COFFEE BEANS & COFFEE BREW

ROASTED COFFEE BEANS CONTAIN OVER 1000 CHEMICAL COMPONUDS

EXTRACTION YIELDS DURING COFFEE BREWING

- NON-POLAR COMPOUNDS: 10-25%
- POLAR COMPOUNDS: 75-100%

Not all compounds in coffee beans are extracted during brewing. Polar molecules are more soluble in water; they arise when uneven sharing of electrons between atoms leads to the two ends of a molecule having slight electrical charges.

A SELECTION OF AROMA COMPOUNDS IN BREWED COFFEE

- **2-FURFURYLTHIOL**
  - roasted (coffee)
- **3-METHYL-2-BUTEN-1-THIOL**
  - amine-like, sulfurous
- **3-MERCAPTO-3-METHYLBUTYLFORMATE**
  - catty, roasted
- **METHANETHIOL**
  - rotten cabbage
- **METHYLPROPANAL**
  - floral, spicy
- **3-METHYLBUTANAL**
  - earthy
- **ACETALDEHYDE**
  - pungent, fruity
- **(E)-ß-DAMASCENONE**
  - honey, fruit-like
- **GUAIACOL**
  - smoky, spicy
- **FURANEOL**
  - sweet, caramel
- **2-ISOBUTYL-3-METHOXYPYRAZINE**
  - earthy
- **2-ETHYL-3,5-DIMETHYLPYRAZINE**
  - earthy, roasted

**KEY**
- Sulfur-containing
- Aldehydes & ketones
- Phenolic
- Furans
- Pyrazines

Coffee contains several hundred different chemical compounds, but only a minority of these contribute to the aroma. A compound’s contribution to aroma is dependent on both its concentration and the threshold at which its smell can be perceived by humans. There are also variances in chemical composition for different coffee beans, leading to the variety of differing tastes and aromas.