Description of Additional Supplementary Files

**Supplementary Movie 1.** Active nematic confined to a ring-shaped channel. Active boundary layers are observed on the inner and on the outer ring walls.

**Supplementary Movie 2.** Active nematic confined to a circular pool. A single boundary defect is observed most of the time, determining the flow inside the pool.

**Supplementary Movie 3:** Active nematic confined to a circular pool. The local charge density is overlaid on the fluorescence images.

**Supplementary Movie 4:** Confocal fluorescence observation of events in the active boundary layer near a flat wall. (a) Unbinding of a -1/2 (wall) and a +1/2 (bulk defects). (b) Annihilation between a wall (-1/2) and a bulk (+1/2) defect. (c) Recombination of two wall defects (-1/2) mediated by the absorption of a bulk defect (+1/2).

**Supplementary Movie 5:** Active nematic confined to circular pools of different sizes with an etched indentation (white triangle).