

## Supporting Information

### **Direct detection of histamine in fish flesh using microchip electrophoresis with capacitively coupled contactless conductivity detection**

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### Effect of increasing BGE ionic strength

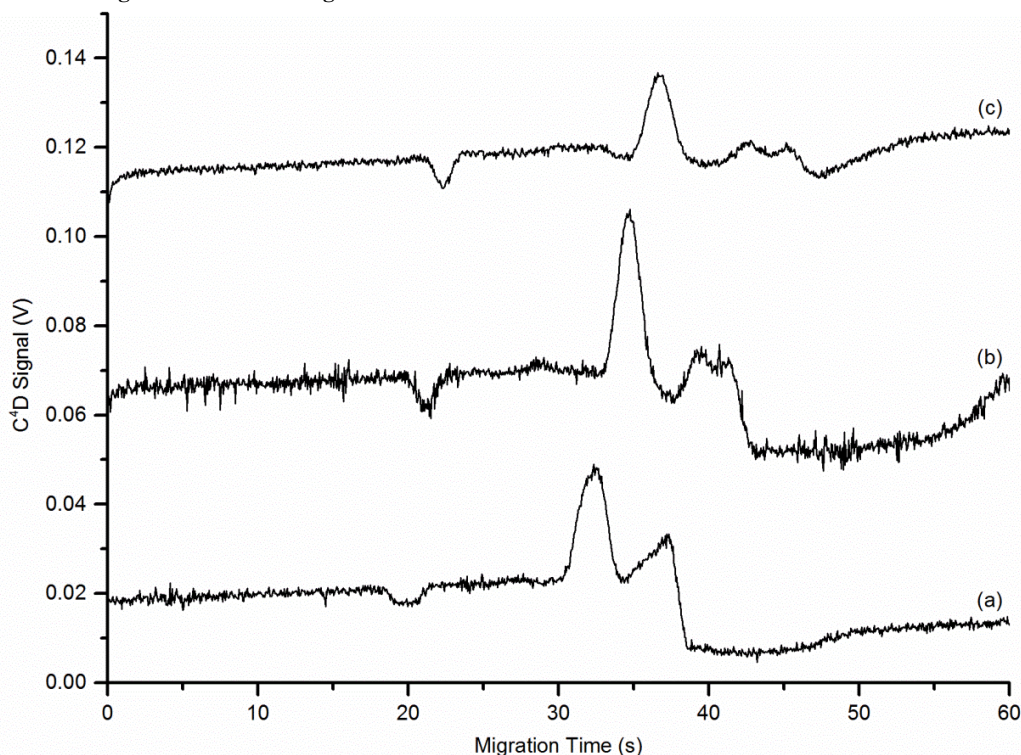


Fig S1: Electropherograms of a standard containing the biogenic amines histamine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ), tyramine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ) and 2-phenylethylamine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ) using (a) 25 mM HEPES/5 mM histidine BGE in 5% v/v isopropanol (pH 6.32), (b) 50 mM HEPES/10 mM histidine BGE in 5% v/v isopropanol (pH 6.31) and (c) 100 mM HEPES/20 mM histidine BGE in 5% v/v isopropanol (pH 6.30). Operating conditions: microchip 57/37 mm total/effective length; injection voltage 1.0 kV for 5 s; separation voltage 1.4 kV. C<sup>4</sup>D detector: sine waveform of 216 kHz 10 V<sub>p-p</sub>.

### Effect of increasing ratio of HEPES:His at the higher BGE concentration

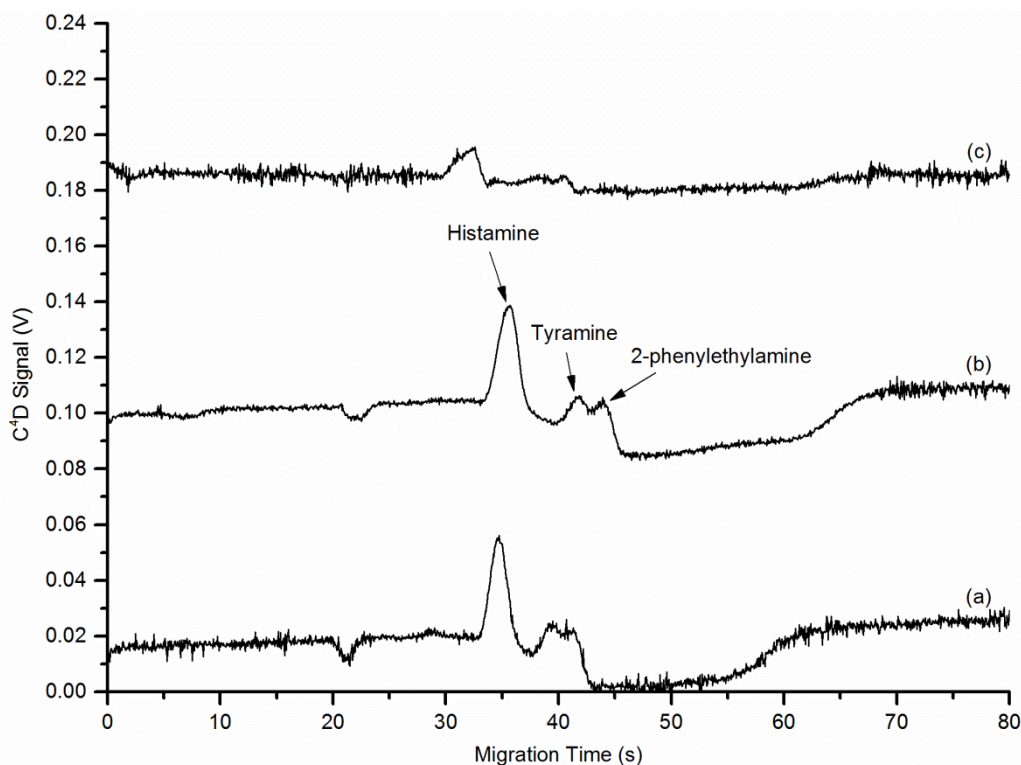
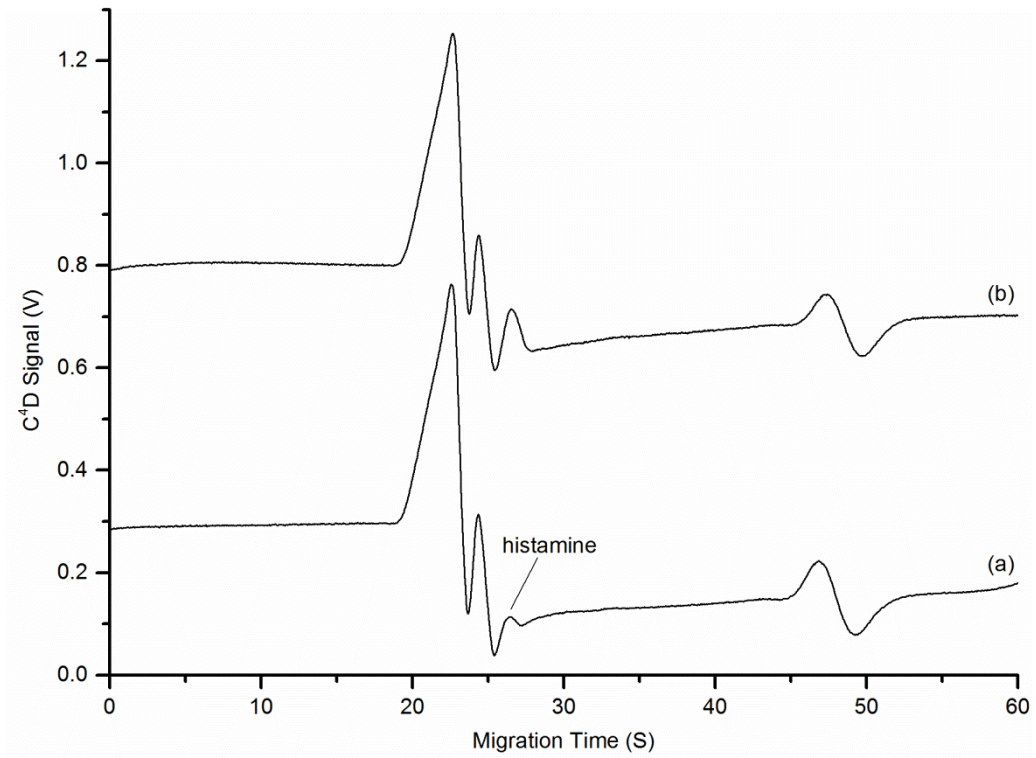


Fig S2: Electropherograms of a standard containing the biogenic amines histamine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ), tyramine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ) and 2-phenylethylamine ( $10 \text{ mg}\cdot\text{L}^{-1}$ ) using (a) 50 mM HEPES/10 mM histidine (5:1) BGE in 5% v/v isopropanol (pH 6.31), (b) 50 mM HEPES/5 mM histidine (10:1) BGE in 5% v/v isopropanol (pH 6.03) and (c) 50 mM HEPES/2.5 mM histidine (20:1) BGE in 5% v/v isopropanol (pH 6.01). Operating conditions: as per Fig. S1



**Fig S3:** Electropherograms of a tuna flesh extract (a) without spike and (b) with a 47.5 µg/g histamine spike using 50 mM HEPES/5 mM histidine BGE in 5% v/v isopropanol (pH 6.03). Operating conditions: as per Fig. S1