



Detection and recognition of odorants

Olfactory discrimination ability of human subjects as a function of stimulus concentration

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Anna Ringh

Supervisor: Prof. Matthias Laska

Aims

- Determine the olfactory detection thresholds
- Test the discrimination ability
- Determine the concentration span between detection and qualitative recognition



Fig 1. Test procedure

Results

- 1) The mean detection thresholds were determined (see fig 2).
- 2) Some of the aldehyde pairs were not discriminated above chance.
- 3) As group, the subjects were able to significantly discriminate between some of the odorant pairs (see fig 3).

Conclusions

The gap between detection and recognition of aliphatic aldehydes is odorant pair-dependent.

Humans possess a well developed discrimination ability for aliphatic aldehydes.

Methods

A triangular test procedure was used, three randomly arranged bottles were presented to the subjects (fig 1).

5 Aliphatic aldehydes were used:

Butanal Pentanal Hexanal Heptanal Octanal

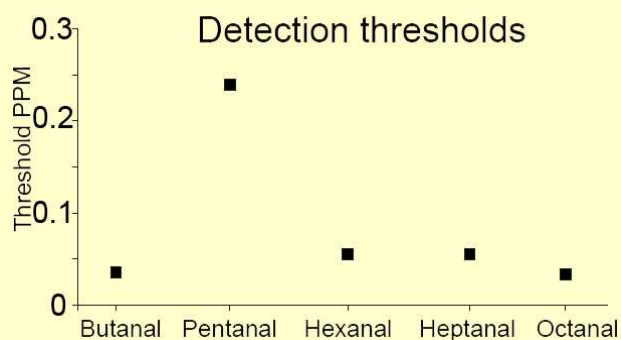
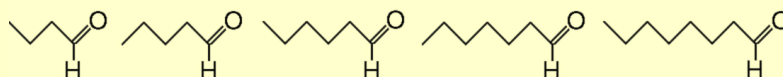


Fig 2. Olfactory detection thresholds

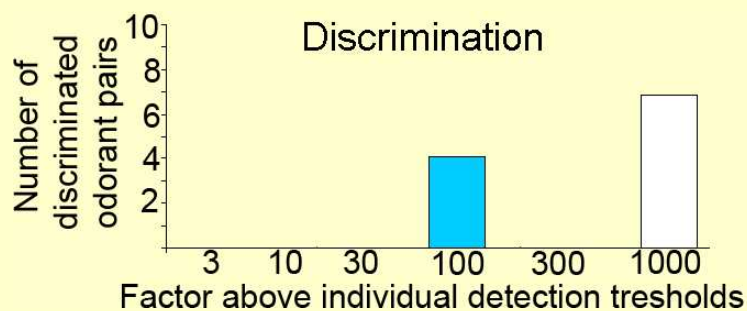


Fig 3. Discrimination ability