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Supplementary material

SUPPLEMENTARY MATERIAL TO

Adsorption of clofibric acid on the activated carbon prepared from polyester cloth waste: Study of the operational parameters, kinetics and adsorptive equilibrium using the non-linear method

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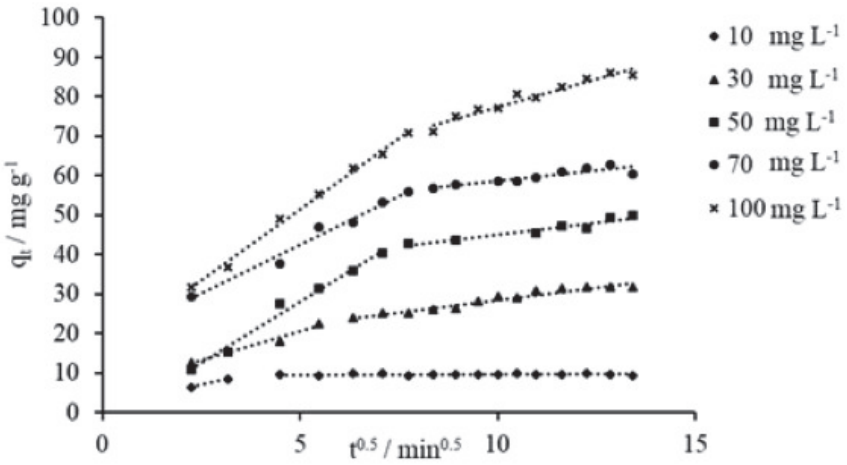

Fig. S-1. Kinetics intra-particle diffusion of CA adsorption on AC 75% with different initial concentrations. Conditions: AC 75%, pH = 3, agitation speed = 360 rpm and T = 20 °C.

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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	826	3	Pseudo-second order	Freundlich	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	722.27	2-5	Pseudo-second order	Langmuir	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	3100	< 5	Pseudo-second order	Langmuir	312	Highly efficient material, but costly and complex to produce