

APPENDIX

GC Analysis of CPS

The concentrations of CPS were analyzed using gas chromatography (Perkin-Elmer Clarus 500) with an electron capture detector (GC-ECD). The method for GC described below was modified from Rogers, Clark, and DiVincenzo (2006). Chromatographic

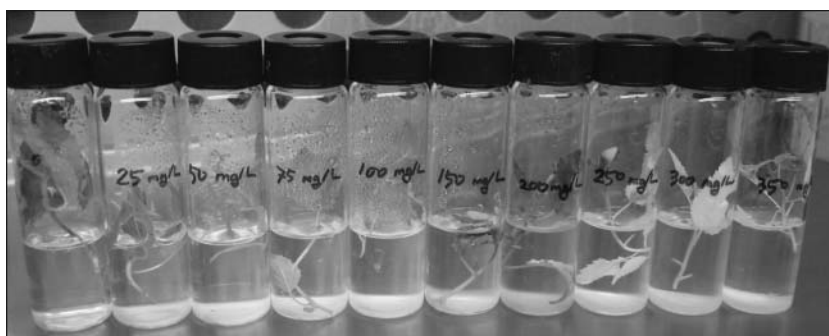


Figure S1 Small unrooted cuttings, in triplicate, taken from the apical stem of hybrid poplar clone 'INRA 717-1B4', were exposed to various concentrations of CPS: 0, 25, 50, 75, 100, 150, 200, 250, 300, and 350 $\mu\text{g/mL}$ (from left to right). The highest non-lethal dose of CPS was 50 $\mu\text{g/mL}$ for six-week exposure. Shown is a representative photograph of plants for each treatment.

separations were achieved on a PTE-5 capillary column (30 m \times 0.32 mm \times 0.32 μm film thickness) from Supelco (Bellefonte, PA). The temperature of injector and detector were maintained at 230°C and 300°C, respectively. Helium was used as the carrier gas with a flow rate of 2.0 mL/min. The argon/methane (95/5) was used as the make-up gas with a flow rate of 60 mL/min. Initial oven temperature was 80°C for 6.5 min, then programmed at 30°C/min to 250°C, then 15°C/min to 280°C, and lastly 30°C/min to 300°C and held for 5 min. Under these conditions, the total run time was 19.8 min, and the retention time for CPS was about 14 min. The standard curves of pure CPS in MTBE were used to quantify the compounds.

HPLC Analysis of TCP

HPLC (high performance liquid chromatography) was used to quantify TCP concentrations in cultures. The Waters modular HPLC system (Waters, Milford, MA) consisted of a Waters 717+ autosampler, two Waters 515 HPLC pumps, and a Waters 9926 photodiode array detector. The mobile phase consisted of 40:60 water acetonitrile mix run at an isocratic flow rate of 1 mL/min, on a Waters C₁₈ column (4.6 \times 250 mm) set, with concentration determined based on absorbance at 220 nm. The chromatographic data was collected in Waters Millennium32 software and peak integration and analysis were conducted using the software. Under these run conditions, the TCP peak retention time was 3.4 min. and the detection limit was 0.1 $\mu\text{g/mL}$.

Table S1 The plants tested for CPS uptake study

Plant line	Scientific name	Country of origin
INRA 717-1B4	<i>Populus tremula</i> \times <i>P. alba</i>	France
Nisqually-1	<i>P. trichocarpa</i>	USA
SX61	<i>Salix sachalinensis</i>	Asia
SX64	<i>S. miyabeana</i>	Asia
SX67	<i>S. miyabeana</i>	Asia
SV1	<i>S. dasyclados</i>	Europe
94006	<i>S. purpurea</i>	Europe

Table S2 The distribution of CPS (μg) in shoots and roots of hydroponic poplar clone 'INRA 717-1B4', in quintuplicate, exposed to CPS for 1 week

Plant number	Shoot	Root
1	19.28	17.48
2	25.57	24.36
3	22.12	23.46
4	28.42	17.42
5	19.18	24.26