

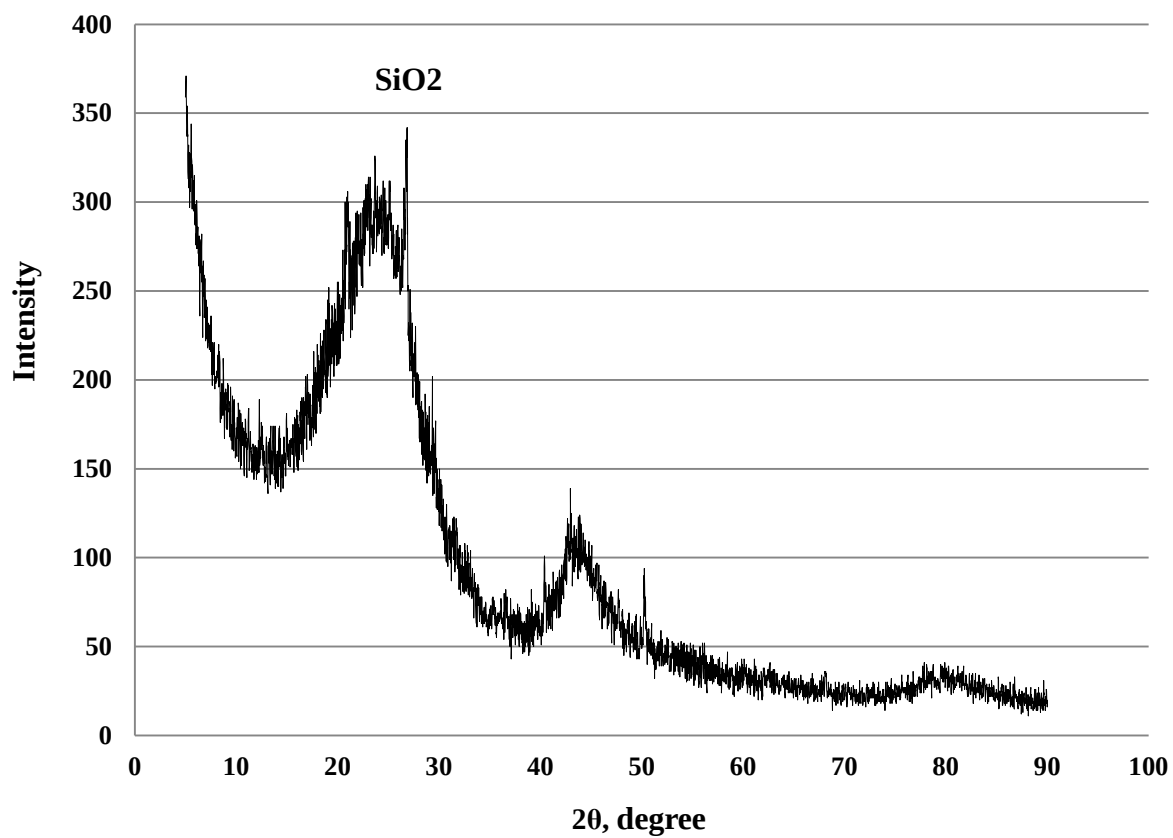


Figure S1. XRD pattern for fresh granulated activated carbon used as a catalyst in the study.

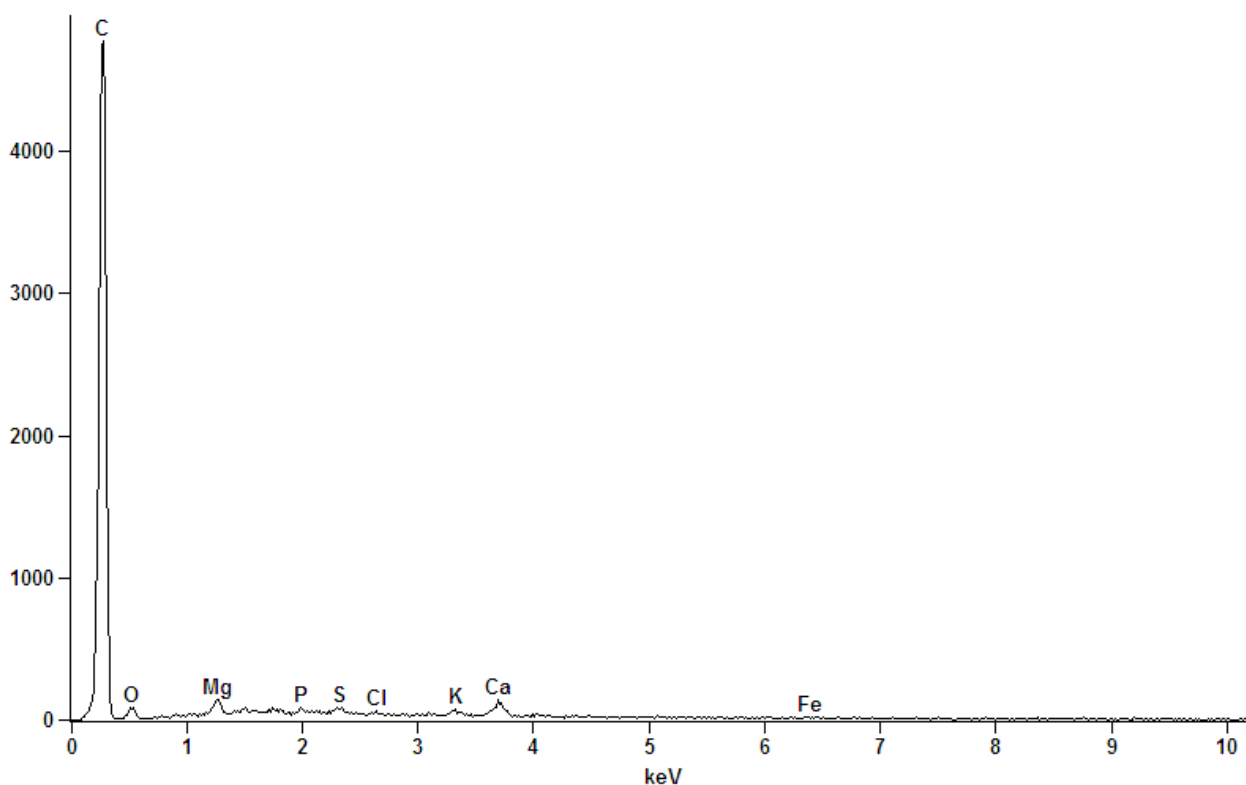


Figure S2. EDS spectrum of the activated carbon used as a catalyst in the study.

Table S1. Quantitative results of EDS analysis of the activated carbon catalyst

Element	Atom %
C	94.95 ± 0.54
O	4.32 ± 0.32
Mg	0.29 ± 0.02
P	0.04 ± 0.01
S	0.07 ± 0.01
Cl	0.03 ± 0.01
K	0.06 ± 0.01
Ca	0.20 ± 0.01
Fe	0.04 ± 0.01

Table S2. Wavenumbers and principal bonds in FTIR spectra of commercial granulated activated carbons

Wavenumber, cm ⁻¹	Assignments
3500-3300	O-H stretching (intermolecular hydrogen bonded)
2930-2900	C-H asym. stretching
2720	C-H (aldehydes)
1740	C=O stretching in esters
1625-1610	C=C aromatic skeletal stretching
1580-1570	C=C stretching band
1450-1420	C-H asym. bending
1375-1317	C-H asym. and sym. bending
1284-1240	C-O asym. stretching of aromatic ethers, esters, and phenols
1260-1000	C-O in carboxylic acids, alcohols, phenols, and esters
700-400	C-C stretching