



Deliverable number 8

Trapping of individual molecules

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At present, when molecules are brought to a standstill in the Berlin chip decelerator, each microtrap contains either zero or one molecule. The challenge to achieve the deliverable is to know which of the many microtraps contain a single molecule. There are already destructive methods that can be used to identify which traps contain a molecule. More desirable is a non-destructive detector such as the microcavity detectors developed at Imperial [*Phys. Rev. Lett.* **99**, 063601 (2007)].

Once a non destructive single molecule detector is integrated onto the molecule chip we should be able to identify individual trapped molecules and make use of them.