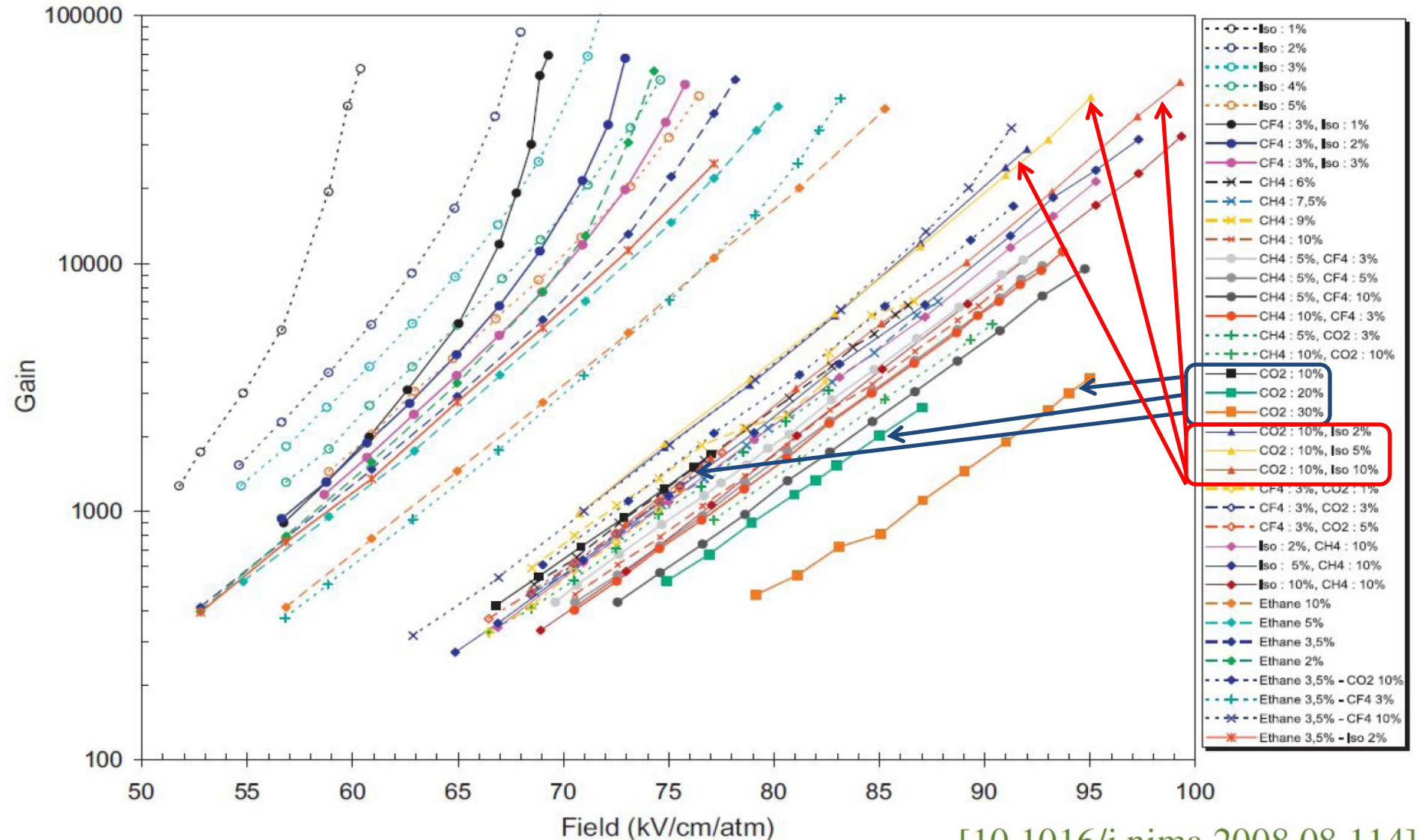


Saclay Ar compilation



E field at highest achievable gain

- ▶ The highest gains are not necessarily reached at the highest *E* fields.
- ▶ *E* ~ 100 kV/cm seems to be a boundary.
- ▶ No high gain without C_2H_6 or iC_4H_{10} .

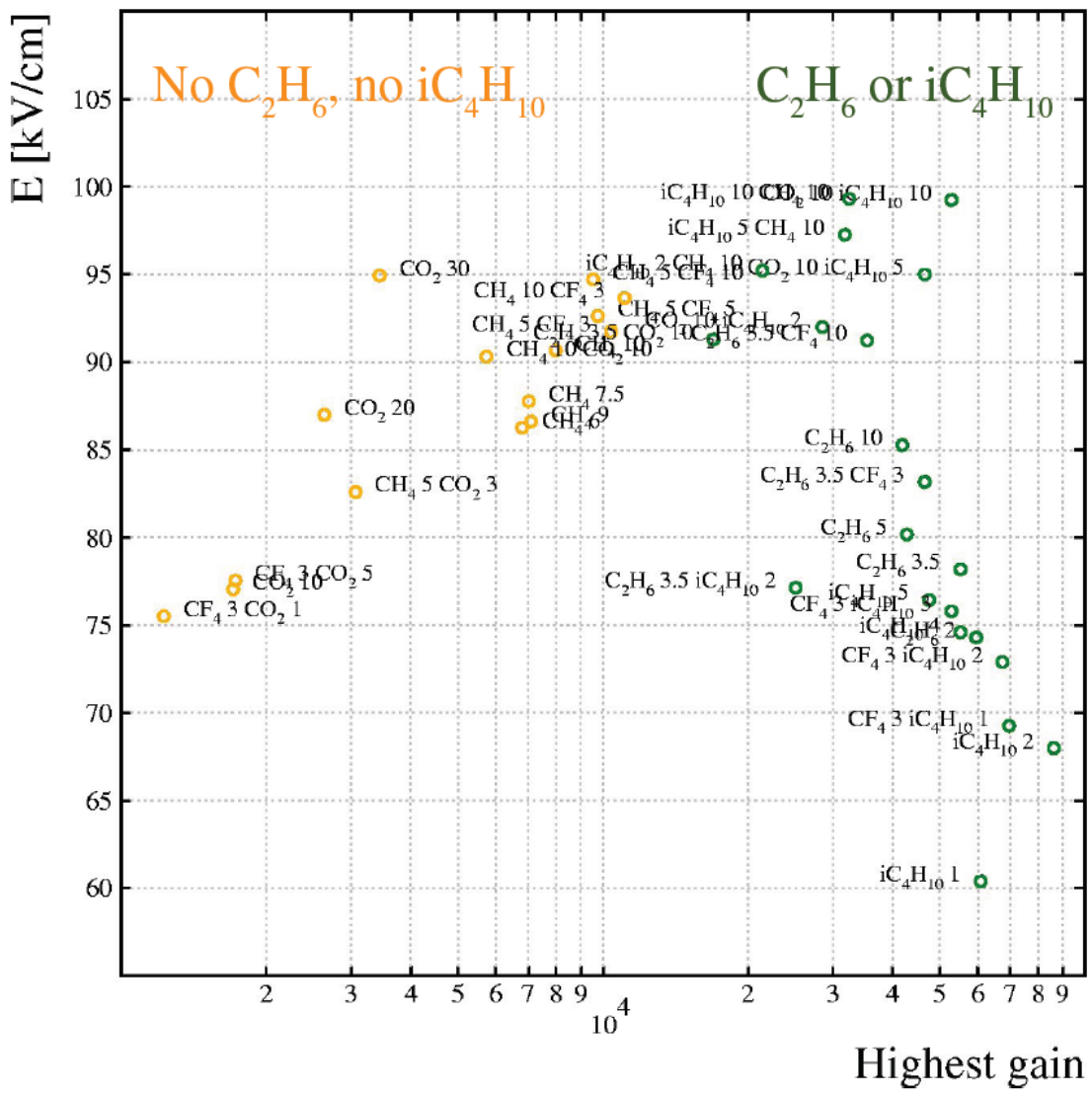
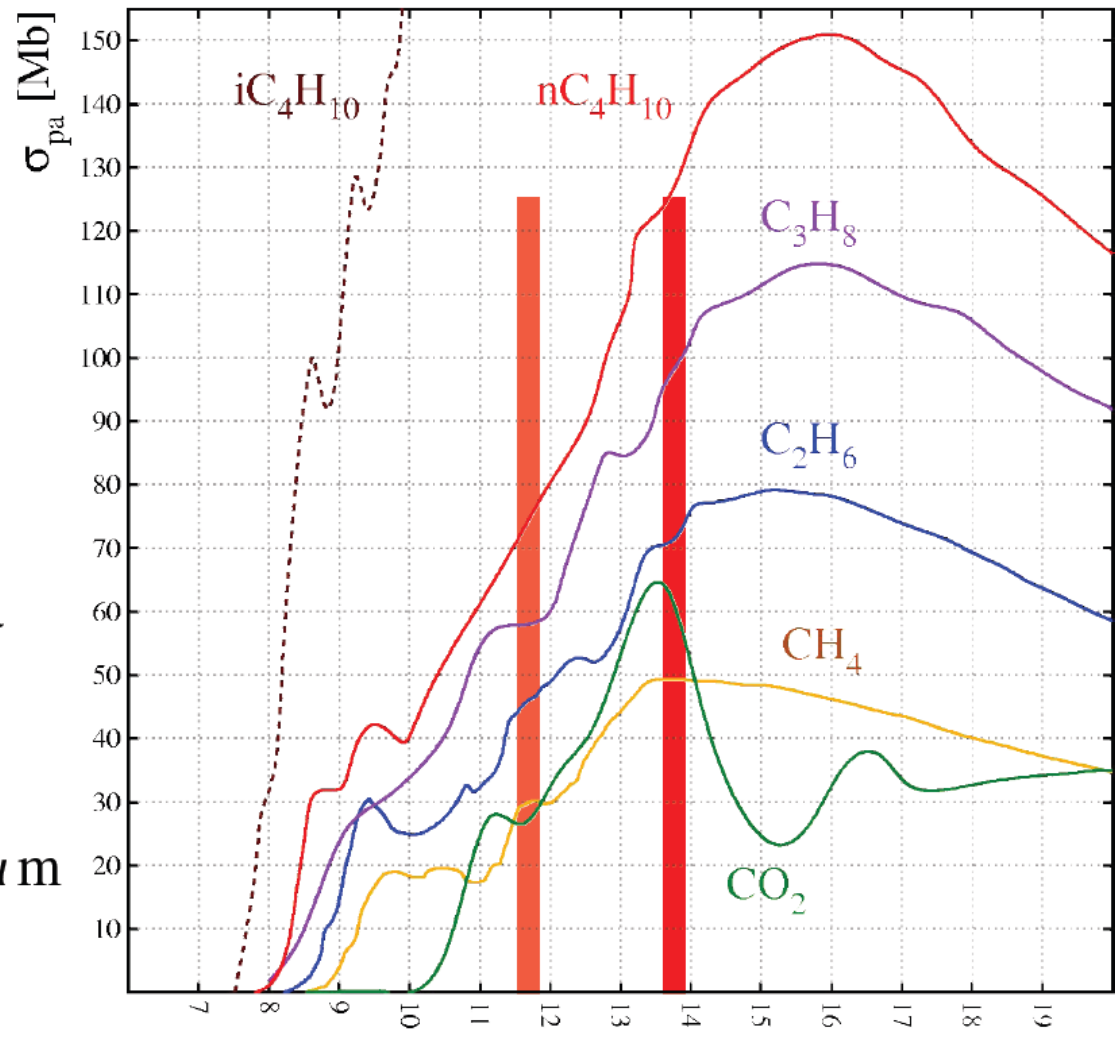


Photo-absorption cross sections

- ▶ The photo-absorption cross section of the alkanes increases with the molecular weight.
- ▶ Note: the iC_4H_{10} and nC_4H_{10} curves should have the same area on account of the sum rules.

$\lambda = 1/\sigma L$, e.g. $50 \text{ Mb} \sim 7.4 \mu\text{m}$



[Cross sections compiled from a variety of sources.]

$Ar^* 3p^5 4s 3p^5 3d$ Photon energy [eV]