**Supporting Information**

Monitoring cyanobacterial toxins in a large reservoir: Relationships with water quality parameters

Seenivasan Subbiah†, Adcharee Karnjanapiboonwong†, Jonathan D. Maul†, Degeng Wang†, Todd A. Anderson\*†

†Department of Environmental Toxicology, Texas Tech University, Box 41163, Lubbock, TX 79409, USA

\*Corresponding Author:

Todd A. Anderson

Department of Environmental Toxicology

Texas Tech University

Box 41163, Lubbock, TX 79409, USA

Email: todd.anderson@ttu.edu

Phone: 806-834-1587

**Table S1. Mass spectrometer parameters for HESI.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Analyte** | **Precursor ion (Q1)** | **Product ion (Q3)** | **Collision Energy, (V)** | **Tube lens, (V)**  |
| Anatoxin-A | 166.1 | 131.20 | 16 | 80 |
| 149.16 | 15 | 80 |
| Microcystin-LR | 995.60 | 135.20 | 70 | 189 |
| 213.20 | 60 | 189 |
| Microcystin-LA | 910.50 | 135.00 | 52 | 172 |
| 776.20 | 12 | 172 |
| Microcystin-RR | 520.20 | 135.12 | 35 | 130 |
| 213.20 | 40 | 130 |
| Simeton | 198.12 | 124.30 | 25 | 80 |

**Table S2. Analyte specific mass spectrometer settings used for algal toxin analysis.**

|  |
| --- |
| **MS operating parameters** |
| Scan | MS/MS, SRM |
| Probe | Heated Electro Spray Ionization, HESI |
| Polarity | Positive |
| Ion Spray Voltage (v) | 3500 |
| Collision gas (Torr) | Argon, 1.5 |
| Sheath gas (Arb) | Nitrogen, 40 |
| Auxiliary gas (Arb) | Nitrogen, 10 |
| Vaporizer temperature (˚C) | 290 |
| Capillary temperature (˚C) | 350 |

**Table S3. Instrumental parameters used for ion chromatography**

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Anions** | **Cations** |
| Instrument | Dionex, IC25 Ion Chromatograph with Chromeleon software | Dionex, IC25 Ion Chromatograph with Chromeleon software |
| Guard Column  | Thermo Scientific, Dionex IonPacTM AG14A; RFICTM; 4 x 50 mm | Thermo Scientific, Dionex IonPacTM CG12A; RFICTM; 4 x 50 mm |
| Analytical Column | Thermo Scientific, Dionex IonPacTM AS14A; RFICTM; 4 x 250 mm | Thermo Scientific, Dionex IonPacTM CS12A; RFICTM; 4 x 250 mm |
| Column temperature | 35˚C | 40˚C |
| Eluent  | 20 mM sodium hydroxide | 20 mM methanesulfonic acid |
| Flow rate | 1 mL/min | 0.8 mL/min. |
| Suppressor, SRS current | 50 mA | 50 mA |
| Total Run Time | 15 min | 20 min |