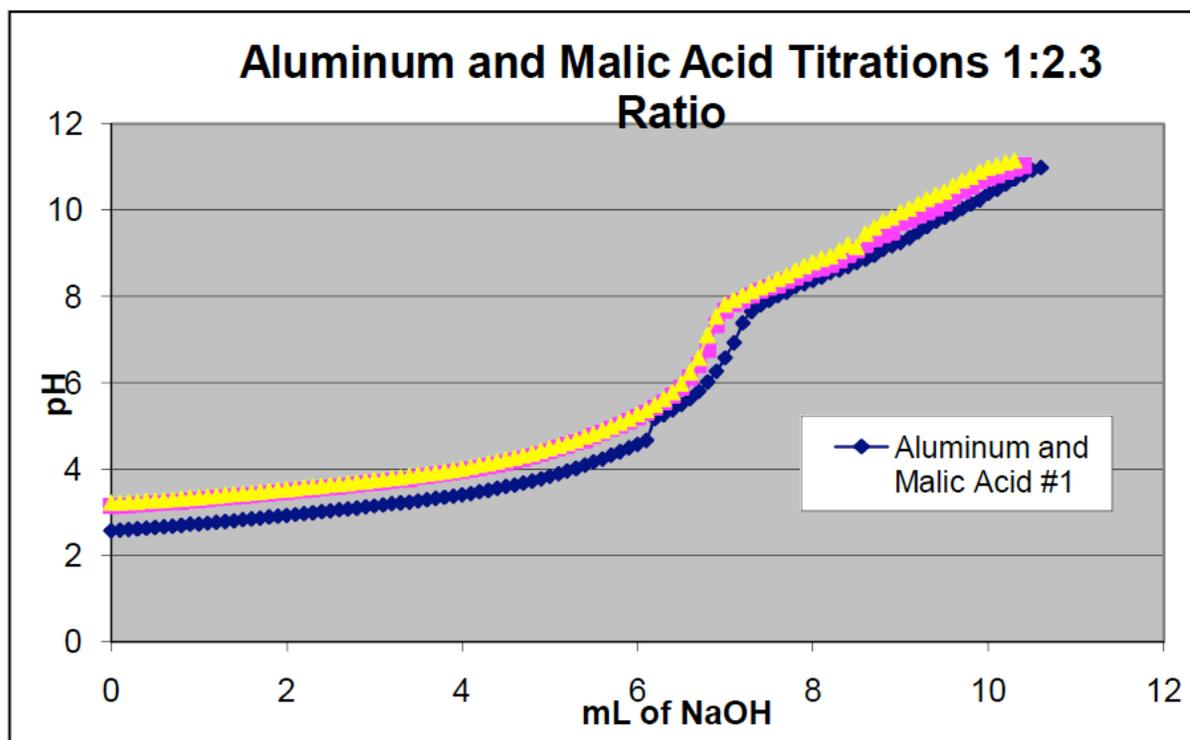
Suppl. Figure 1: Potentiometric titrations of free hexaqua-aluminum ion at 25°C in 0.1 M NaNO₃ solution.



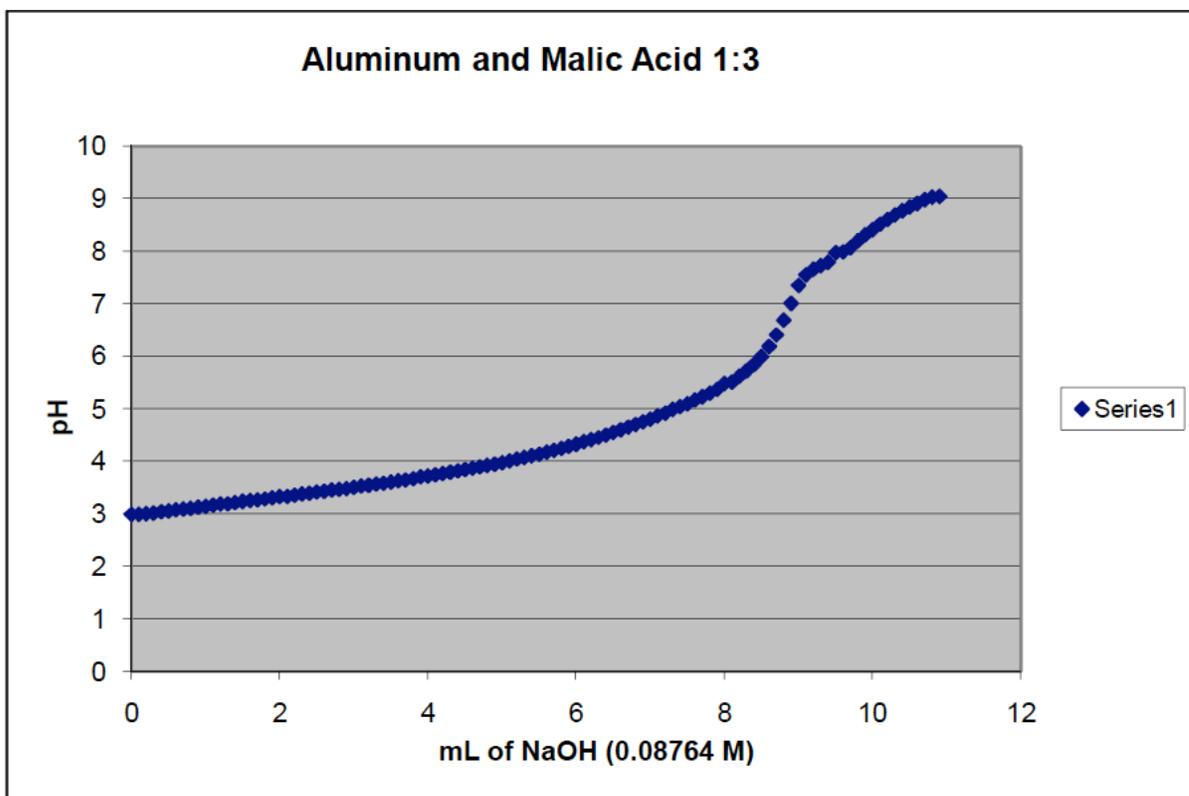
Suppl. Figure 2: Potentiometric titrations of free malic acid at 25°C in 0.1 M NaNO₃ solution.



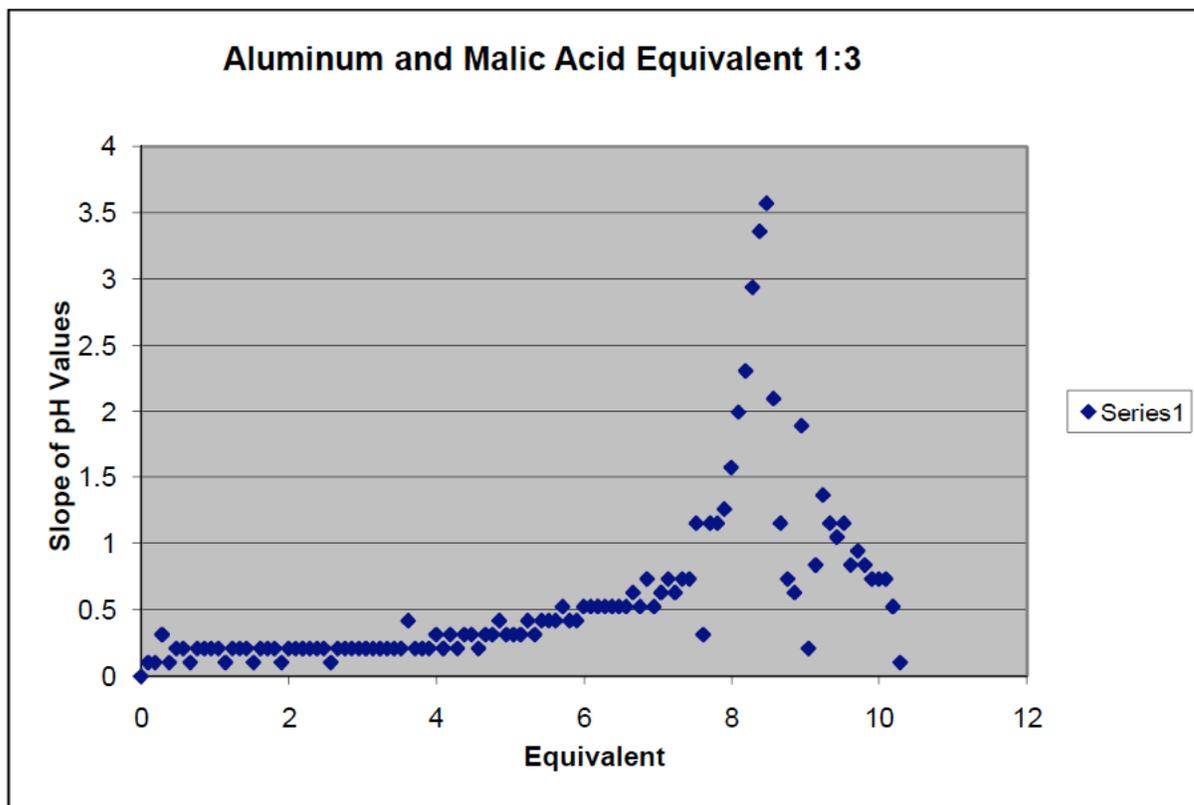
Suppl. Figure 3: Potentiometric titrations of three replicas of Al^{3+} :Malic acid in 1:1.3 molar ratio at 25°C in 0.1 M $NaNO_3$ solution.



Suppl. Figure 4: Potentiometric titrations of three replicas of Al^{3+} :Malic acid in 1:2.3 molar ratio at 25°C in 0.1 M $NaNO_3$ solution.



Suppl. Figure 5: Potentiometric titrations of three replicas of Al³⁺:Malic acid in 1:3 molar ratio at 25°C in 0.1 M NaNO₃ solution. See the next figures for the number of equivalents of protons released.



Suppl. Figure 6: About 8.5 protons released onto the solution from the reaction of Al³⁺ with malic acid in 1:3 ratio.