

## Removal trends of sulfonamides and their ARGs during soil aquifer treatment and subsequent chlorination: Effect of aerobic and anaerobic biodegradation

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**Table S1** Spectrophotometric analysis of four typical SAs: calibration curve data, maximum absorbance of characteristic peaks and degradation percentage, wavelength of maximum absorption of the chlorination by-products

SAs	Curve y=ax+b			$\lambda_{\max}$ (nm)		Degradation efficiency		
	a	b	R <sup>2</sup>	1)	2)	5 min	10 min	30 min
SDZ	0.0613	0.0002	0.9998	264	ND	59.6	61.4%	61.6%
SMX	0.0572	-0.0005	0.9999	263	240	50.6	59.9%	62.2%
SPD	0.0602	0.0003	0.9995	261	244	39.4	40.4%	40.4%
SMT	0.0586	0.0006	0.9996	262	240	55.8	56.8%	57.0%

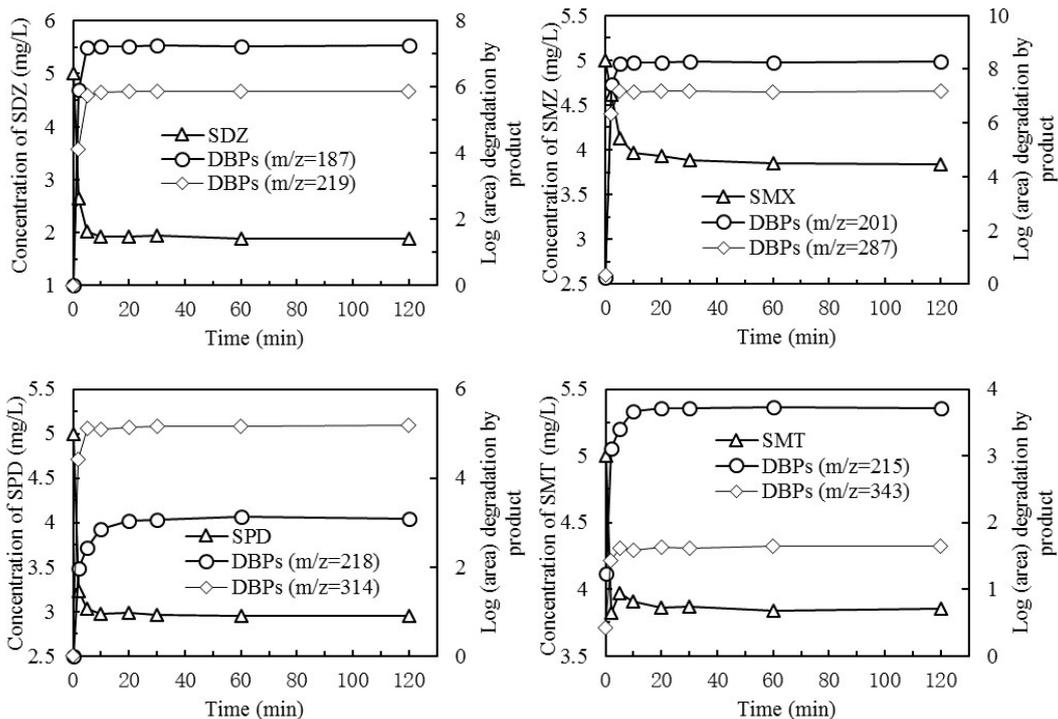


Fig. S1 The loss of parent sulphonamides (SDZ (a); SMX (b); SPD (c) and SMT (d)) and formation of major by-product following chlorination treatment over 120 min. Symbols represent values from three compounds: ( $\triangle$ ) parent compound, ( $\circ$ ) first major by-product, and ( $\diamond$ ) second major by-product

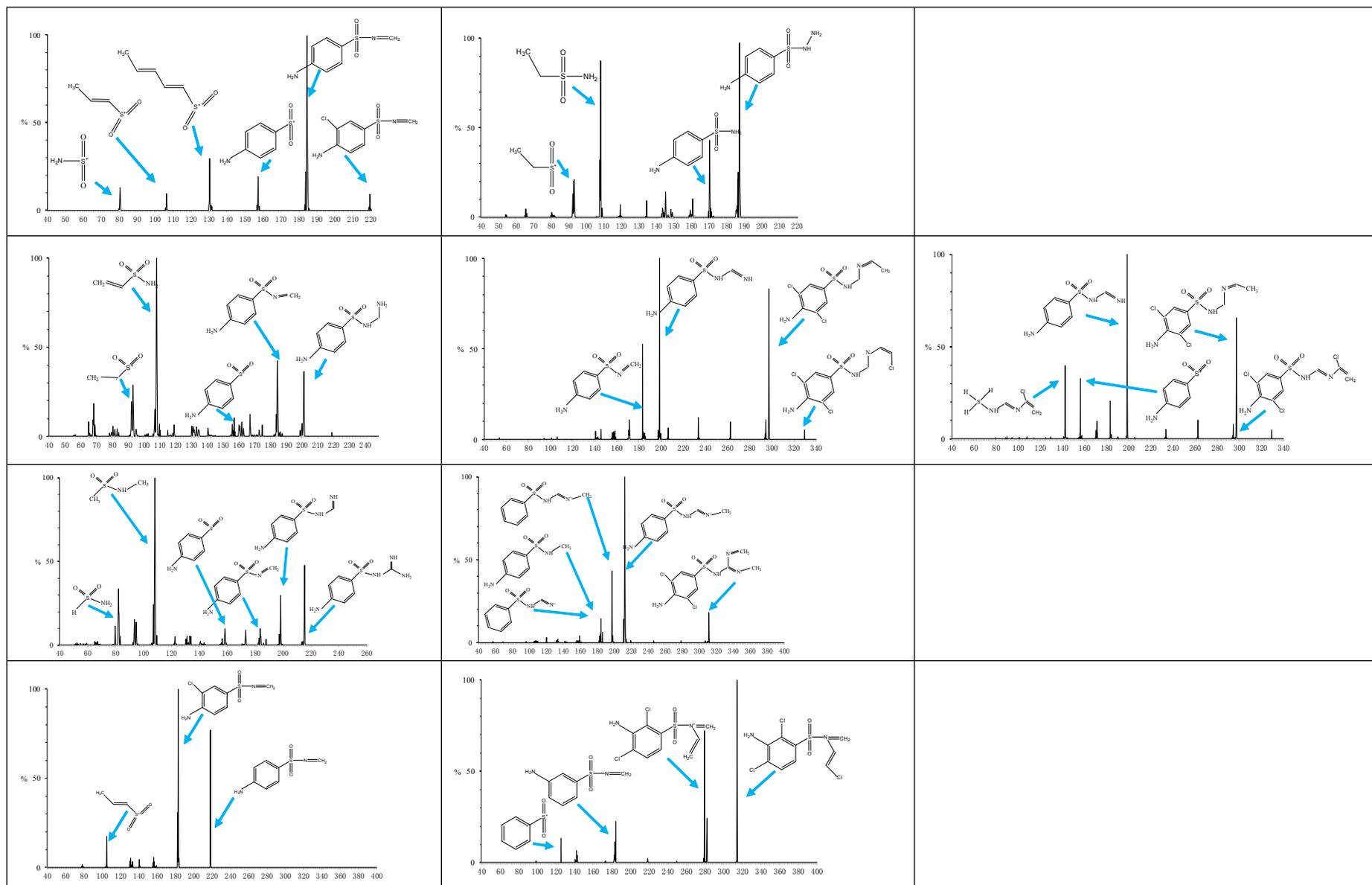


Fig. S2. Mass spectra of major chlorination by-products of the major fragments obtained by LC-MS/MS at 25 eV fragmentation voltage: (a) SDZ, (b) SMX, (c) SPD, and (d) SMT