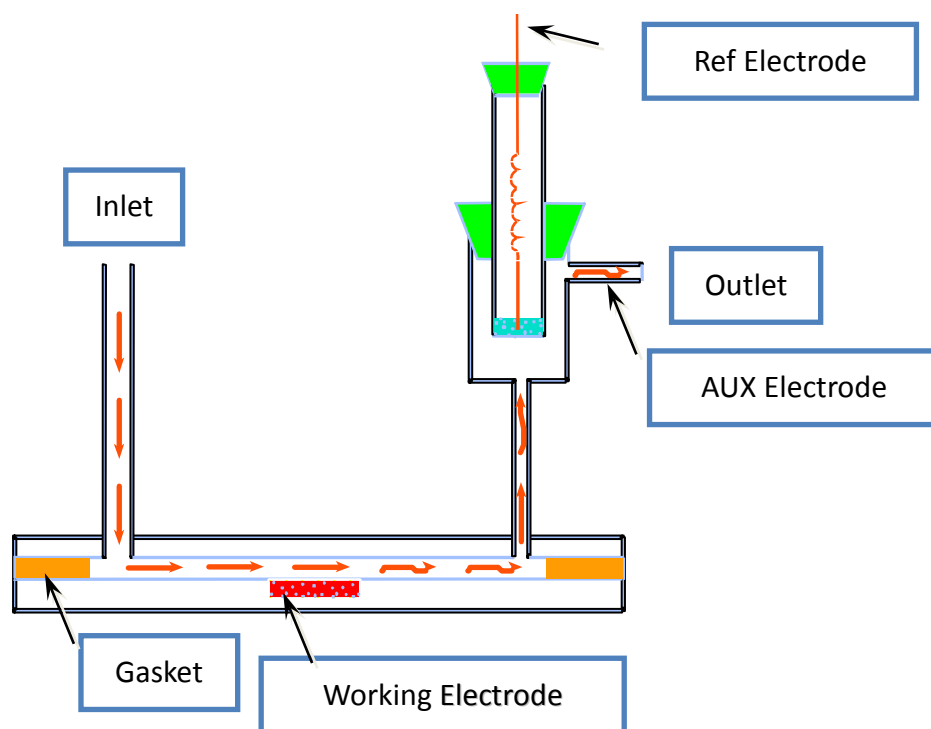
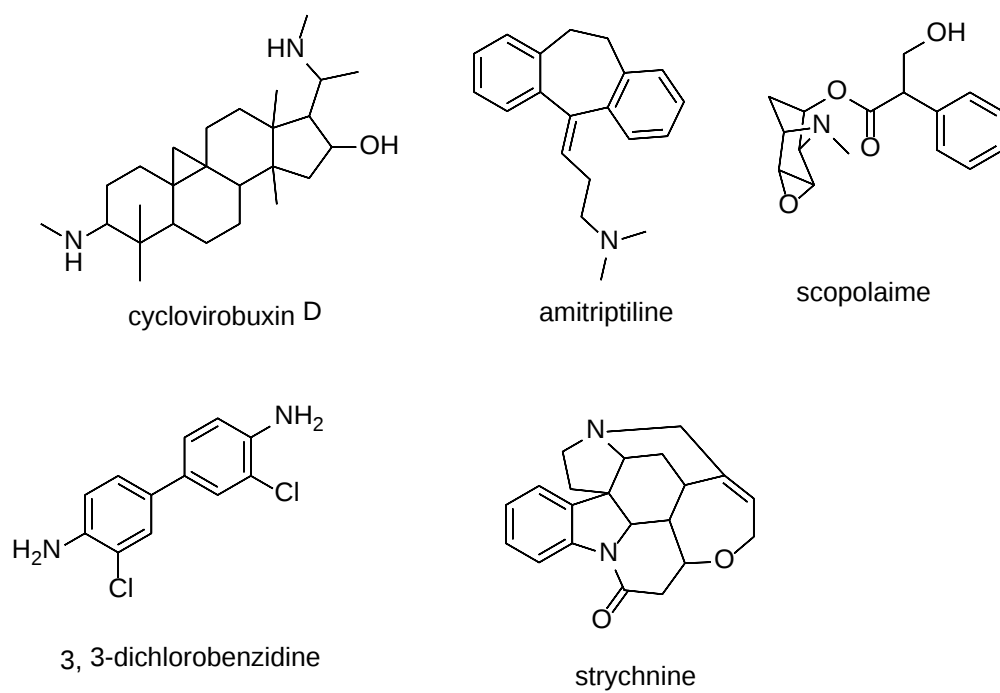


Supporting Information 1

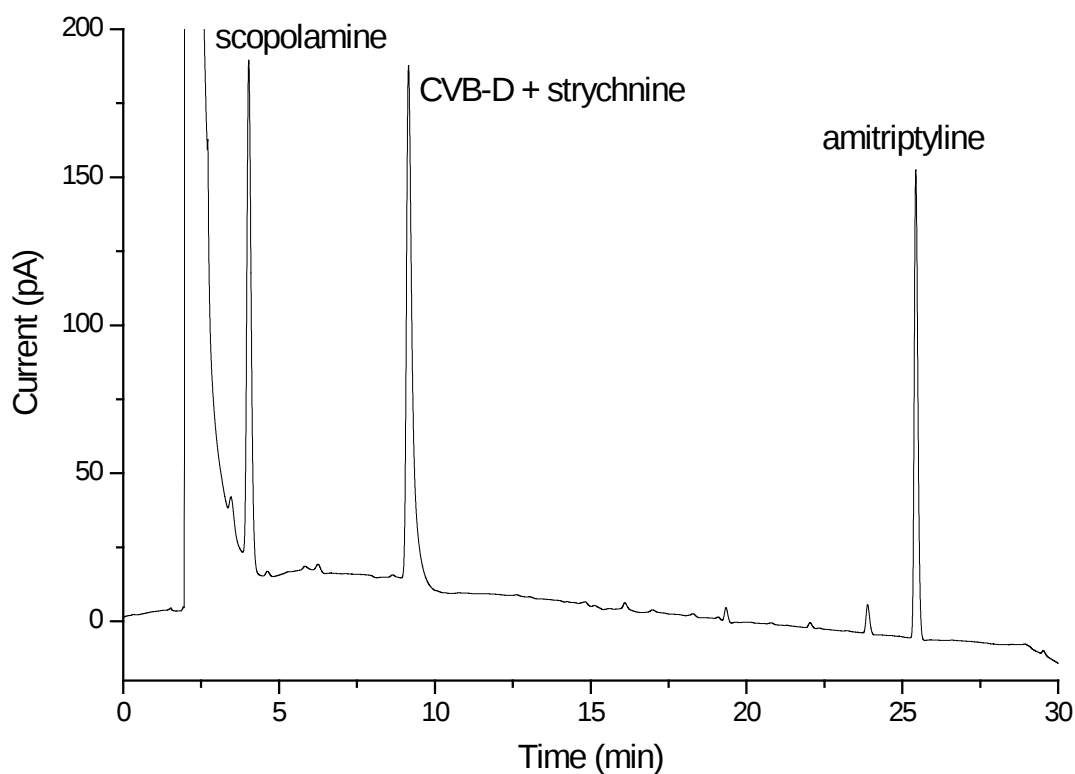


Supporting Information 2



The structures of basic compounds used in this study.

Supporting Information 3



The analysis of basic compounds using ECD detector with BDD electrode. Mobile phase: A: acetonitrile, B: 100 mmol/L NaH_2PO_4 (pH 2.8), C: water. Gradient: 0-20 min 5%A-50%A, 20%B; 20-30 min, 50%A, 20%B. The concentration of aim compounds was 1 mg/L. The potential was 1600 mV.

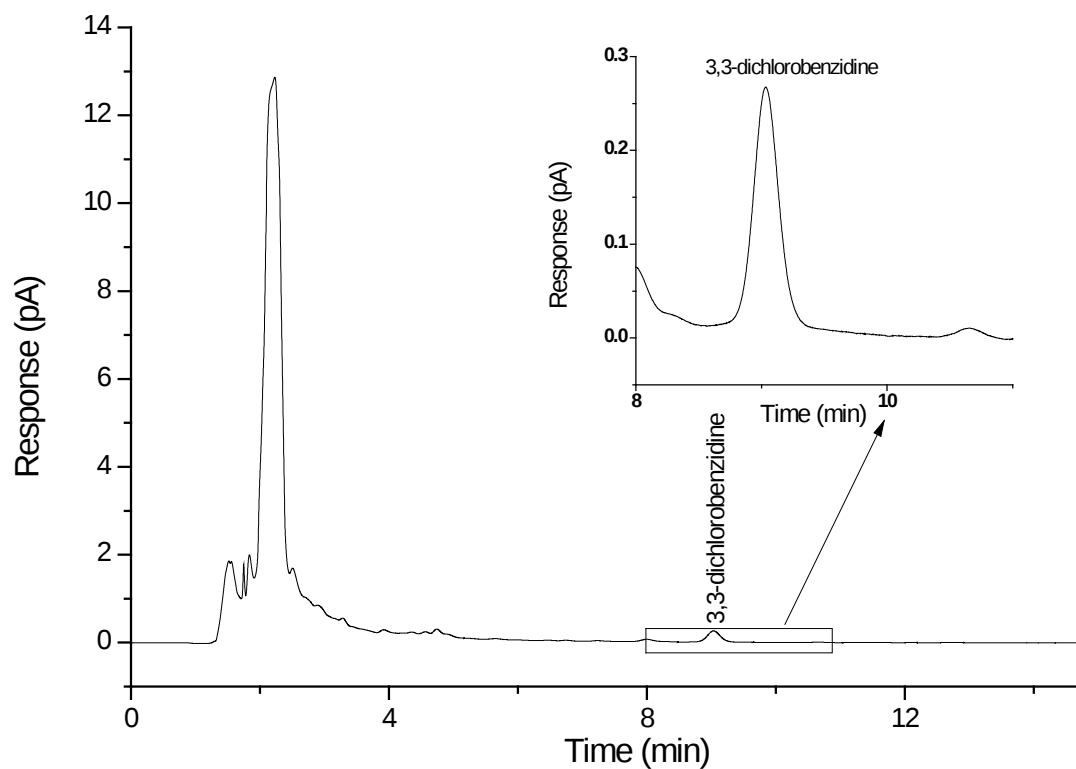
Supporting Information 4

1. Sample pretreatment

Waste leachate. 2 mL waste leachate sample were alkaline to a pH value 10 and then extracted by 6 mL chloroform twice. Combining chloroform extraction and dried them with nitrogen. The residual was dissolved with the mixture of acetonitrile and water (50:50, v/v), filtered through a 0.22 μm membrane, and then analyzed by HPLC.

2. The determination of 3, 3-dichlorobenzidine in waste leachate samples

3,3-dichlorobenzidine is widely applied for the synthesis of diarylide dyes and diarylide yellow pigments which used in the production of printing inks. It is also considered as a carcinogen. The compound has shown to increase the incidence of tumors in animal and bladder cancer in humans, since its structure is similar to benzidine [35]. With a slight change of the current method developed for CVB-D, it can be utilized for the determination of 3,3-dichlorobenzidine. The LOQ and LOD of the modified method were 0.048 µg/L and 0.013 µg/L, respectively. Its sensitivity is much higher than the one of EPA 650 (0.13 µg/L) [36]. A series concentration of 3,3-dichlorobenzidine standard solution (0.048-3125.000 µg/L) was analyzed with the current method. The resulting peak areas were calibrated by linear regression method ($A=0.0099C-0.0547$) and the coefficients were higher than 0.999. The precision of the current method for 3,3-dichlorobenzidine was 2.43%. After the optimized parameters obtained, they are applied for the determination of 3,3-chlorobenzidine from two landfill leachate samples. Using linear calibration, the two landfill leachate samples were found to contain (6.63 ± 0.0016) µg/L and (5.80 ± 0.0014) µg/L 3,3-dichlorobenzidine, respectively. All above data demonstrated that the current method is useful for the determination of 3, 3-dichlorobenzidine.



The quantitative of 3,3-dichlorobenzidine from landfill leachate. The column was C18HCE (2.1 mm×150 mm, 3 μ m). The flow rate was 0.2 mL/min. The mobile phase was 50% acetonitrile, 20% 100 mmol/L NaH_2PO_4 (pH 2.8) and 30% water. The electrode potential was 800 mV.