To analyse the toroidal structure of DNA with cryoEM, individual DNA chains, 4000 to 55000 bp long (1.4-18µm) have been collapsed inside a nanocontainer, the volume of a bacteriophage capsid, (T5, 80 nm in diameter), after partial ejection of its DNA. The tetravalent cation spermine was diffused through the capsid to condense DNA under conditions chosen to determine a hexagonal packing of DNA. We show how the frustration arising between chirality and hexagonal packing leads to the formation of twist walls and how the phasing between helices combined with the strong curvature imposed by the small volume of the container impose variations the DNA helical pitch.