Electronic Supplementary Material (ESI) for Analytical Methods.

Supplementary Data

Simple and rapid analysis of muscarine in human urine using dispersive micro solid phase extraction and ultra high performance liquid chromatography-high resolution mass spectrometry

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Chromatographic conditions for analysis of muscarine in three different columns.

The aqueous phase (A) consisted of a mixture of 0.1% of formic acid and 4 mM ammonium formate in water, and the organic phase (B) was acetonitrile with 0.1% formic acid.

HILIC column: The gradient started at 98% B was reduced to 80% B in the next 2 minutes and then linearly ramped to 40% B in the following 5 minutes. This was followed by re-equilibration at 98% B for 3 minutes prior to the next injection. The flow rate was set to 300 µL/min. (Retention time: 4.56 min for muscarine)

C_{18} column: The gradient started at 5% B for 2 minutes, was raised to 30% B in the next 3 minutes and then linearly ramped to 100% B in the following 1 minutes. This was followed by re-equilibration at 5% B for 3 minutes prior to the next injection. The flow rate was set to 200 µL/min. (Retention time: 1.21 min for muscarine)

T_3 column: The gradient started at 2% B for 2 minutes, was raised to 50% B in the next 3 minutes and then linearly ramped to 100% B in the following 1 minutes. This was followed by re-equilibration at 2% B for 3 minutes prior to the next injection. The flow rate was set to 200 µL/min. (Retention time: 2.11 min for muscarine)

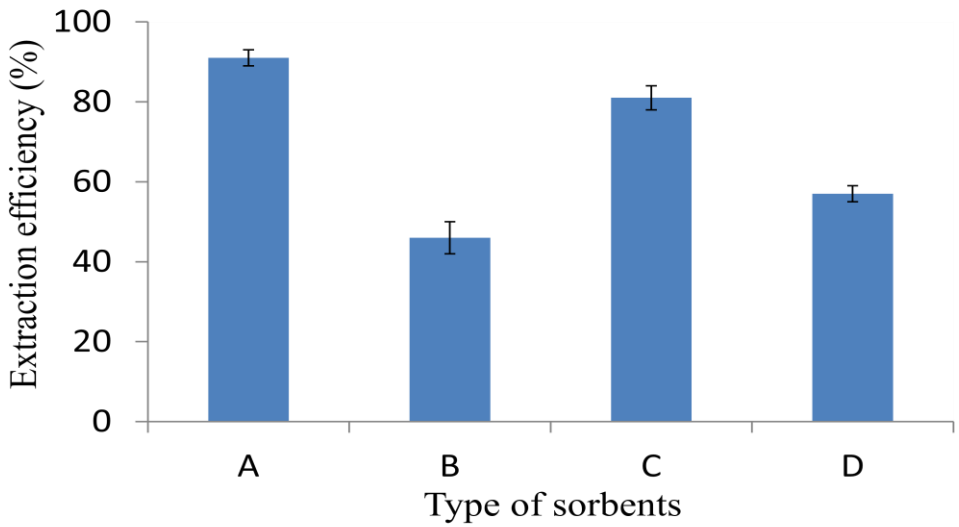


Figure S1 The effect of the different sorbents on the extraction efficiency (n = 3). (A) Cleanert® COOH, (B) Cleanert® SCX, (C) Cleanert® PWCX, (D) Cleanert® PCX.

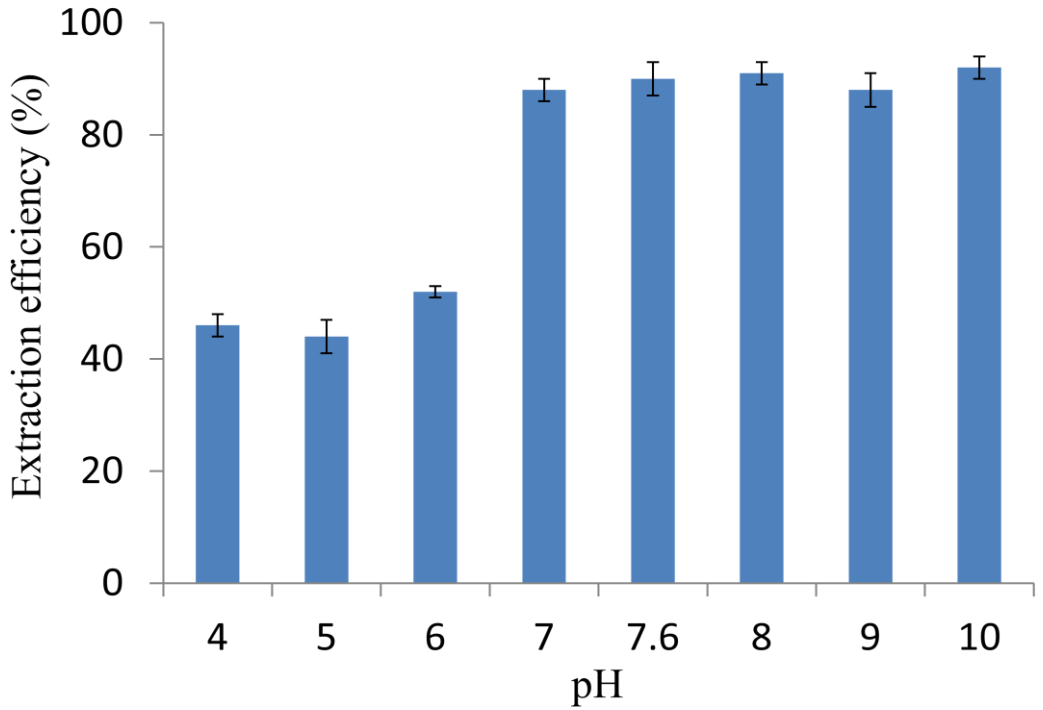
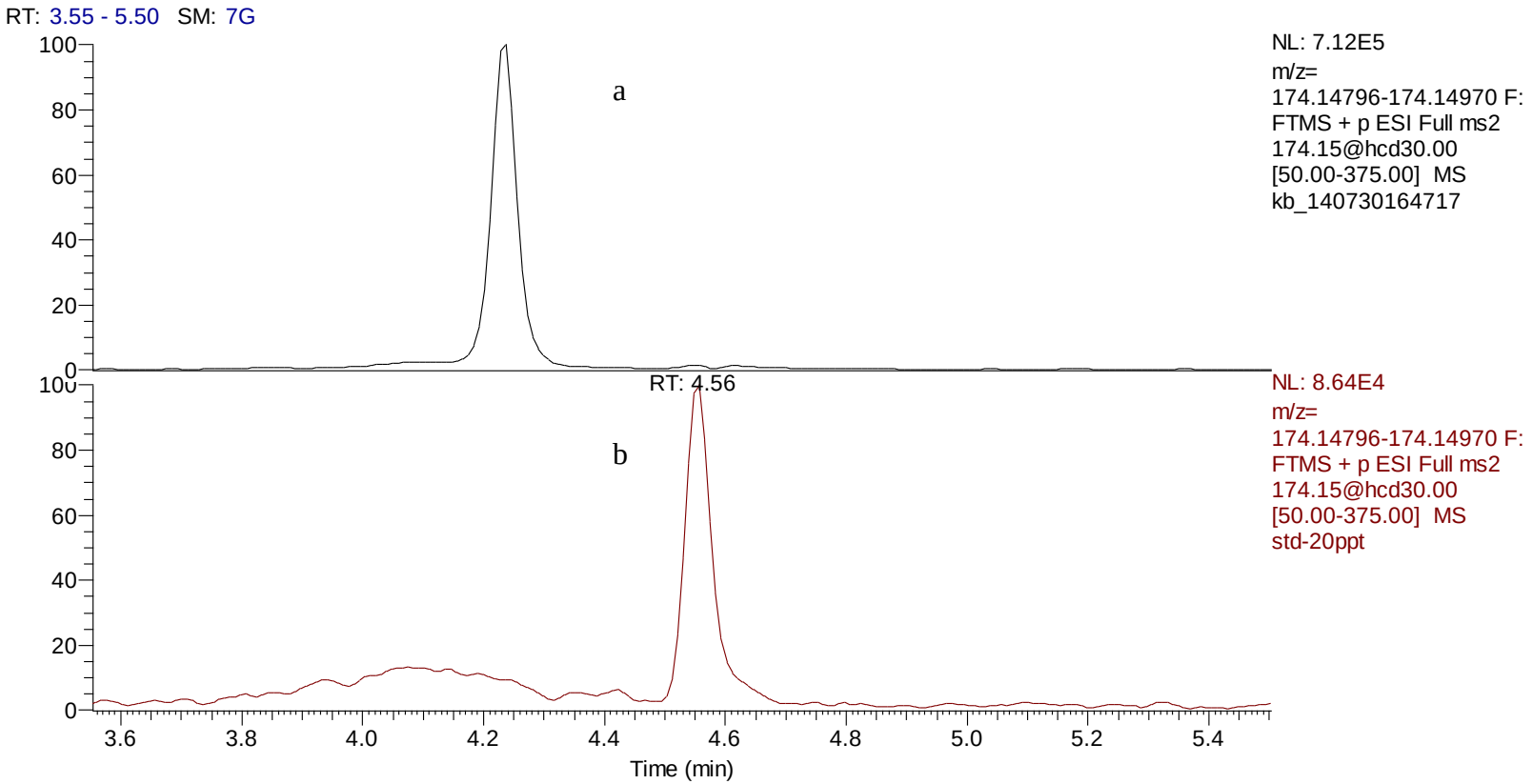


Figure S2 Effect of pH on the extraction efficiency (*n* = 3).



Figiure S3 Chromatographs of blank urine (a) and muscarine standard (RT: 4.56 min) at the concentration of 0.02 μg/L (b).