

Supplementary Information

3D MODELING OF THE ADSORPTION RATE OF PYRIDINE ON ACTIVATED CARBON CLOTH IN A STIRRED TANK UNDER TURBULENT CONDITIONS

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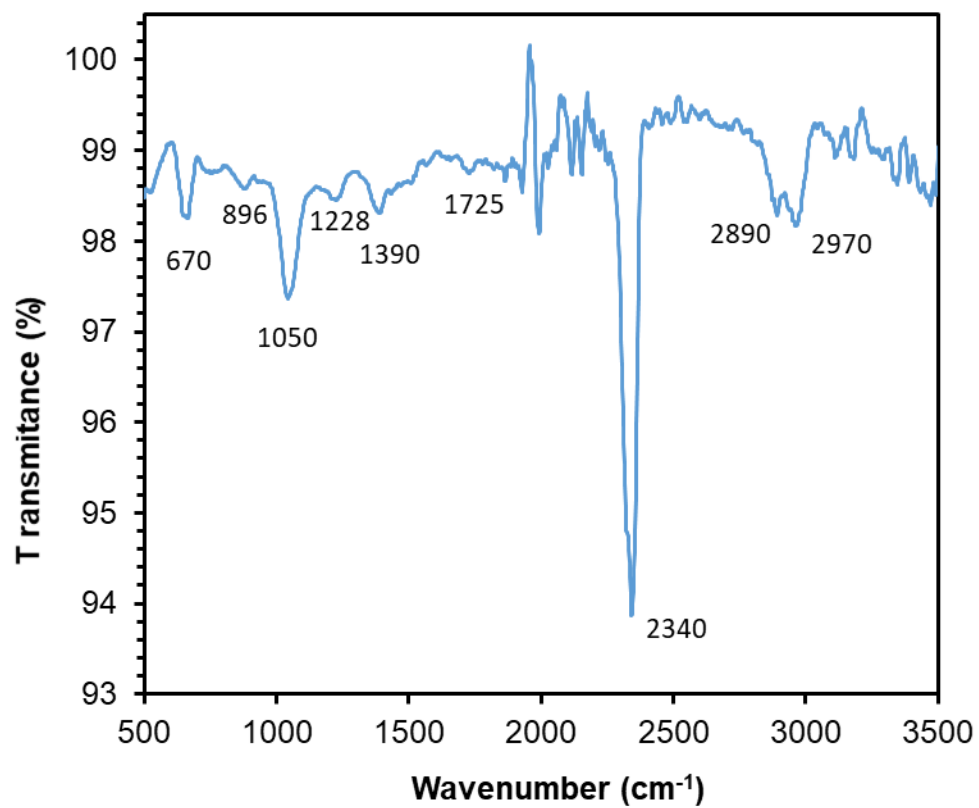


Figure S1. The FTIR spectra of activated carbon cloth ACC.

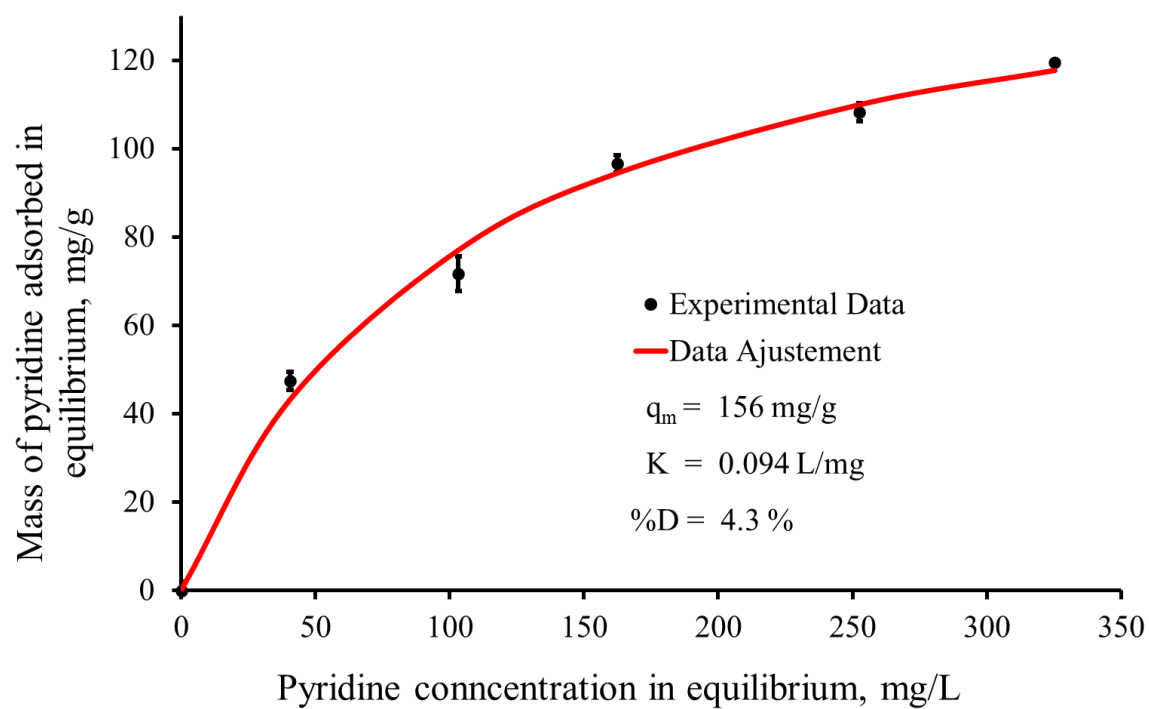


Figure S2. Adsorption equilibrium data for pyridine. The symbols represent the experimental data and the solid line the predictions of the Langmuir isotherm model.

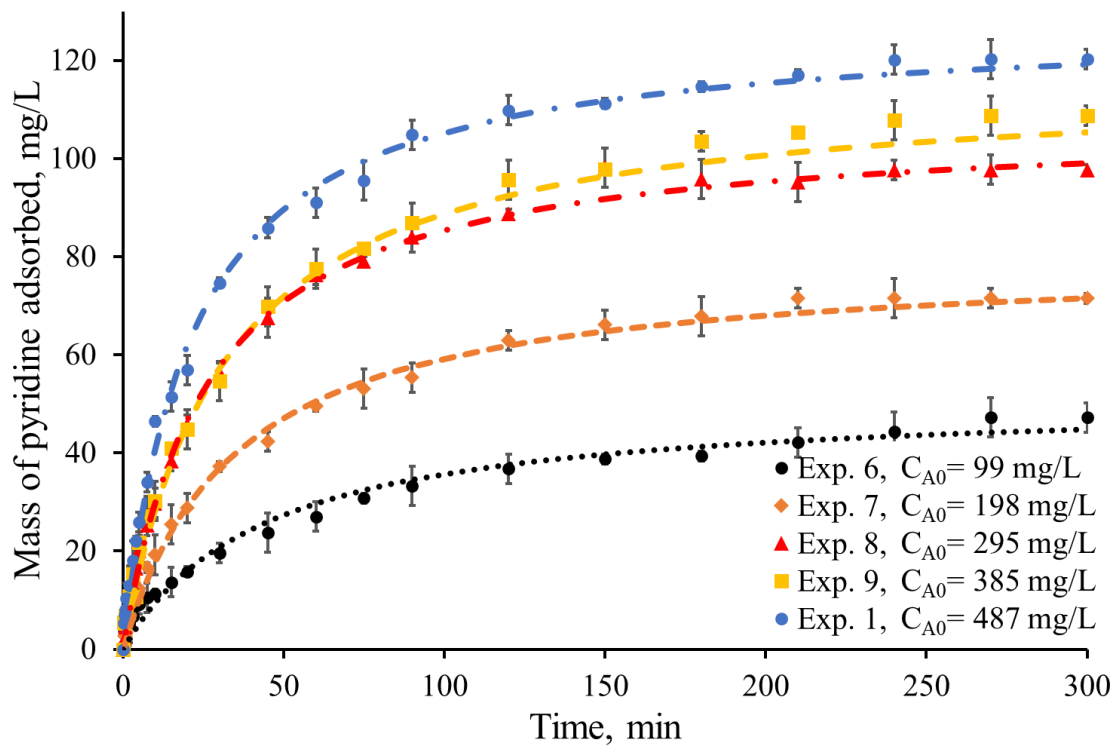


Figure S3. Variation of the adsorption capacity of ACC as a function of the mass of adsorbed pyridine at 30 rpm. The predictions of the Langmuir kinetic model are represented by dashed lines, while the discrete values correspond to experimental data.

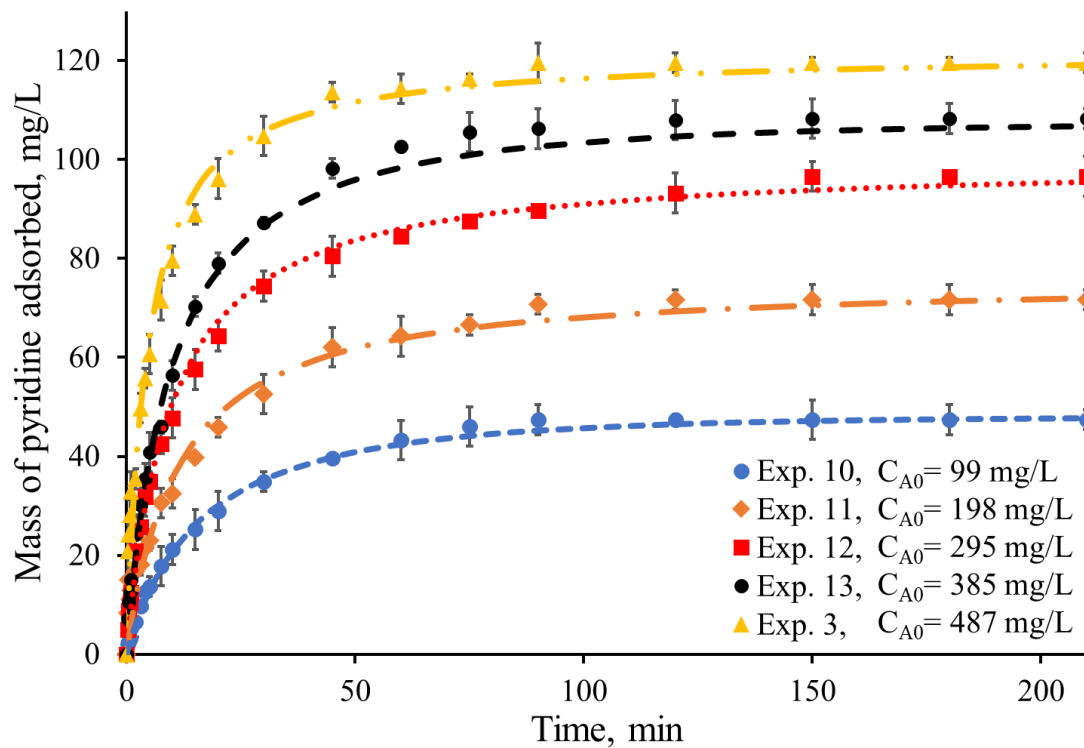


Figure S4. Variation of ACC adsorption capacity as a function of the mass of adsorbed pyridine at 100 rpm. The predictions of the Langmuir kinetic model are represented by dashed lines, while the discrete symbols correspond to experimental data.

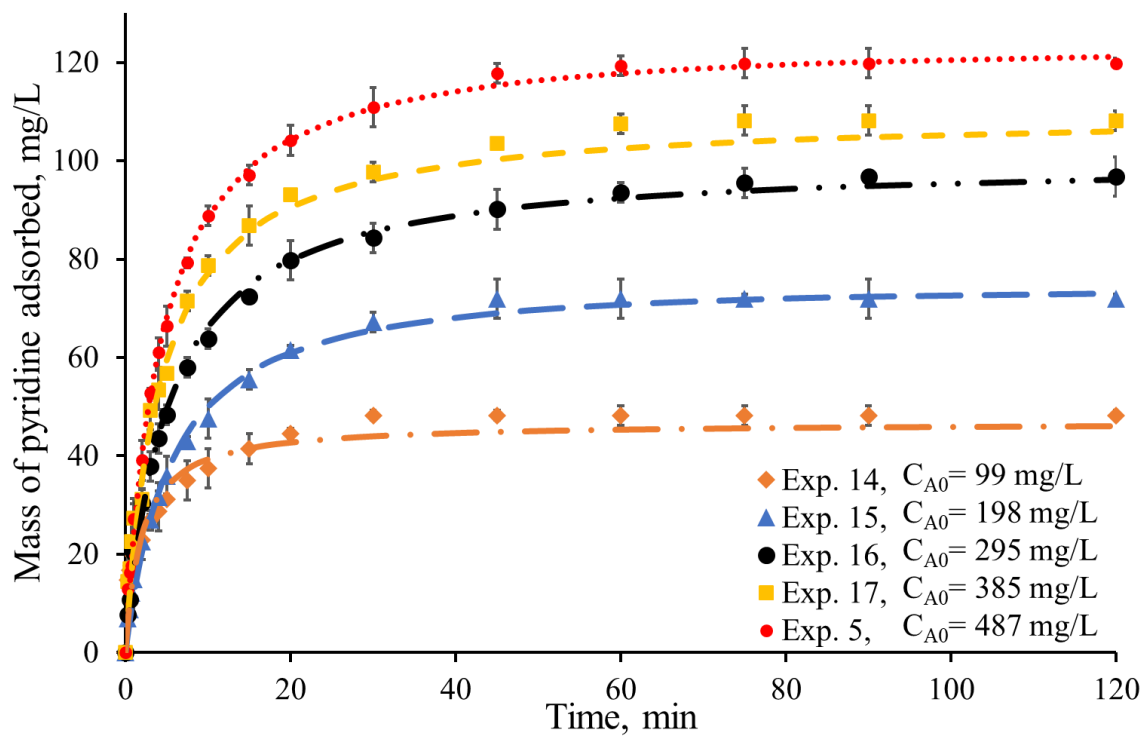


Figure S5. Variation of ACC adsorption capacity as a function of the mass of adsorbed pyridine at 200 RPM. The predictions of the Langmuir kinetic model are represented by dashed lines, while the discrete symbols correspond to experimental data.

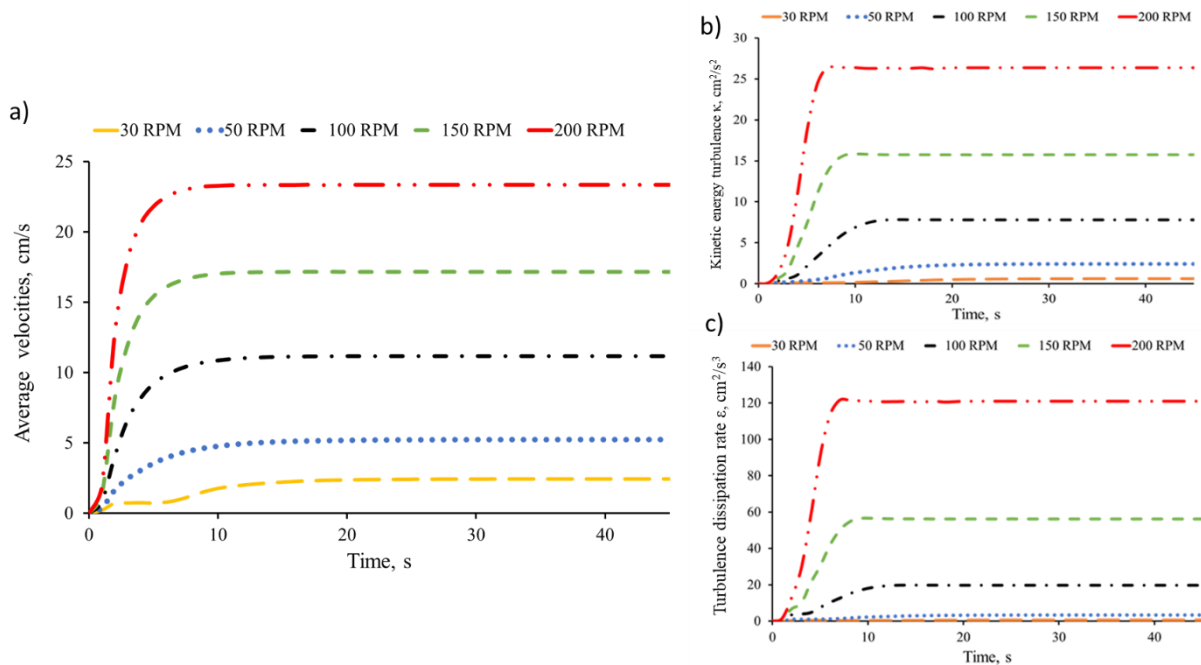


Figure S6. (a) Average velocity (cm/s) vs time (s) as a function of the agitation rate. (b) Kinetic energy turbulent (cm²/s²) vs time (s) as function of the agitation rate. (c) Turbulence dissipation rate (cm²/s³) vs time (s) as a function of stirring speed.

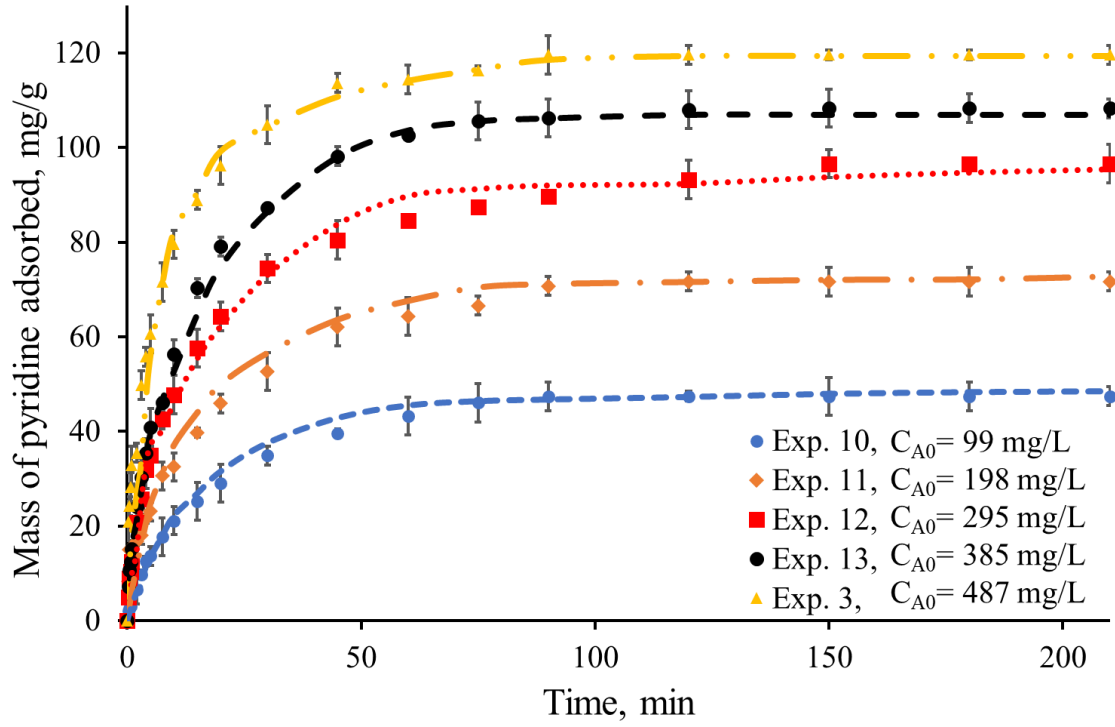


Figure S7. Variation of ACC adsorption capacity as a function of the mass of pyridine adsorbed. Here the agitation rate is 100 rpm. Predictions from the advection-diffusion model are represented by dashed lines, while the discrete values correspond to experimental data.

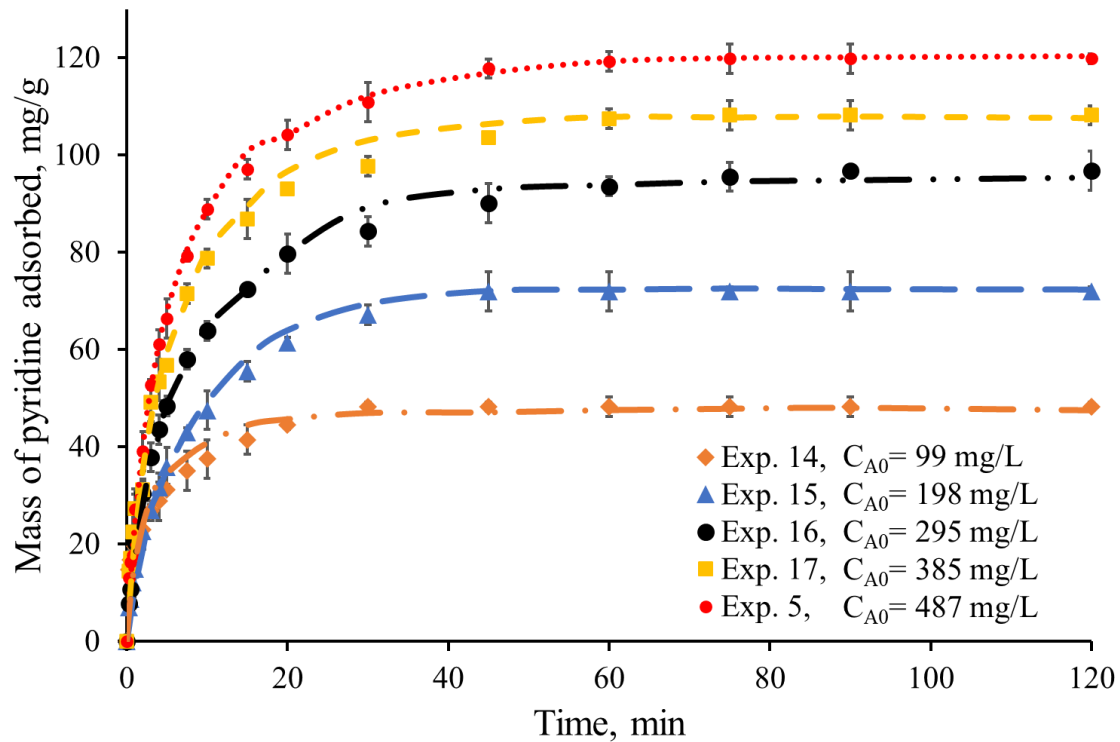


Figure S8. Variation of ACC adsorption capacity as a function of the mass of pyridine adsorbed. Here the agitation rate is 200 rpm. Predictions from the advection-diffusion model are represented by dashed lines, while the discrete values correspond to experimental data.

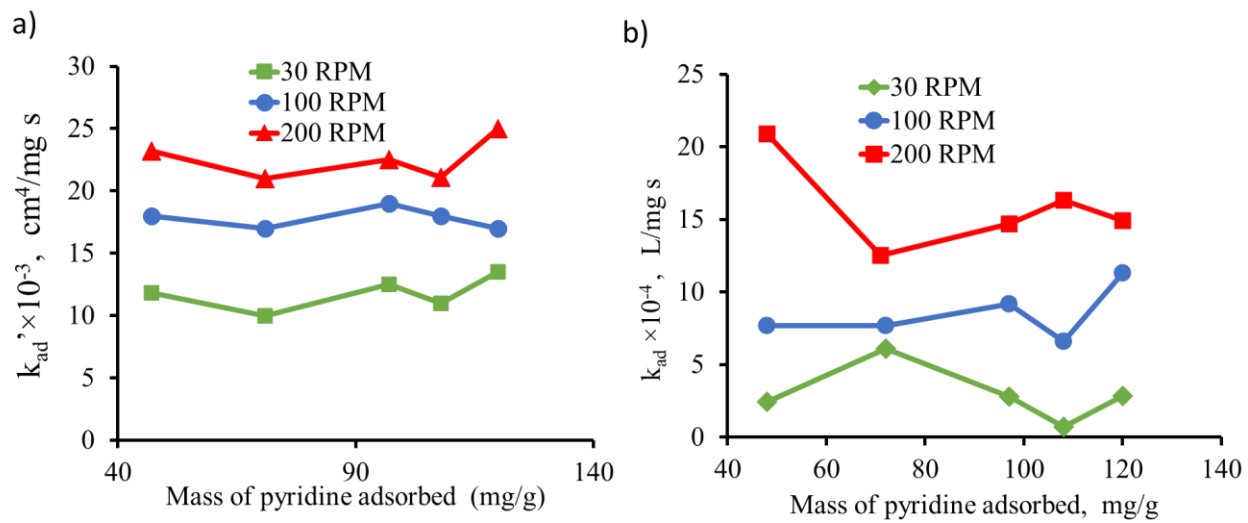


Figure S9. Comparison between the adjustment constants (a) ADM (b) LKM.