

SUPPLEMENTARY MATERIAL TO
Adsorption of clofibric acid by the activated carbon prepared with polyester cloth waste: Study of the operational parameters, kinetic and adsorptive equilibrium using the non-linear method

NASSIMA BOUDRAHEM-BOUALIT^{1,2,3*}, NABIL MAMERI³, MOUNA CHALA¹

¹Laboratoire des Sciences et Techniques de l'Environnement, Ecole Nationale Polytechniques Alger, Avenue Pasteur El Harrach, 16110 Alger, Algeria, ²Faculté de Technologie, Université de Bejaia, Bejaia 06000, Algérie, and ³Laboratoire de biotechnologie, Ecole Nationale Polytechniques Alger, Avenue Pasteur El Harrach, 16110 Alger, Algeria.

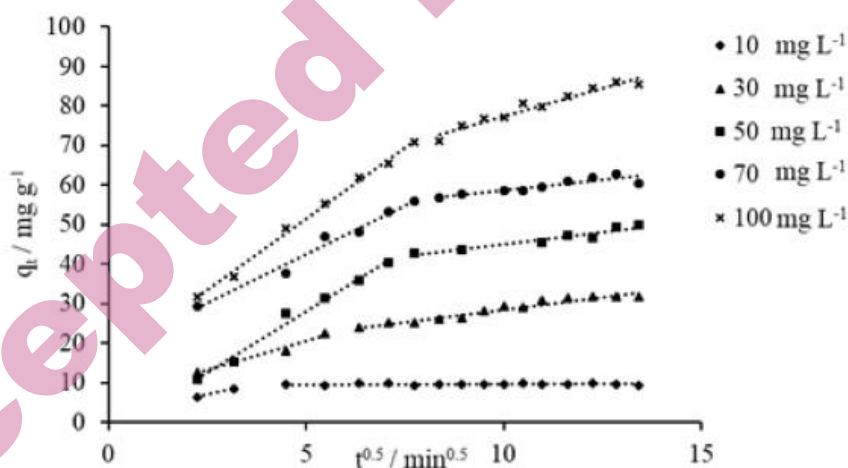


Fig S-1. Kinetics intra-particle diffusion of CA adsorption on AC 75% with different initial concentrations. Conditions: AC 75%, pH = 3, agitation speed = 360 rpm and T = 20 °C.

* Corresponding author. E-mail: nassima.boudrahem@g.enp.edu.dz

TABLE S-I. Comparison of adsorption capacities for the removal of CA from aqueous solutions using other adsorbents.

Study	Adsorbent used	Preparation / activation	S_{BET} (m^2g^{-1})	Optimal pH	Kinetic model	Isotherm model	q_{max} (mg g^{-1})	Remarks
Present study	Activated carbon from polyester textile waste	H_3PO_4 activation + pyrolysis at 600°C		3	Pseudo-second order		80.46	Low-cost, sustainable solution, high efficiency at low conc.
Mester et al. ²⁶	CAC, CPAC	Cork waste + K_2CO_3 (chemical) / steam (physical)	1060 (CPAC)	2	Pseudo-second order	Dubinin–Astakhov	295	High-performance materials, large adsorption capacity
Roza et al. ²⁷	Bamboo-based activated carbon (ABW)	ZnCl_2 activation + microwave heating		2-5	Pseudo-second order		229.35	Micro-/mesoporous structure, monolayer adsorption, high capacity
Lu et al. ²⁸	MIEX resin (ion exchange)	Synthesized magnetic resin	Not specified	5-9	Pseudo-first order	Langmuir	133.69	Ion exchange mechanism, good performance at neutral/basic pH
Hasan et al. ²⁹	Metal-Organic Framework (MIL-101)	MOF synthesis		< 5	Pseudo-second order		312	Highly efficient material, but costly and complex to produce