Science of the Total Environment 635 (2018) 1620–1621

Contents lists available at ScienceDirect

Science of the Total Environment

journal homepage: www.elsevier.com/locate/scitotenv

Corrigendum

Corrigendum to "European demonstration program on the effect-based and chemical identification and monitoring of organic pollutants in European surface waters" [Sci. Total Environ. 601–602 (2017) 1849–1868]

Zuzana Tousova [a,b], Peter Oswald [a], Jaroslav Slobodnik [a], Ludek Blaha [b], Melis Muz [c,d], Meng Hu [c,d], Werner Brack [c,d], Martin Krauss [c], Carolina Di Paolo [d], Zsolt Tarcai [d], Thomas-Benjamin Seiler [d], Henner Hollert [d], Sanja Koprivica [e], Marijan Ahel [e], Jennifer E. Schollée [f,g], Juliane Hollender [f,g], Marc J.-F. Suter [f,g], Anita O. Hidasi [f,h], Kristin Schirmer [f,g,h], Manoj Sonavane [i], Selim Ait-Aissa [i], Nicolas Creusot [i], Francois Brion [i], Jean Froment [c,j], Ana Catarina Almeida [j], Kevin Thomas [j,k], Knut Erik Tollefsen [j,l], Sara Tufi [m], Xiyu Ouyang [m], Pim Leonards [m], Marja Lamoree [m], Victoria Osorio Torrens [n], Annemieke Kolkman [n], Merijn Schriks [n,o], Petra Spirhanzlova [p], Andrew Tindall [p], Tobias Schulze [c,*]

[a] Environmental Institute (EI), Okruzna 784/42, 972 41 Kos, Slovak Republic
[b] Masaryk University, Faculty of Science, RECETOX, Kamenice 753/5, 625 00 Brno, Czech Republic
[c] UFZ Helmholtz-Centre for Environmental Research, Permoserstrasse 15, 04318 Leipzig, Germany
[d] RWTH Aachen University, Inst. for Environmental Research (Biology V), Department of Ecosystem Analysis, Worringerweg 1, 52074 Aachen, Germany
[e] Rudjer Boskovic Institute, Bijenicka cesta 54, 10000 Zagreb, Croatia
[f] Eawag, Ueberlandstrasse 133, 8600 Dubendorf, Switzerland
[g] Institute of Biogeochemistry and Pollutant Dynamics, ETH Zurich, 8092 Zurich, Switzerland
[h] EPF Lausanne, School of Architecture, Civil and Environmental Engineering, 1015 Lausanne, Switzerland
[i] Institut National de l'Environnement Industriel et des Risques (INERIS), Unité ECOT, Parc ALATA - BP2, 60550 Verneuil-en-Halatte, France
[j] Norwegian Institute for Water Research (NIVA), Ecotoxicology and Risk Assessment, Gaustadallèen 21, NO-0349 Oslo, Norway
[k] Queensland Alliance for Environmental Health Sciences (QAEHS), The University of Queensland, 39 Keesels Road, Coopers Plains 4108, Australia
[l] Norwegian University of Life Sciences (NMBU), Faculty of Environmental Science & Technology, Dept. for Environmental Sciences, Post box 5003, N-1432 Ås, Norway
[m] Vrije Universiteit Amsterdam, Department Environment & Health, De Boelelaan 1087, 1081 HV, Amsterdam, The Netherlands
[n] KWR, Watercycle Research Institute, Department of Chemical Water, Quality and Health, P.O. Box 1072, 3430 BB Nieuwegein, The Netherlands
[o] Vitens drinking water company, P.O Box 1205, 8001 BE Zwolle, The Netherlands
[p] WatchFrog S. A., 1 rue Pierre Fontaine, 91000 Evry, France

The authors regret that an error occurred in Table 5: The relative effect potency (REP) for estrone in the MELN estrogenicity assay used in the calculations is 0.11 (Neale et al., 2017) and not 0.02 (Kinani et al., 2010) as reported. The corrected Table 5 was attached to the corrigendum.

The results in the main paper were based on the correct REP of 0.11 and hence the mistake does not affect the results of the original paper. We apologize for this error and possible misleading to our readers.

References

Kinani, S., Bouchonnet, S., Creusot, N., Bourcier, S., Balaguer, P., Porcher, J.-M., Aït-Aïssa, S., 2010. Bioanalytical characterisation of multiple endocrine- and dioxin-like activities in sediments from reference and impacted small rivers. Environ. Pollut. 158:74–83. https://doi.org/10.1016/j.envpol.2009.07.041.

Neale, P.A., Altenburger, R., Aït-Aïssa, S., Brion, F., Busch, W., de AragãoUmbuzeiro, G., Denison, M.S., Du Pasquier, D., Hilscherová, K., Hollert, H., Morales, D.A., Novák, J., Schlichting, R., Seiler, T.-B., Serra, H., Shao, Y., Tindall, A.J., Tollefsen, K.E., Williams, T.D., Escher, B.I., 2017. Development of a bioanalytical test battery for water quality monitoring: Fingerprinting identified micropollutants and their contribution to effects in surface water. Wat. Res. 123:734–750. https://doi.org/10.1016/j.watres.2017.07.016.

DOI of original article: https://doi.org/10.1016/j.scitotenv.2017.06.032.
* Corresponding author at: UFZ Helmholtz-Centre for Environmental Research, Department of Effect-Directed Analysis, Permoserstrasse 15, 04318 Leipzig, Germany.
E-mail address: tobias.schulze@ufz.de (T. Schulze).

https://doi.org/10.1016/j.scitotenv.2018.04.356
0048-9697/

Table 5
Mass balance calculations for estrogenic, androgenic and glucocorticoid activities in the EDP samples. Chemical equivalents (Chem-EQ), calculated by multiplying measured concentrations of known agonists with their relative potencies in the particular bioassays, were compared to biological equivalents (Bio-EQ) and the resulting ratio (expressed as a percentage) shows the extent to which the observed biological activity can be explained by target compounds.

	Compound name	CAS	LOQ [ng/L]	REP	Reference	Danube RB		Saale RB				
						1-1	1-4	4-1	4-2	4-3	4-4	4-5
Estrogenicity (MELN)	4-Androstene-3,17-dione	63-05-8	1.5	9.70E−07	Creusot et al. (2014)	10.1	ND	ND	ND	ND	ND	ND
	Benzophenone-3	131-57-7	1.0	7.04E−07	Molina-Molina et al. (2008)	141.6	<LOQ	ND	1.8	ND	ND	ND
	Bisphenol A	80-05-7	4.0	4.49E−05	Neale et al. (2015)	62 (0.2%)	<LOQ	ND	15.0	16 (0.5%)	6.0	ND
	Endosulfan alpha and beta	115-29-7	1.0	2.00E−06	Lemaire et al. (2006)	ND	ND	ND	ND	ND	ND	90.0
	Estrone	53-16-7	0.1	0.11	Neale et al. (2017)	ND	0.38 (53%)	ND	ND	0.3 (23%)	ND	0.23 (3.2%)
	Nonylphenol	25154-52-3	10	3.30E−06	Creusot et al. (2013)	74.0	18.0	ND	ND	ND	ND	119.0
	Nonylphenoxyacetic acid	3115-49-9	1.0	4.10E−04	Creusot et al. (2013)	1418 (31%)	5.6 (3%)	ND	71 (2.3%)	25 (7.2%)	55 (3.5%)	75 (3.9%)
	Octylphenol	140-66-9	3.0	1.10E−04	Creusot et al. (2013)	14 (0.1%)	ND	ND	ND	ND	ND	7.5 (0.1%)
	Progesterone	57-83-0	1.0	7.50E−07	Creusot et al. (2014)	ND	ND	ND	1.2	ND	ND	ND
	Triphenylphosphate	115-86-6	5.0	6.90E−06	Creusot ESPR in revision	ND	ND	ND	ND	ND	ND	ND
					Bio-E2-EQ	1850	0.08	0.06	1.26	0.14	0.64	0.80
					Chem-E2-EQ	0.59	0.04	0.00	0.03	0.04	0.02	0.06
					Chem/Bio ratio (%)	31.7	56	0	2.3	30.7	3.6	7.2
Androgenicity (MDAkb2)	4-Androstene-3,17-dione	63-05-8	1.50	3.90E−03	Ait-Aissa et al. (2010)	10.1 (1.5%)	ND	ND	ND	ND	ND	ND
	Epi-Androsterone	481-29-8	2.0	8.10E−06	Bellet et al. (2012)	4.1	ND	ND	ND	7.47	ND	4.0
	Trenbolone	10161-33-8	2.0	1.8	Blake et al. (2010)	ND	ND	ND	ND	ND	ND	ND
					Bio-DHT-EQ	2.67			0.9			
					Chem-DHT-EQ	0.04	0	0	0	6.05E−05	0	3.20E−05
					Chem/Bio ratio (%)	1.5						
Glucocorticoid activity (GR CALUX)	6-alpha-Methylprednisolone	83-43-2	0.63	0.54	Macikova et al. (2014)	1.24 (2.2%)	<LOQ	ND	ND	ND	ND	ND
	Cortisone	53-06-5	1.0	8.00E−04	Schriks et al. (2010)	ND	ND	ND	ND	<LOQ	<LOQ	ND
	Hydrocortisone	50-23-7	0.86	3.60E−02	Macikova et al. (2014)	ND	ND	ND	ND	ND	ND	2.5
					Bio-Dex-EQ	30.50			5.20			
					Chem-Dex-EQ	0.67	0	0	0	0	0	0.09
					Chem/Bio ratio (%)	2.2			0			

	Compound name	CAS	LOQ [ng/L]	REP	Reference	Sava RB			Emme RB			
						2-1	2-2	2-3	3-1	3-2	3-3	3-4
Estrogenicity (MELN)	4-Androstene-3,17-dione	63-05-8	1.5	9.70E−07	Creusot et al. (2014)	ND	ND	ND	ND	ND	ND	1.7
	Benzophenone-3	131-57-7	1.0	7.04E−07	Molina-Molina et al. (2008)	ND	1.7	<LOQ	ND	ND	1.7	ND
	Bisphenol A	80-05-7	4.0	4.49E−05	Neale et al. (2015)	5.8 (0.2%)	17 (0.3%)	12 (0.1%)	11 (0.8%)	<LOQ	<LOQ	40 (1%)
	Endosulfan alpha and beta	115-29-7	1.0	2.00E−06	Lemaire et al. (2006)	ND	ND	<LOQ	ND	ND	ND	ND
	Estrone	53-16-7	0.1	0.11	Neale et al. (2017)	0.43 (30%)	0.45 (21%)	1.28 (34%)	0.23 (38%)	0.19 (32%)	0.28 (75%)	0.57 (40%)
	Nonylphenol	25154-52-3	10	3.30E−06	Creusot et al. (2013)	22.0	22.0	17.0	315 (1.6%)	<LOQ	10 (0.1%)	33.0
	Nonylphenoxyacetic acid	3115-49-9	1.0	4.10E−04	Creusot et al. (2013)	12 (3%)	6.2 (1%)	12 (1.2%)	3.9 (2.4%)	12 (7.6%)	2 (2%)	65 (17%)
	Octylphenol	140-66-9	3.0	1.10E−04	Creusot et al. (2013)	ND	ND	ND	14 (2.3%)	ND	ND	ND
	Progesterone	57-83-0	1.0	7.50E−07	Creusot et al. (2014)	ND	ND	ND	ND	ND	ND	ND
	Triphenylphosphate	115-86-6	5.0	6.90E−06	Creusot ESPR in revision	ND	<LOQ	ND	ND	ND	ND	ND
					Bio-E2-EQ	0.16	0.24	0.42	0.07	0.07	0.04	0.16
					Chem-E2-EQ	0.05	0.05	0.15	0.03	0.03	0.03	0.09
					Chem/Bio ratio (%)	33	23	35	45	40	77	59
Androgenicity (MDAkb2)	4-Androstene-3,17-dione	63-05-8	1.50	3.90E−03	Ait-Aissa et al. (2010)	ND	ND	ND	ND	ND	ND	1.7
	Epi-Androsterone	481-29-8	2.0	8.10E−06	Bellet et al. (2012)	ND	ND	ND	ND	ND	3.6	2.6
	Trenbolone	10161-33-8	2.0	1.8	Blake et al. (2010)	2.7	ND	ND	ND	ND	ND	ND
					Bio-DHT-EQ							
					Chem-DHT-EQ	4.86	0	0	0	0	2.92E−05	6.81E−03
					Chem/Bio ratio (%)							
Glucocorticoid activity (GR CALUX)	6-alpha-Methylprednisolone	83-43-2	0.63	0.54	Macikova et al. (2014)	ND	ND	ND	ND	2.6	ND	ND
	Cortisone	53-06-5	1.0	8.00E−04	Schriks et al. (2010)	1.8	ND	<LOQ	ND	ND	<LOQ	ND
	Hydrocortisone	50-23-7	0.86	3.60E−02	Macikova et al. (2014)	ND	ND	2.56 (29%)	ND	ND	ND	ND
					Bio-Dex-EQ			0.32				
					Chem-Dex-EQ	0.00	0	0.09	0	1.39	0	0
					Chem/Bio ratio (%)			28.9				

ND non-detected.
<LOQ - below limit of quantification.