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FTIR-Imaging in der Analyse von Mikroplastik im Boden

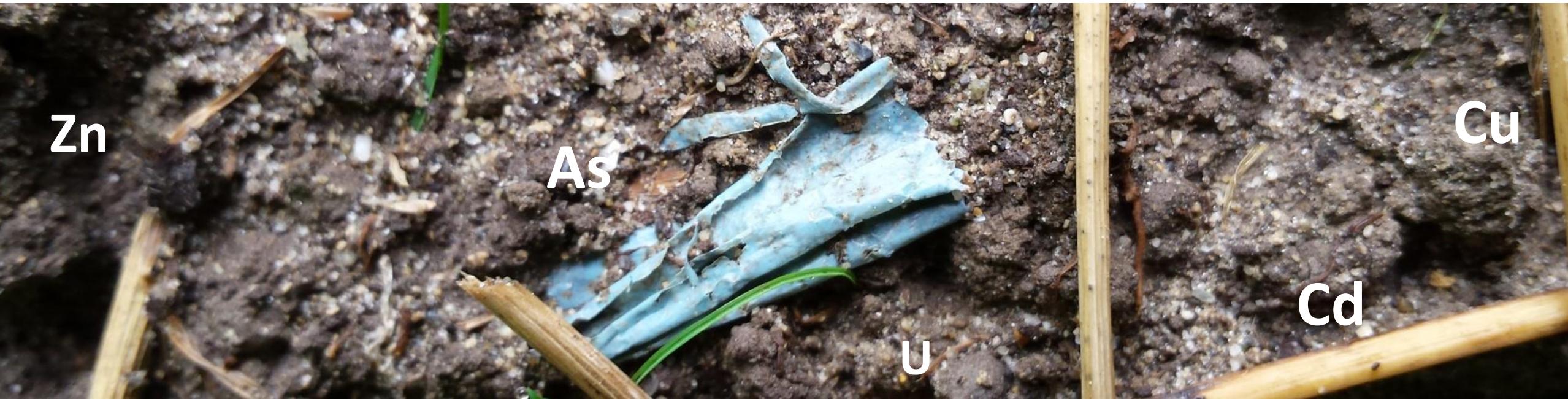


Prof. Dr. Moritz Bigalke



Institut für Angewandte Geowissenschaften

Fachgebiet: Bodenmineralogie und Bodenchemie

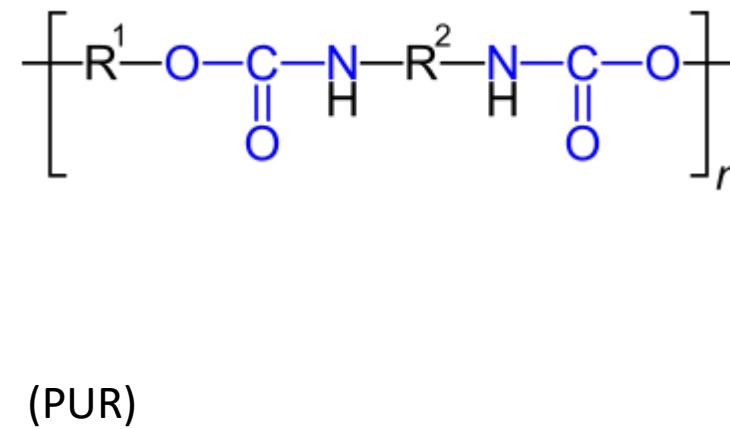
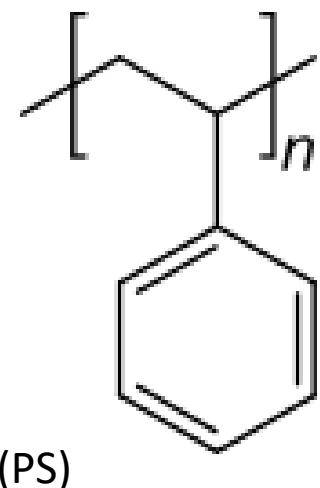
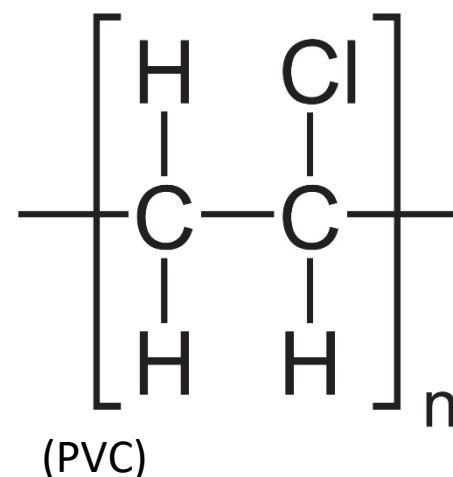
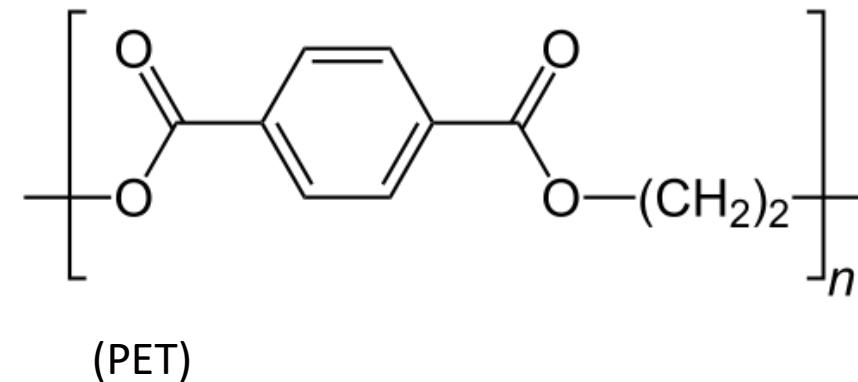
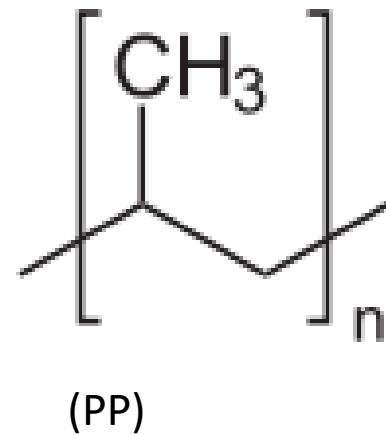
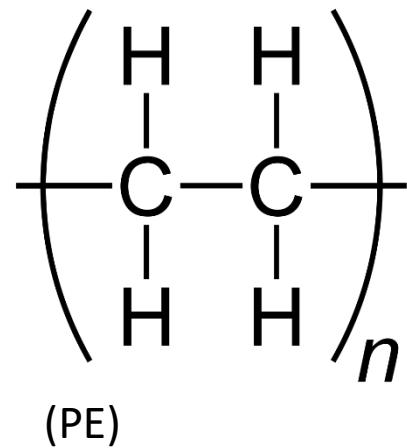


Einleitung

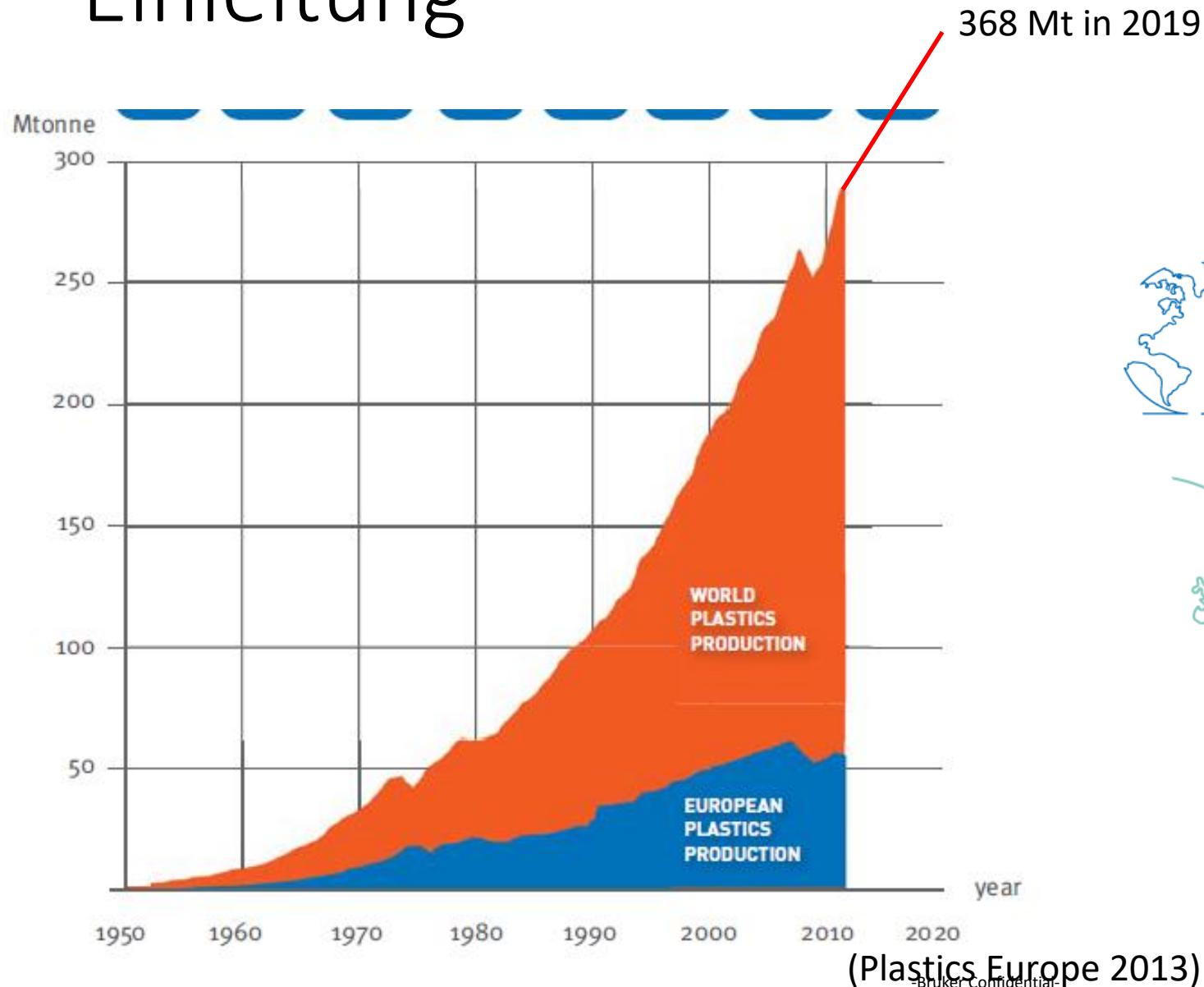


SLUKA 2019
Gatis
Sluka

Einleitung



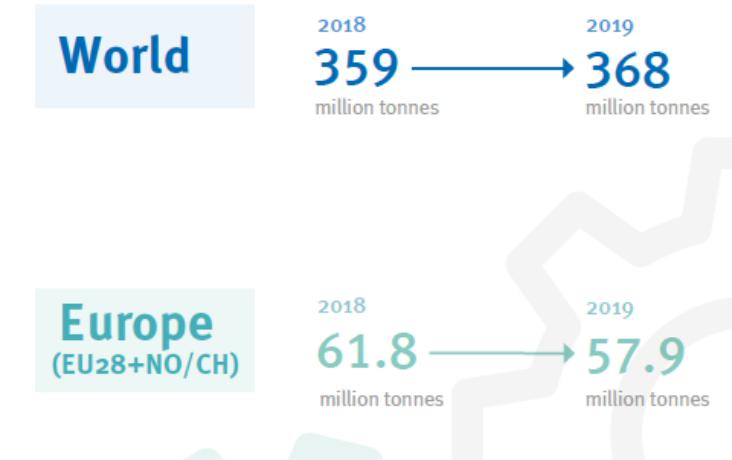
Einleitung



World



Europe
(EU28+NO/CH)



(Plastics Europe 2020)



Einleitung



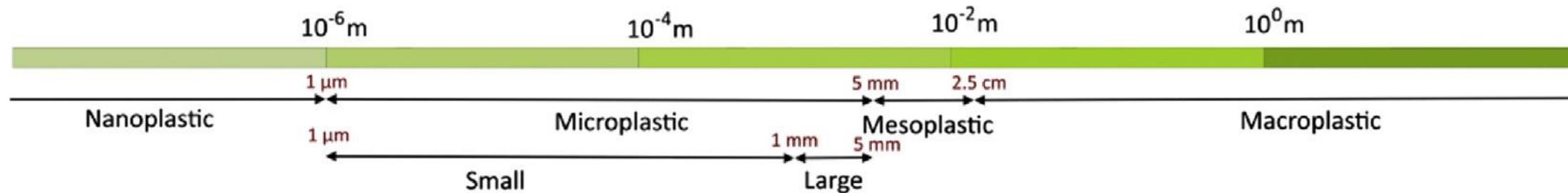
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(Van Cauwenberge 2015)

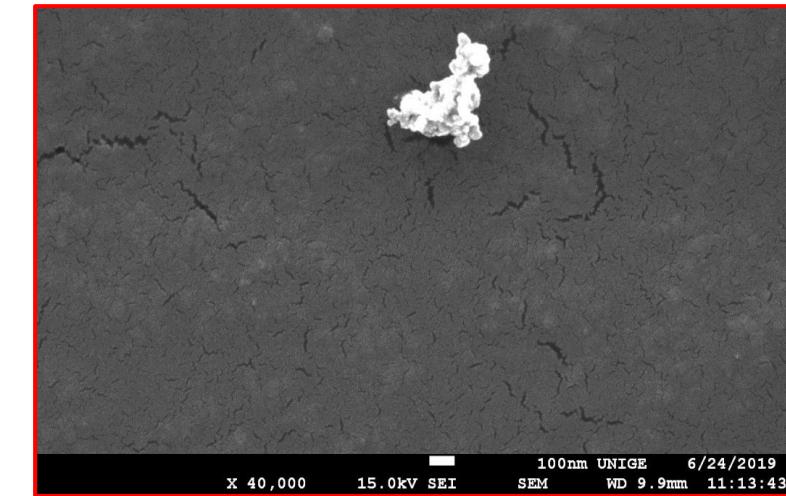
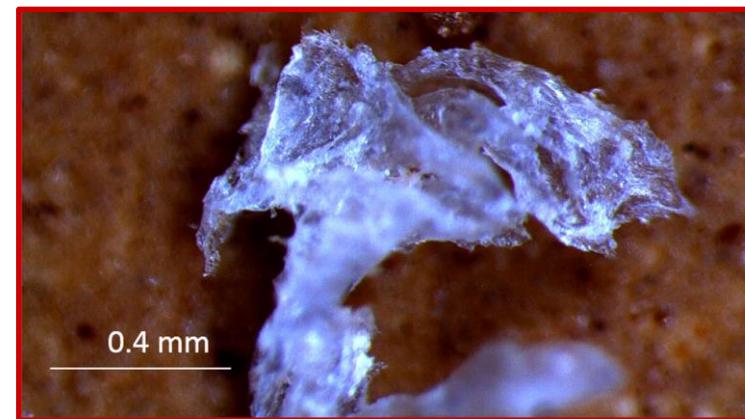




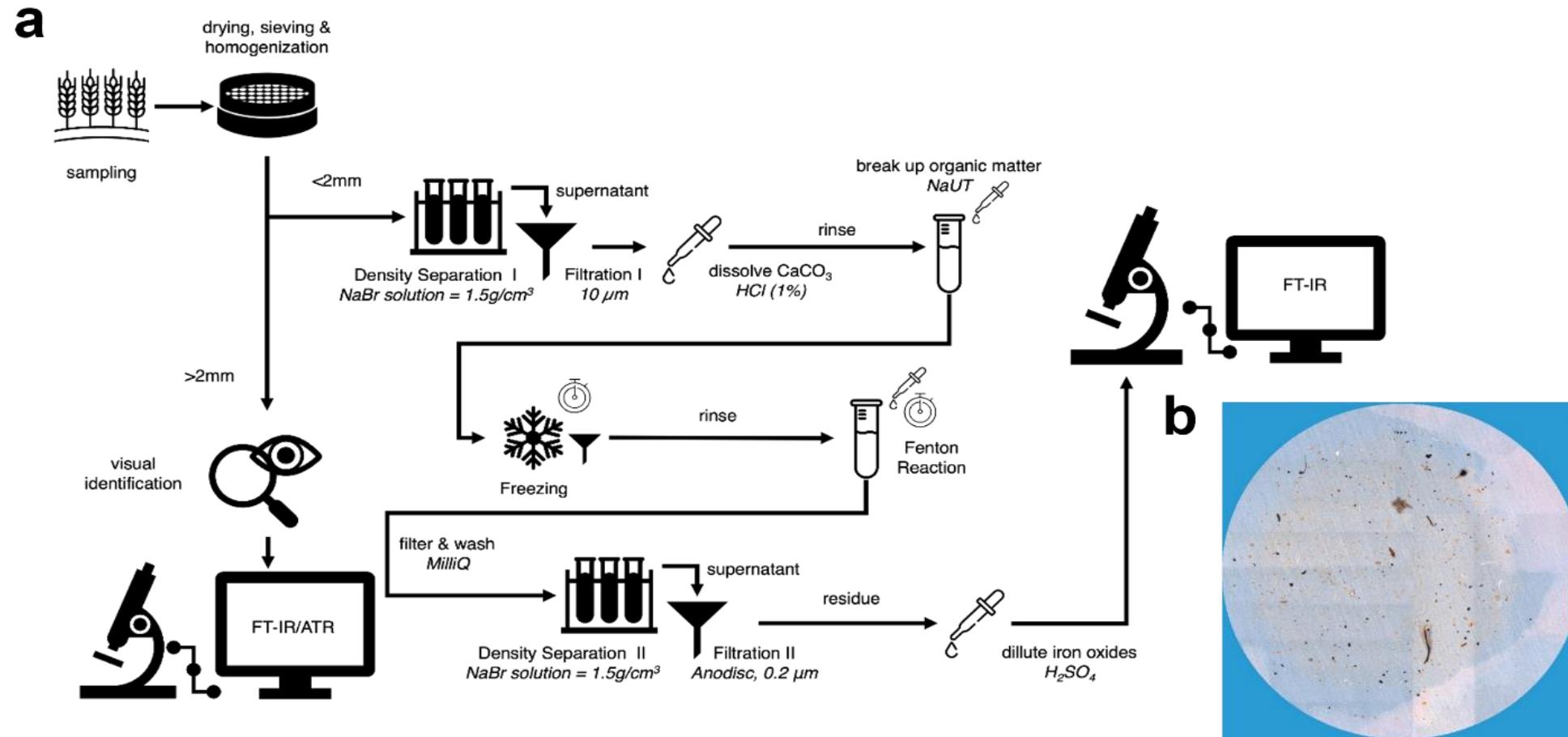
Einleitung



Analyse von Mikroplastik im Boden



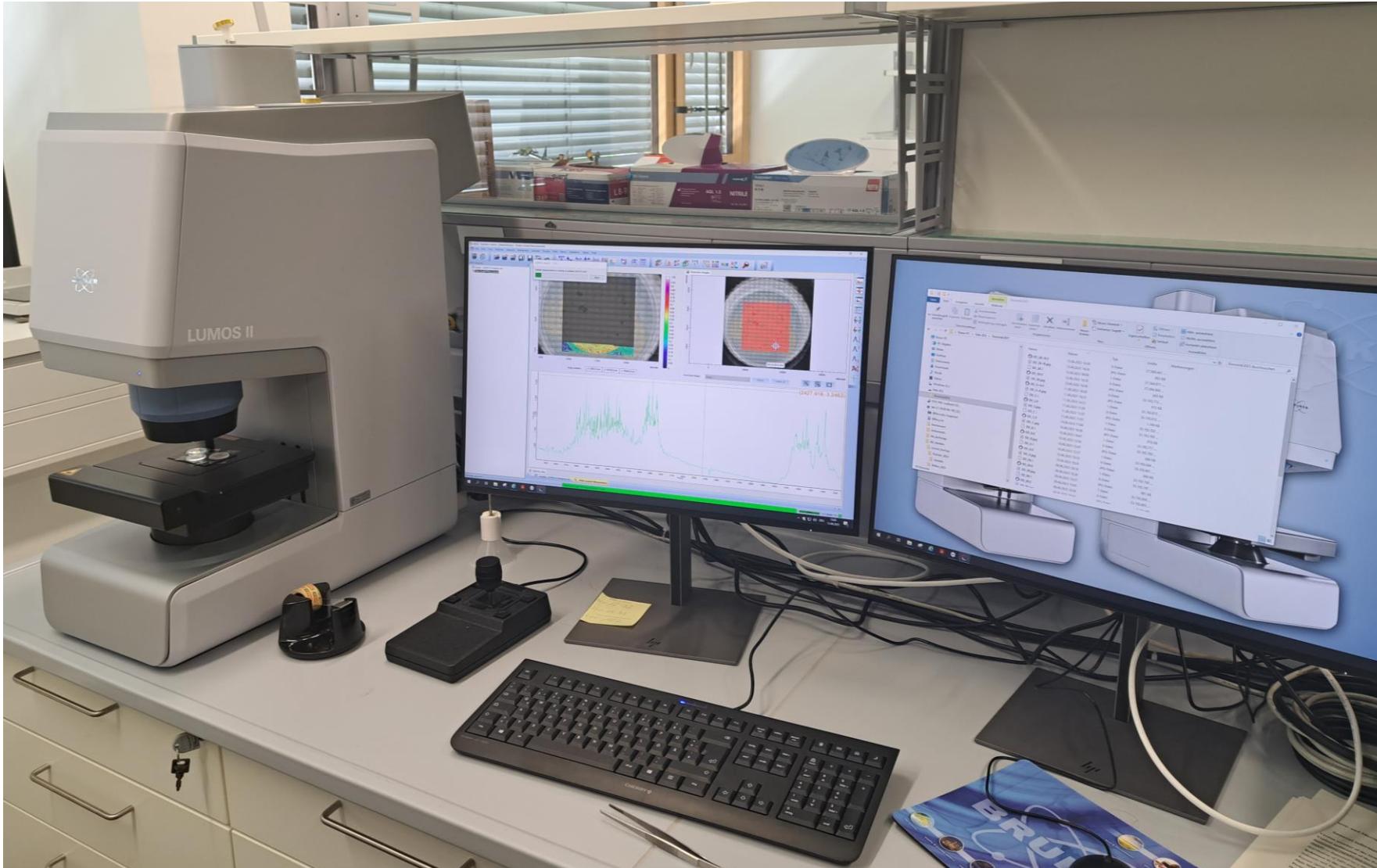
Analyse von Mikroplastik im Boden



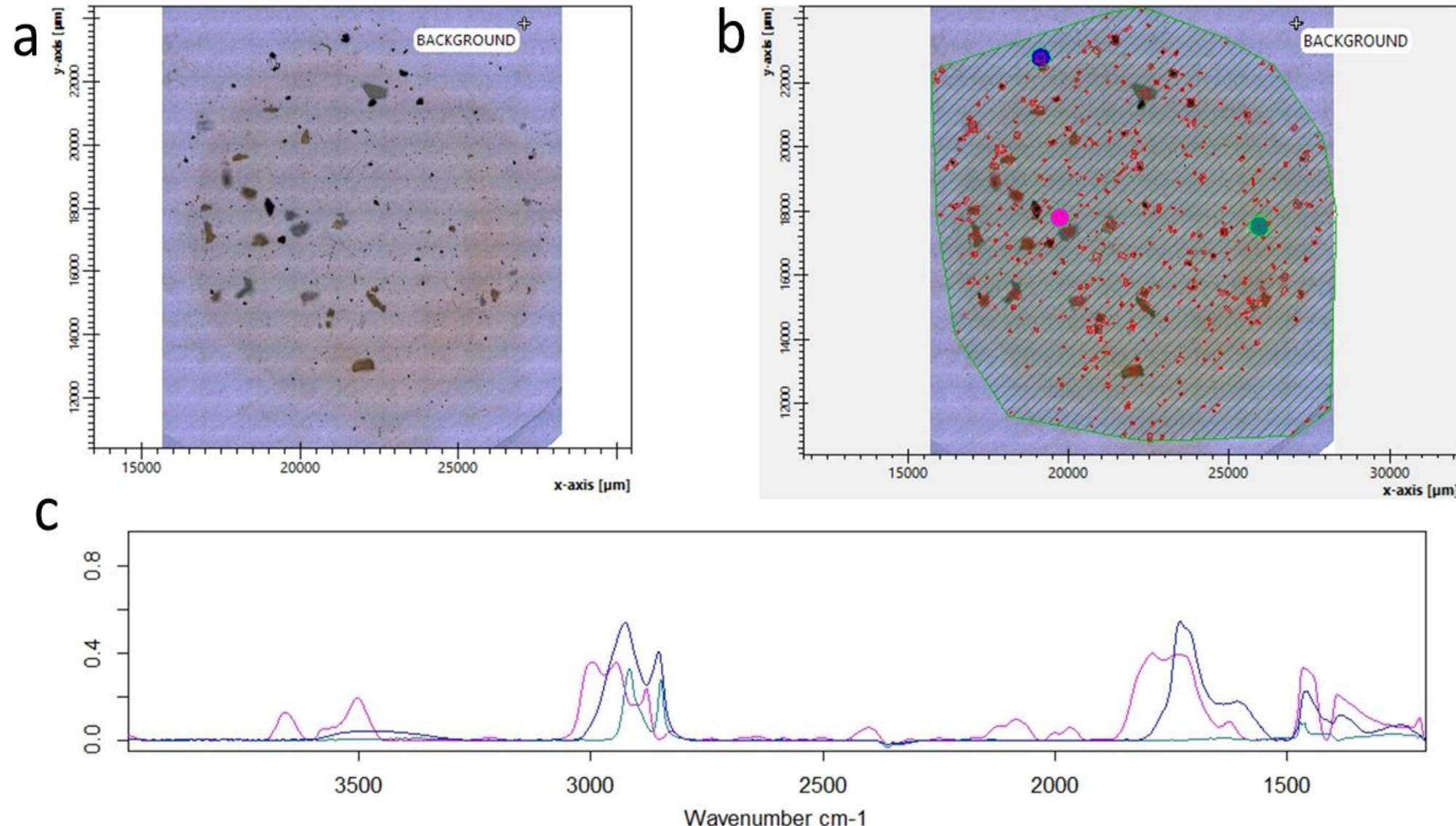
Analyse von Mikroplastik im Boden



Analyse von Mikroplastik im Boden



Analyse von Mikroplastik im Boden: MCT





results Bern - Excel

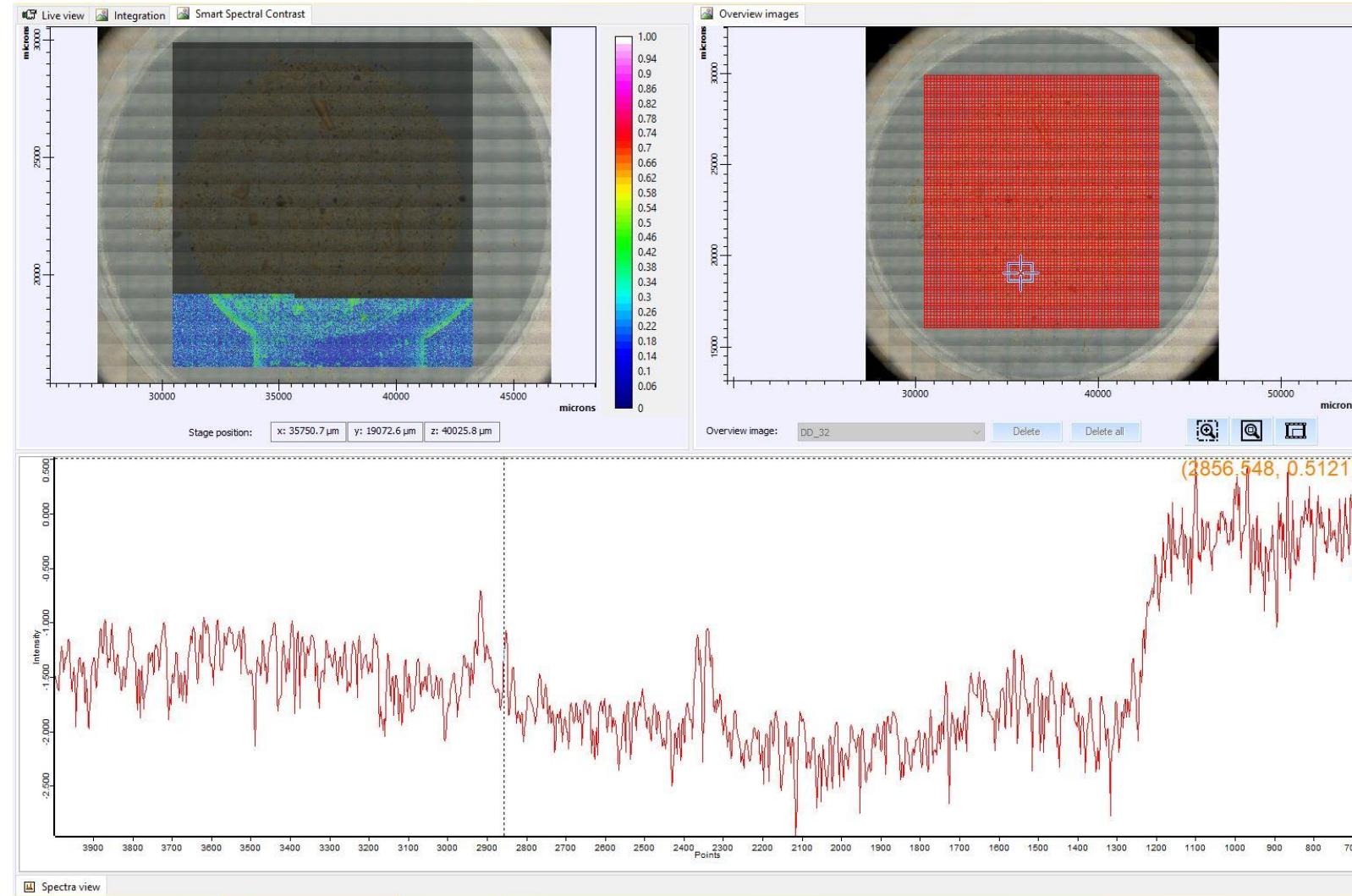
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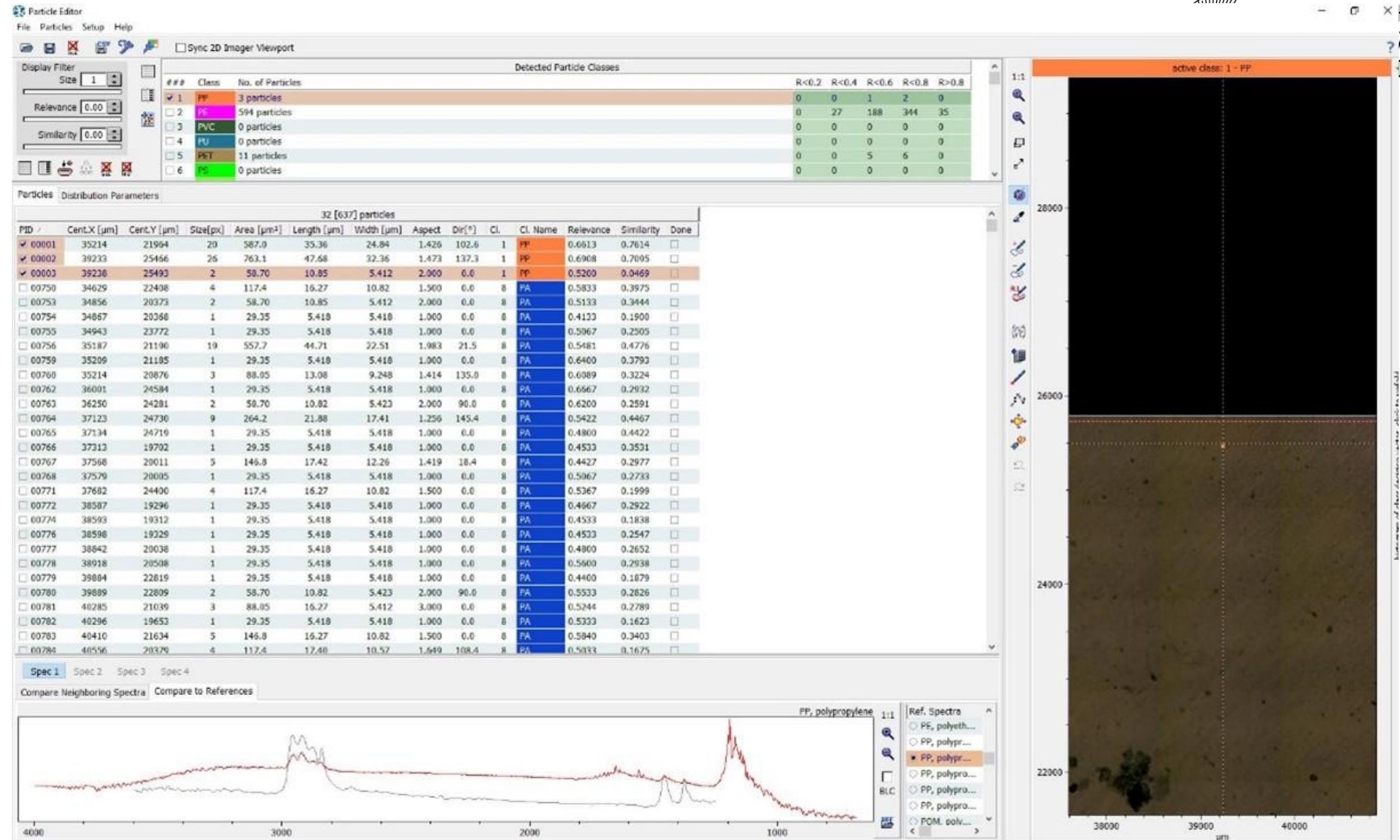
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A2 275

sample_name	spectrum_identity	rsq	organization	specName	Area	new identific.	category	cluster	K	L	M	N	O	Total identified particles	P	Q	R	S	T	U	V
									0.7	0.8	0.9	area		PE	PVC	PLA	PA				
275	acrylonitrile butadiene styrene	0.88	Primpke et al. 2018	EXTRACT_ch_2_2_523	3671.51	ABS	plastic	Other_plastic	2	2	0	33617.28		674	39.32	0.30	0.00	8.01	Percentage of total		
275	acrylonitrile butadiene styrene	0.89	Primpke et al. 2018	EXTRACT_ch_2_2_635	29945.77	ABS	plastic	Other_plastic	27	27	19	2065736.9									
278	algae desmarestia viridis	0.94	Primpke et al. 2018	EXTRACT_ch_2_2_21	103868.63	algae	other	Natural	1	1	1	3097.84									
278	algae desmarestia viridis	0.94	Primpke et al. 2018	EXTRACT_ch_2_2_217	114237.09	algae	other	Natural	0	0	0	0									
278	algae desmarestia viridis	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_233	117888.09	algae	other	Natural	6	2	1	298684.23									
278	algae desmarestia viridis	0.91	Primpke et al. 2018	EXTRACT_ch_2_2_240	126641.46	algae	other	Natural	coal	0	0	0	0								
278	algae desmarestia viridis	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_270	82038.25	algae	other	Natural	EAA	40	37	8	1329126.3								
278	algae desmarestia viridis	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_284	93048.73	algae	other	Natural	EMMA	0	0	0	0								
278	algae desmarestia viridis	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_310	147136.25	algae	other	Natural	EVA	0	0	0	0								
278	algae desmarestia viridis	0.82	Primpke et al. 2018	EXTRACT_ch_2_2_384	1097319.06	algae	other	Natural	EVOH	1	1	1	932.12								
278	algae desmarestia viridis	0.94	Primpke et al. 2018	EXTRACT_ch_2_2_534	110249.21	algae	other	Natural	fibre	118	117	75	496041.44								
279	algae fucus serratus	0.87	Primpke et al. 2018	EXTRACT_ch_2_2_12	3034.72	algae	other	Natural	fibre acetate	0	0	0	0								
279	algae fucus serratus	0.88	Primpke et al. 2018	EXTRACT_ch_2_2_23	1835.82	algae	other	Natural	fibre thermo	0	0	0	0								
279	algae fucus serratus	0.88	Primpke et al. 2018	EXTRACT_ch_2_2_38	2996.3	algae	other	Natural	fur	0	0	0	0								
279	algae fucus serratus	0.86	Primpke et al. 2018	EXTRACT_ch_2_2_43	2640.2	algae	other	Natural	honey	47	47	42	478042.19								
279	algae fucus serratus	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_55	1839.03	algae	other	Natural	leaf-plant	60	58	9	1437470.1								
279	algae fucus serratus	0.91	Primpke et al. 2018	EXTRACT_ch_2_2_246	1395.29	algae	other	Natural	methyl vinyl	1	1	1	92450.54								
279	algae fucus serratus	0.9	Primpke et al. 2018	EXTRACT_ch_2_2_272	3002.94	algae	other	Natural	methyl vinyl	8	7	5	2431636.2								
279	algae fucus serratus	0.89	Primpke et al. 2018	EXTRACT_ch_2_2_338	4130.45	algae	other	Natural	nitrile rubber	3	3	1	8752.1								
279	algae fucus serratus	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_501	2409.43	algae	other	Natural	noeprene	1	0	0	28510.57								
279	algae fucus serratus	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_610	3022.12	algae	other	Natural	PA	54	54	54	154092.83								
279	algae fucus serratus	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_627	3622.45	algae	other	Natural	PAA	9	9	6	330650.99								
279	algae fucus serratus	0.81	Primpke et al. 2018	EXTRACT_ch_2_2_634	18348.39	algae	other	Natural	PB	0	0	0	0								
279	algae fucus serratus	0.86	Primpke et al. 2018	EXTRACT_ch_2_2_637	12371.5	algae	other	Natural	PE	265	265	235	3907900.1								
279	algae fucus serratus	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_652	1719.94	algae	other	Natural	PEP	1	1	1	1427.73								
279	algae fucus serratus	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_658	3212.57	algae	other	Natural	PET	2	2	1	2920.12								
279	algae fucus serratus	0.9	Primpke et al. 2018	EXTRACT_ch_2_2_663	1376.86	algae	other	Natural	PEUU	0	0	0	0								
280	algae laminaria digitata and hyperborea	0.94	Primpke et al. 2018	EXTRACT_ch_2_2_632	2579.72	algae	other	Natural	PLA	0	0	0	0								
280	algae laminaria digitata and hyperborea	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_640	3772.38	algae	other	Natural	polyacrylam	0	0	0	0								
395	alkyd varnish	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_649	3097.84	alkyd	plastic	Other_plastic	PP	16	16	14	117308.26								
550	black broodcomb	0.95	Primpke et al. 2018	EXTRACT_ch_2_2_564	10199.17	honey	other	Natural	PS	0	0	0	0								
288	broodcomb	0.89	Primpke et al. 2018	EXTRACT_ch_2_2_49	7457.76	honey	other	Natural	PU	1	1	0	54029.18								
288	broodcomb	0.89	Primpke et al. 2018	EXTRACT_ch_2_2_51	8874.38	honey	other	Natural	PU+add	0	0	0	0								
288	broodcomb	0.95	Primpke et al. 2018	EXTRACT_ch_2_2_84	2646.28	honey	other	Natural	PVAL	1	1	0	3212.57								
288	broodcomb	0.94	Primpke et al. 2018	EXTRACT_ch_2_2_85	10465.37	honey	other	Natural	PVC	2	2	0	9586.24								
288	broodcomb	0.95	Primpke et al. 2018	EXTRACT_ch_2_2_88	6023.54	honey	other	Natural	PVP	0	0	0	0								
288	broodcomb	0.91	Primpke et al. 2018	EXTRACT_ch_2_2_90	2772.81	honey	other	Natural	PVPVA	1	0	0	1606.34								
288	broodcomb	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_94	5242.72	honey	other	Natural	PVS	0	0	0	0								
288	broodcomb	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_111	7343.02	honey	other	Natural	SBS	0	0	0	0								
288	broodcomb	0.97	Primpke et al. 2018	EXTRACT_ch_2_2_112	1462.08	honey	other	Natural	SEB	3	3	3	43710.77								
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288	broodcomb	0.97	Primpke et al. 2018	EXTRACT_ch_2_2_118	2276.08	honey	other	Natural	windscreen	0	0	0	0								
288	broodcomb	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_120	10381.08	honey	other	Natural	wood	0	0	0	0								
288	broodcomb	0.93	Primpke et al. 2018	EXTRACT_ch_2_2_122	3614.26	honey	other	Natural													
288	broodcomb	0.92	Primpke et al. 2018	EXTRACT_ch_2_2_143	4015.85	honey	other	Natural													
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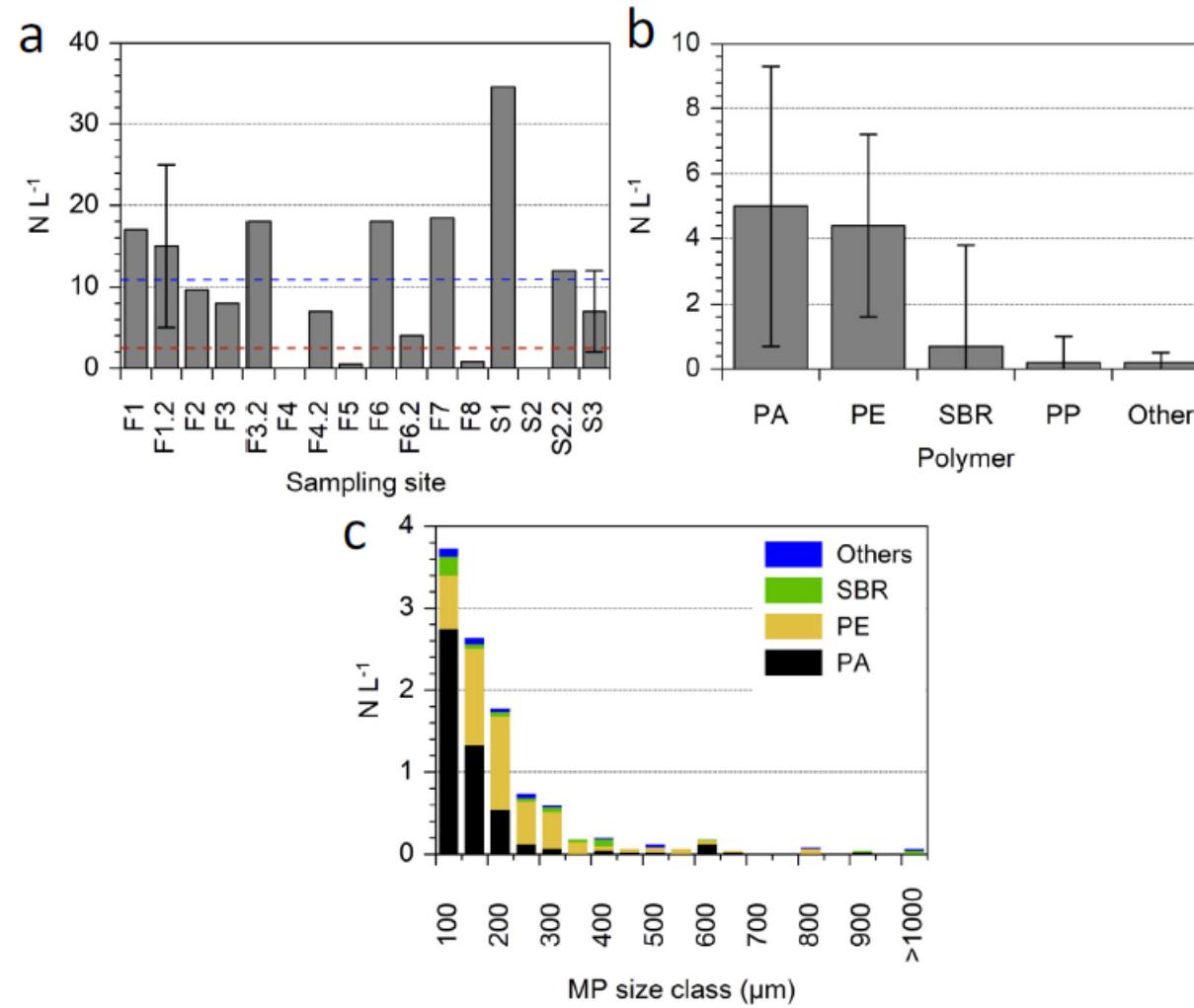
Analyse von Mikroplastik im Boden: FPA



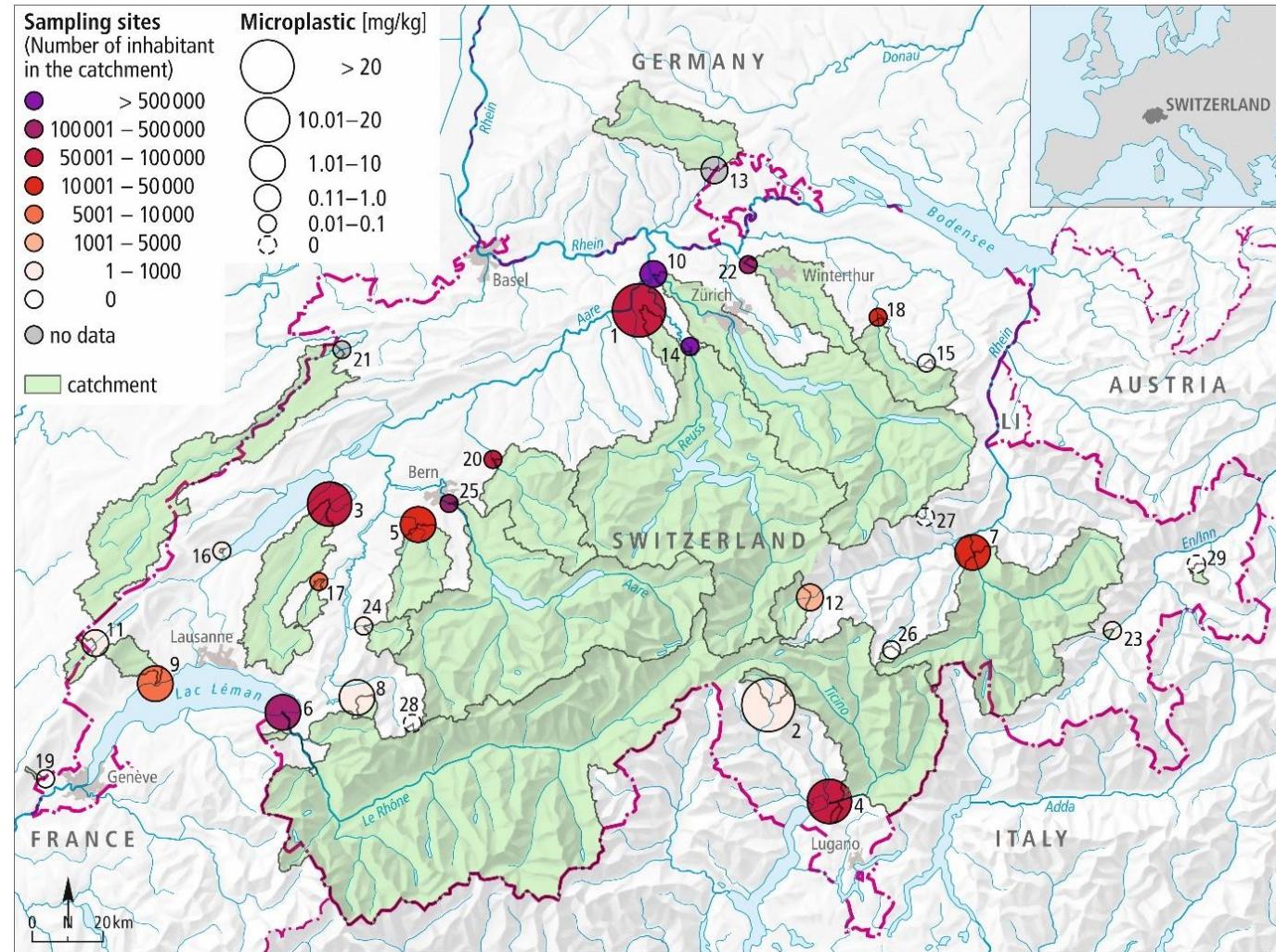




Anwendungen



Anwendungen



Scheurer and Bigalke, 2018

Thank you for listening...

