## Supporting information

1. Details of the collected lagoon water samples
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Location	Sample ID	Sample name	Collection month
Hog lagoon 1	HL-1	Lagoon water	August
Hog lagoon 1	HL-2	Center pivot spray	August
Hog lagoon 1	HL-3	Center pivot spray	August
Hog lagoon 1	HL-4	Center pivot spray	August
Hog lagoon 2	HL-5	Lagoon water	September
Hog lagoon 2	HL-6	Lagoon water from pump	September
Hog lagoon 2	HL-7	Traveling gun spray	September
Hog lagoon 3	HL-8	Traveling gun spray	September
Hog lagoon 3	HL-9	Lagoon water (lower lagoon)	September
Hog lagoon 3	HL-10	Lagoon water (upper lagoon)	September
Hog lagoon 1	HL-11	Lagoon water	December
Hog lagoon 2	HL-12	Lagoon water	December
Hog lagoon 3	HL-13	Lagoon water (lower lagoon)	December
Hog lagoon 3	HL-14	Lagoon water (upper lagoon)	December
Hog lagoon 1	HL-15	Lagoon water	March
Hog lagoon 2	HL-16	Lagoon water	March
Hog lagoon 3	HL-17	Lagoon water (lower lagoon)	March
Hog lagoon 3	HL-18	Lagoon water (upper lagoon)	March

## 2. Lagoon water analyses (n=3) complete data (Concentrations in ng/L units)

		HL 1	HL 2	HL 3	HL 4	HL 5	HL 6	HL 7	HL 8	HL 9	HL 10	HL 11	HL 12	HL 13	HL 14	HL 15	HL 16	HL 17	HL 18
E3 (ng/L)	Aqueous phase	8.34 (1.02)	<loq< td=""><td>ND</td><td>11.36 (0.28)</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>13.74 (1.68)</td><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	11.36 (0.28)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.74 (1.68)	ND	ND	ND
	Residue	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	ND	ND	ND	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND
	Total	8.34	<loq< td=""><td>ND</td><td>11.36</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>13.74</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	11.36	ND	ND	ND	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>13.74</td><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND	13.74	ND	ND	ND
550 ( ())																			
EE2 (ng/L)	Aqueous phase	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Residue	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
βE2 (ng/L)	Aqueous phase	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Residue	<loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	ND	ND	ND	ND	ND	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND
	Total	<loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	ND	ND	ND	ND	ND	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND
αE2 (ng/L)	Aqueous phase	<loq< td=""><td>16.84</td><td>ND</td><td>28.95</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	16.84	ND	28.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<loq< td=""><td><loq< td=""><td>ND</td><td>ND</td></loq<></td></loq<>	<loq< td=""><td>ND</td><td>ND</td></loq<>	ND	ND
	Residue	<loq< td=""><td>(1.05) <loq< td=""><td>ND</td><td>(1.03) 7.91</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>13.54</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	(1.05) <loq< td=""><td>ND</td><td>(1.03) 7.91</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>13.54</td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	(1.03) 7.91	ND	ND	ND	ND	ND	ND	13.54	ND	ND	ND	<loq< td=""><td>ND</td><td>ND</td><td>ND</td></loq<>	ND	ND	ND
	Total	<loq< td=""><td>16.84</td><td>ND</td><td>(0.42) <b>36.86</b></td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>ND</td><td>(0.44) <b>13.54</b></td><td>ND</td><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	16.84	ND	(0.42) <b>36.86</b>	ND	ND	ND	ND	ND	ND	(0.44) <b>13.54</b>	ND	ND	ND	<loq< td=""><td><loq< td=""><td>ND</td><td>ND</td></loq<></td></loq<>	<loq< td=""><td>ND</td><td>ND</td></loq<>	ND	ND
	TOTAL		10.04		30.00	ND						13.54		ND				ND	
E1 (ng/L)	Aqueous phase	25.73 (5.01)	21.09 (1.63)	<loq< td=""><td>70.05 (3.22)</td><td>6.89 (0.53)</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	70.05 (3.22)	6.89 (0.53)	<loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td>ND</td><td>35.21 (7.76)</td><td>8.51 (1.67)</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	ND	35.21 (7.76)	8.51 (1.67)	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	Residue	24.42 (4.51)	31.51 (1.51)	<loq< td=""><td>36.29 (2.13)</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	36.29 (2.13)	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	ND	ND	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	<loq< td=""><td>21.44 (0.08)</td><td>ND</td><td>ND</td><td>ND</td></loq<>	21.44 (0.08)	ND	ND	ND
	Total	50.15	52.60	<loq< td=""><td>106.34</td><td>6.89</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	106.34	6.89	<loq< td=""><td><loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ND</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	ND	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>56.65</td><td>8.51</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	56.65	8.51	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
E1- Conjugates (ng/L)	Aqueous phase	ND	4.86 (1.30)	ND	ND	ND	ND	ND	ND	ND	ND	56.33 (13.28)	ND	ND	<loq< td=""><td>31.59 (4.35)</td><td><loq< td=""><td>ND</td><td>ND</td></loq<></td></loq<>	31.59 (4.35)	<loq< td=""><td>ND</td><td>ND</td></loq<>	ND	ND
βE2- Conjugates (ng/L)	Aqueous phase	ND	8.80 (1.25)	ND	ND	ND	ND	ND	ND	ND	ND	19.37 (1.82)	<loq< td=""><td>ND</td><td><loq< td=""><td>6.00 (0.39)</td><td>ND</td><td>ND</td><td>ND</td></loq<></td></loq<>	ND	<loq< td=""><td>6.00 (0.39)</td><td>ND</td><td>ND</td><td>ND</td></loq<>	6.00 (0.39)	ND	ND	ND

## ND = Not detected

<LOQ = Below the limit of quantification

Sample ID	E1	α E2	β E2	E3	E1- Conjugates	β E2- Conjugates
SW-1	2.71 (0.09)	2.60 (0.29)	ND	ND	1.36 (0.15)	ND
SW-2	ND	ND	ND	ND	ND	ND
SW-3	ND	ND	ND	ND	ND	ND
SW-4	ND	ND	ND	ND	ND	ND
SW-5	ND	ND	ND	ND	4.45 (0.23)	ND
SW-6	ND	ND	ND	ND	ND	ND
SW-7	ND	ND	ND	ND	ND	ND
SW-8	ND	ND	ND	ND	1.36 (0.50)	ND
SW-9	ND	ND	ND	ND	5.82 (0.04)	ND
SW-10	ND	ND	ND	ND	2.58 (0.32)	ND
SW-11	ND	ND	ND	ND	1.96 (0.02)	ND
SW-12	ND	ND	ND	ND	3.16 (0.08)	ND
SW-13	ND	ND	ND	ND	ND	ND
SW-14	ND	ND	ND	ND	3.66 (0.10)	ND
SW-15	ND	ND	ND	ND	2.79 (0.02)	ND
SW-16	ND	ND	ND	ND	3.82 (0.18)	ND
SW-17	ND	ND	ND	ND	3.77 (0.12)	ND
SW-18	ND	ND	ND	ND	3.61 (0.23)	ND
SW-19	ND	ND	ND	15.77 (1.09)	3.31 (0.07)	ND
SW-20	ND	ND	ND	23.08 (3.57)	ND	ND
SW-21	2.99 (0.09)	ND	ND	ND	2.24 (0.43)	ND
SW-22	ND	ND	ND	ND	3.04 (0.32)	ND
SW-23	ND	ND	ND	5.12 (0.25)	1.40 (0.56)	ND
SW-24	9.90 (0.25)	ND	20.89 (0.03)	ND	3.19 (0.73)	ND
SW-25	ND	ND	21.96 (0.90)	7.54 (0.05)	2.74 (0.71)	ND
SW-26	8.03 (0.68)	ND	35.92 (0.21)	ND	<loq< td=""><td>ND</td></loq<>	ND

## 4. Storm water analyses (n=3) complete data (Concentrations in ng/L units)