**Supporting Information for**

**Enhanced adsorption performance of tetracycline in aqueous solutions Using Mg-Al-LDH/AC nanocomposite**

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Calibration curve for Tetracycline Determination

Calibration graph was constructed by preparing aqueous solutions of TC at different concentrations (3, 8, 10, 20, 30, 40, and 50 mg/L). The resulting calibration curve is presented in Figure 1S.

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Fig. 1S. The calibration curve for Tetracycline Determination.

***3.11. Analytical figures of merit***

Above 90 % removal efficiency was achieved for TC when the procedure was performed under the optimal experimental conditions. The calibration graph was linear between 3 and 50 mg L-1 with a correlation coefficient of 0.9989. The regression equation was A = 0.0066C + 0.0158, where A is absorbance and C is TC concentration in mg L-1. The relative standard deviation (RSD, %), based on six replicate analysis of 30 mg L-1 of TC was 1.68 % and the limit of detection (LOD) which is defined as three times of standard deviation of blank (n = 8) was 1.03 mg L-1. The sensitivity of proposed method for removal efficiency of TC based on 0.0044/m (where m is the slope of calibration curve) was 0.667 mg L-1.