Task for first week

1.- Reading materials:

Increasing valence pushes DNA nanostar networks to the isostatic point. Nathaniel Conrad. PNAS.

Understanding DNA: The Molecule and How it Works. Authors: Chris Calladine, Horace Drew, Ben Luisi, Andrew Travers.

If you want to know more about the oxDNA model, chapter 1-2 from Thomas Ouldrige thesis is a good place to start: Coarse-grained modelling of DNA and DNA self-assembly. https://ora.ox.ac.uk/objects/uuid:b2415bb2-7975-4f59-b5e2-8c022b4a3719

2.- Create DNA nanostars with difference valence: 3 (last week task), 4, 5 and 6

Sequences for those nanostars can be found in the Supplementary Information of the PNAS paper (reading material for this week).

3.- Check initial configuration file Before running simulations check that the initial configurations for the difference nanostars have the correct format. Quick checks to do:

a) That the total number of particles is what you expect.

b) That molecule-ids are from 1 to the valence of the nanostar

c) That the sequence of each of the strands is given from 3' to 5' direction as the atom-id increases. Remember the relation between atom-type and nucleotide type: A(1), C(2), G(3) and T(4)

4.- Please complete any pending tasks from last week. Feel free to send a message if you need help