

Fate of Trace Organic Compounds in Granular Activated Carbon (GAC) Adsorbers for Drinking Water Treatment

Alexander Sperlich, Mareike Harder, Frederik Zietzschmann and Regina Gnirss

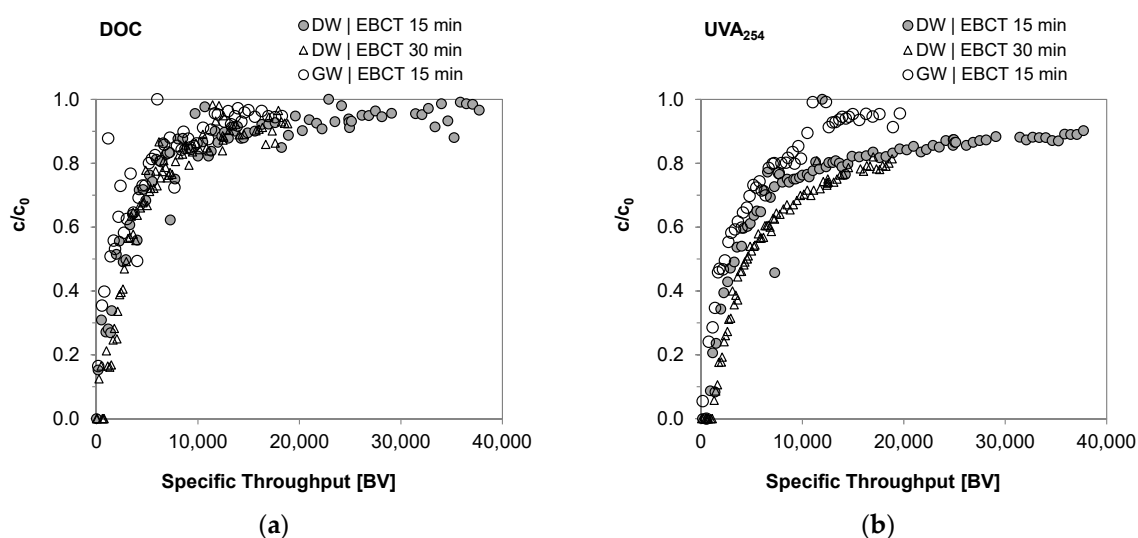


Figure S1. Normalized effluent concentration vs. throughput (breakthrough curves) for (a) Dissolved organic carbon (DOC) and (b) UV_{254} absorbance in two fixed-bed adsorbers in series fed with drinking water (DW, EBCT 15 and 30 min) and in a single fixed-bed adsorber fed with unaerated groundwater (GW, EBCT 15 min).

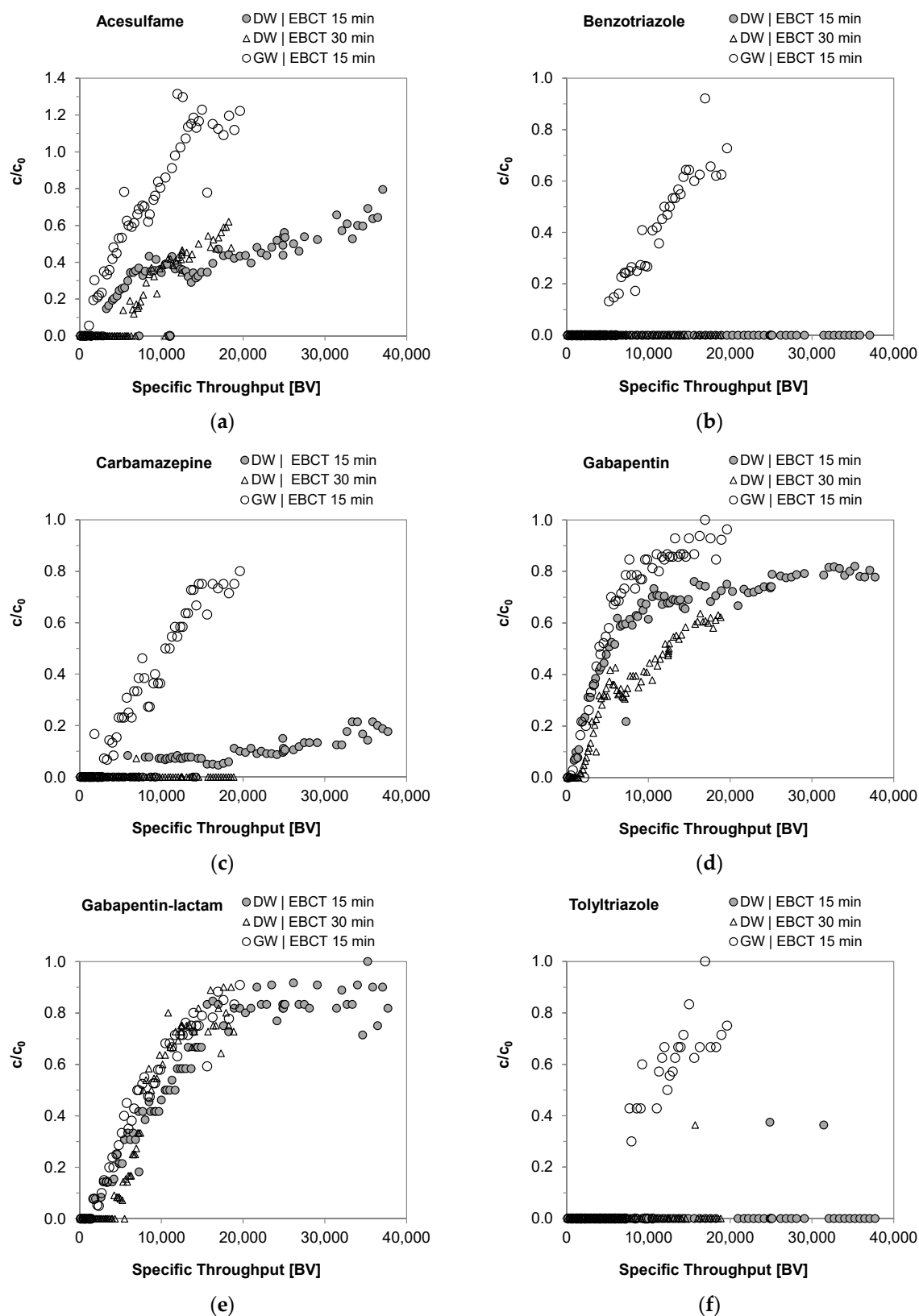


Figure S2. Normalized effluent concentration vs. throughput (breakthrough curves) for (a) acesulfame, (b) benzotriazole, (c) carbamazepine, (d) gabapentin, (e) gabapentin-lactam, and (f) tolyltriazole in two fixed-bed adsorbers in series fed with drinking water (DW, EBCT 15 and 30 min) and in a single fixed-bed adsorber fed with unaerated groundwater (GW, EBCT 15 min).

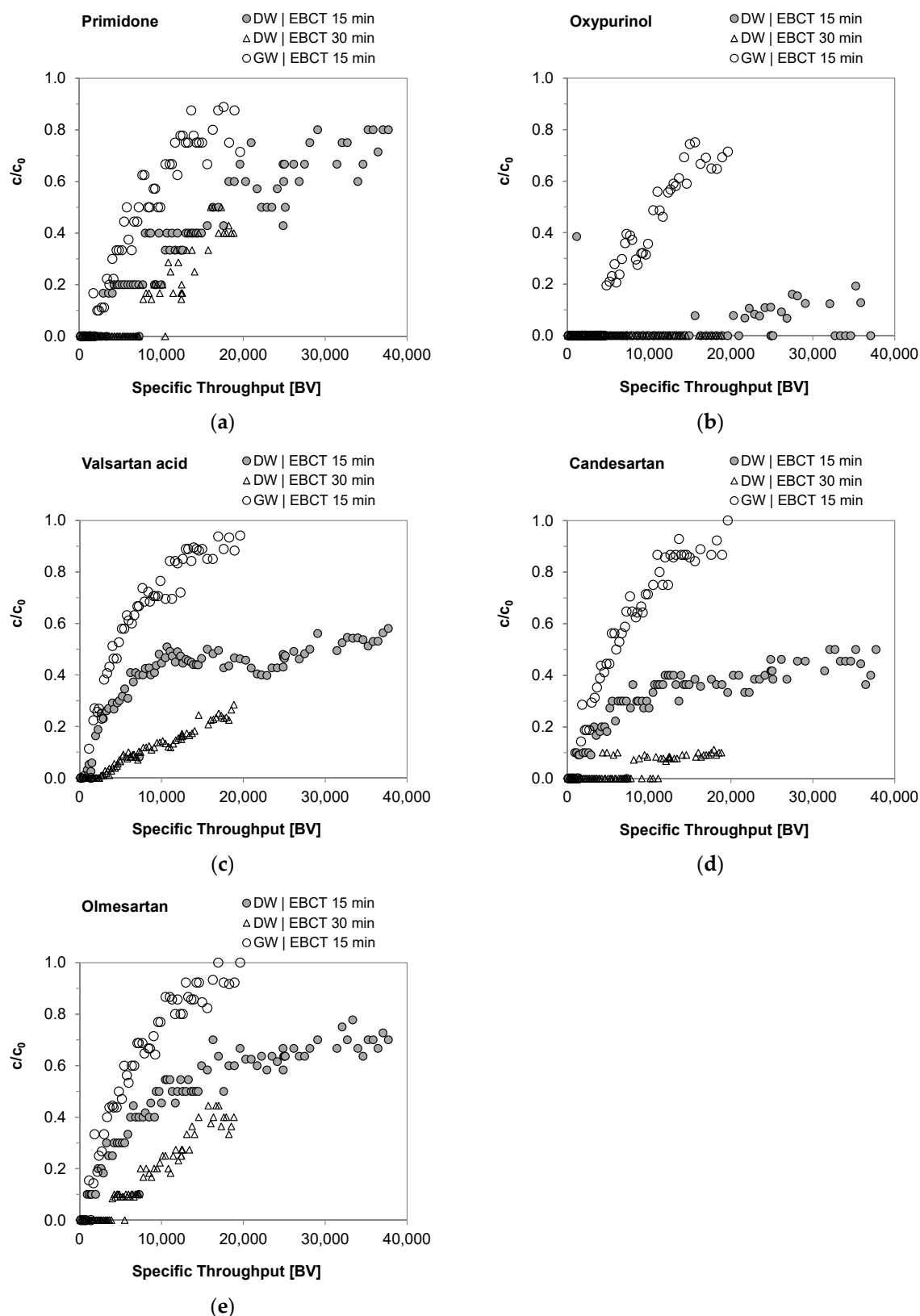


Figure S3. Normalized effluent concentration vs. throughput (breakthrough curves) for (a) primidone, (b) oxypurinol, (c) valsartan acid, (d) candesartan, and (e) olmesartan in two fixed-bed adsorbers in series fed with drinking water (DW, EBCT 15 and 30 min) and in a single fixed-bed adsorber fed with unaerated groundwater (GW, EBCT 15 min).

Table S1. List of monitored TOrCs.

Compound	Influent Concentration DW-fed adsorber [$\mu\text{g/L}$]	Influent Concentration GW-fed adsorber [$\mu\text{g/L}$]	LOQ [$\mu\text{g/L}$]
Acesulfame	0.63 ± 0.12	4.54 ± 0.81	0.10
Benzotriazole	0.29 ± 0.04	0.30 ± 0.07	0.05
Carbamazepine	0.15 ± 0.03	0.12 ± 0.03	0.01
Gabapentin	0.57 ± 0.08	1.35 ± 0.18	0.01
Gabapentin-lactam	0.12 ± 0.01	0.20 ± 0.03	0.01
Tolyltriazole	0.08 ± 0.02	0.07 ± 0.01	0.03
Primidone	0.05 ± 0.01	0.63 ± 0.12	0.01
Oxypurinol	0.47 ± 0.24	0.39 ± 0.11	0.05
Valsartan acid	1.02 ± 0.12	1.75 ± 0.33	0.01
Candesartan	0.11 ± 0.01	0.15 ± 0.03	0.01
Olmesartan	0.10 ± 0.01	0.14 ± 0.03	0.01



© 2017 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).