**Potential Use of the native Macrophyte *Canna flaccida* for Removal of Emerging Organic contaminants from Surface Water**

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**Analytical conditions of the LC−MS/MS**

The HPLC system consisted of a Surveyor autosampler and Surveyor MS pump with integrated degasser (Thermo Fisher Scientific, Waltham, MA). Each 10 µL sample was injected directly onto a Phenomenex® Luna® C18(2) HPLC Column (5 µm × 4.6 × 150 mm). The mobile phase was composed of 0.1% formic acid in methanol and 0.1% formic acid in water (90:10, v/v) at a flow rate 0.5 mL min-1. Mass spectrometry was performed on a TSQ Quantum Discovery MAX mass spectrometer (Thermo Finnigan) equipped with an Ion Max ESI source with a 34-gauge metal needle operated under XcaliburTM software (version 1.4 SR1, Thermo Finnigan) in the positive ionization mode. The collision cell was pressurized with argon. Mass spectrometric detection of positively charged ions was achieved by MRM, for which the following tune parameters were set: sheath gas pressure of 25 arbitrary units; spray voltage set to 4.5 kV; temperature of the heated transfer capillary, 280°C; collision gas pressure, 1.5 millitorrs. The scan width for all MRMs was 0.7 mass units. The resolution for Q1 and Q3 was 0.7 mass units. The dwell time per transition was 0.1 sec. The SRM ion pair transitions and collision energy levels of each component are listed in Table below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Parent m/z | Quantifier Product | Collision energy (CE) | Quantifier Product | Collision energy (CE) |
| Carbamazepine | 237 | 194 | 17 | 179 | 34 |
| Carbamazepine-d10 | 247 | 204 | 15 | 215 | 15 |
| Acetaminophen | 152 | 93 | 23 | 110 | 14 |
| Acetaminophen-d4 | 156 | 114 | 13 | 97 | 20 |
| Atrazine | 216 | 104 | 15 | 174 | 16 |
| Atrazine-d5 | 221 | 69 | 34 | 179 | 14 |

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**Fig. S1.** Photos of the mesocosm system established with floating treatment wetlands at the plant acclimation period before experiment (a) and roots of canna plants at the harvest day (b).

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**Fig. S2.** Daily-observed temperatures, precipitation, and humidity at the mesocosm location during the study (September 18 to December 11, 2017; Weather Underground, https://www.wunderground.com/history/). Solid lines above and below gray colored area indicate maximal and minimal values of observed temperatures, respectively; while the dotted line shows the average values. Circle symbols with a line represent the humidity and vertical bars indicate precipitation that was measured.

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**Fig. S3.** pH and electrical conductivity (EC) measured in mesocosm treatments (T-100, T-75, and T-50) and controls (both non spiked with CECs and not planted) during the study. Error bars represent standard deviations.

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**Fig. S4.** Fresh shoot and root weights of *Canna flaccida* plants harvested from each treatment at the end of the experiment.