COFFEE AROMA / ROAST-LEVEL FEASIBILITY

CLARION Smells the Roast!

THE QUESTION WE ASKED

Can a portable GC-MS tell one roast step from the next, from aroma alone?

1 One bean, three roasts



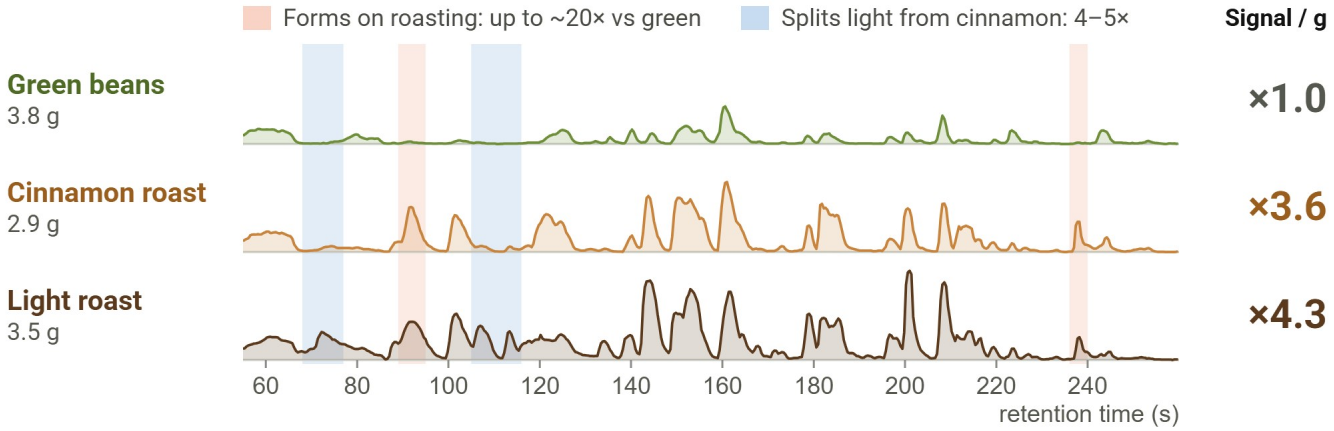
Colombian washed arabica: green, cinnamon and light roast. 3–4 g of whole beans in a 20 mL vial, held at 50 °C for 10 min.

2 One minute of aroma



Charcoal-cleaned air swept through the vial at 1.3 L/min for 1 min, straight into CLARION's thermal desorber. 5-min LTM-GC run, ion-trap MS.

3 Every roast leaves its own fingerprint



4 Why it matters

TESTED

One bean, three roasts

One 1-minute sample per roast, no solvent, no sample prep.

RESULT

Three distinct fingerprints

Even adjacent roasts differ, with peaks up to 5× apart.

MEANS

Roast QC at the roaster

Lab-grade GC-MS answers in minutes, next to the roaster.

One run per roast level. Signal / g = total ion signal per gram, relative to green beans.