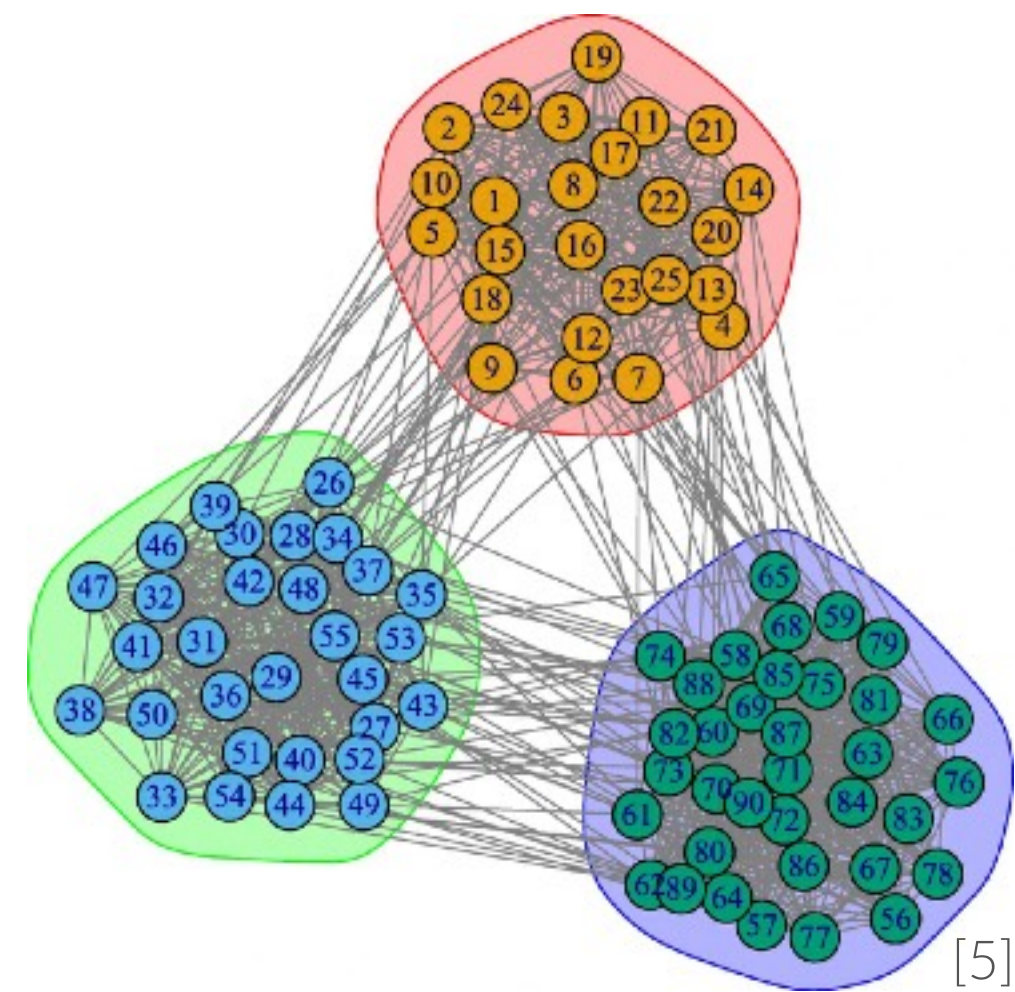
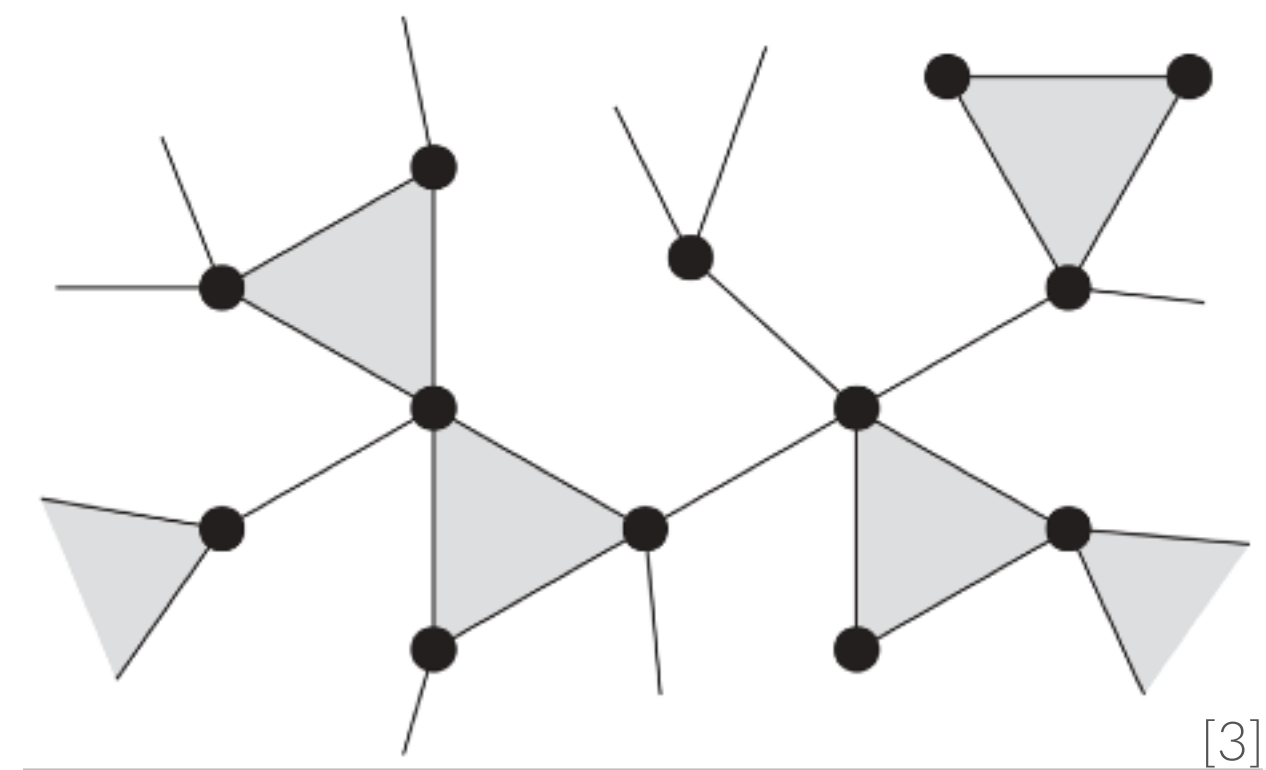
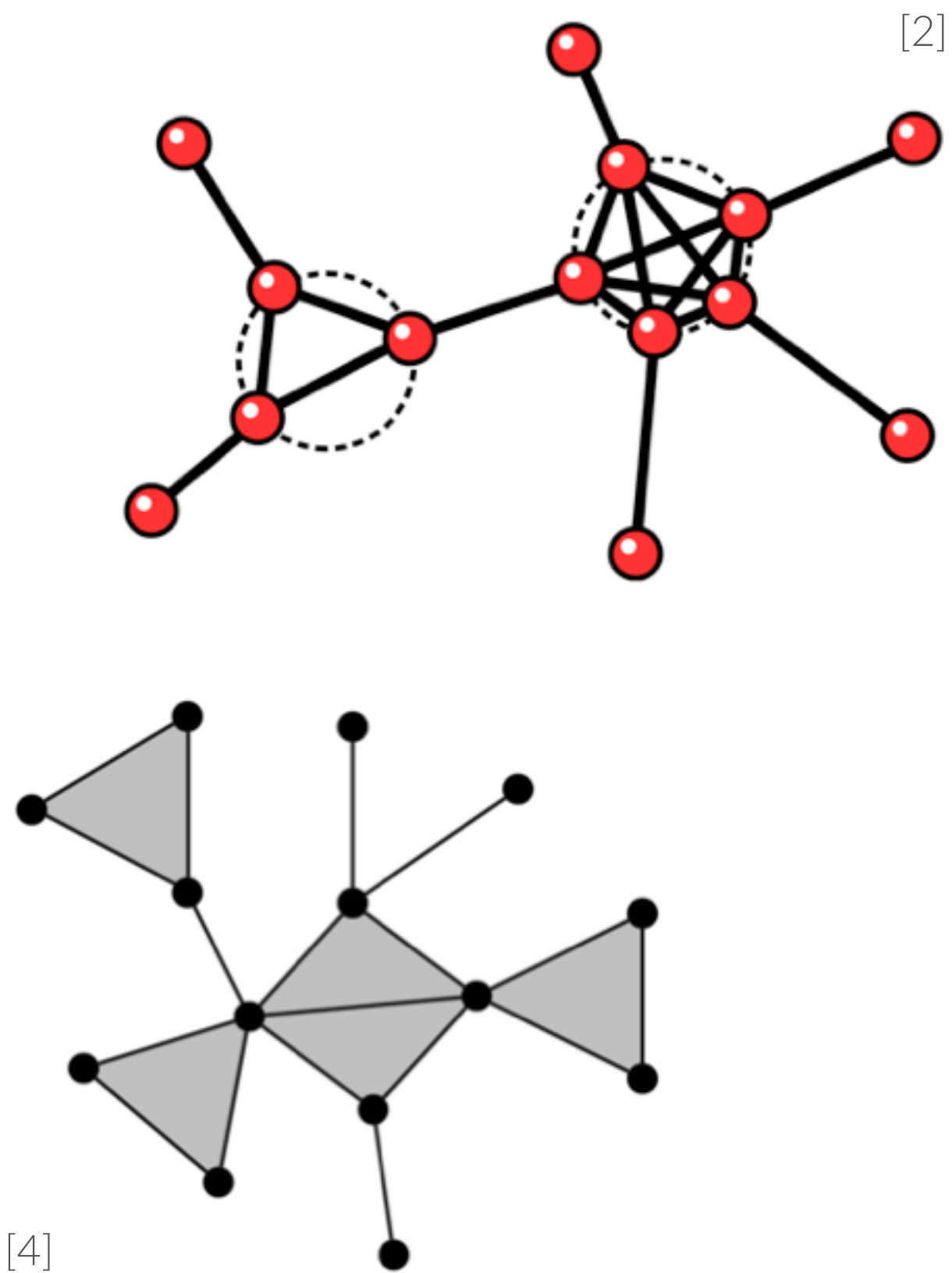
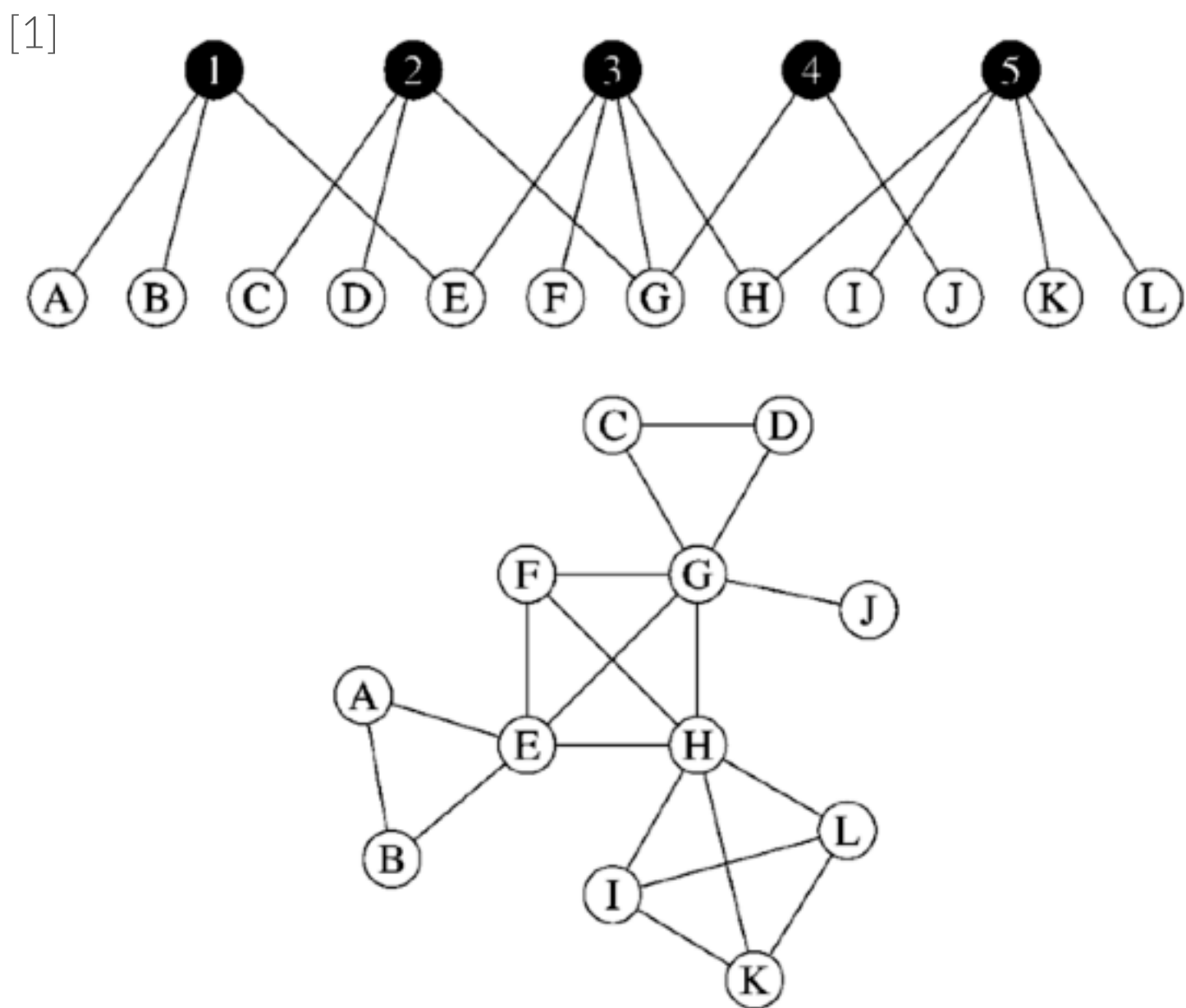


Modeling clustering

Tricky because clustering consists in **three-node interactions** while our mathematical tools rely on **pairwise interactions** either explicitly or implicitly.

Straightforward inclusion of triangles to the maximally random graph ensemble formalism yields **unwanted behavior** (ex.: triangle agglutination in the Strauss model [6]).

- Most models therefore assume
- ▷ an **underlying tree-like** structure
 - ▷ that the networks are **dense**



[1] Phys. Rev. E 68, 026121 (2003)
[2] Phys. Rev. E 80, 036107 (2009)
[3] Phys. Rev. Lett. 103, 058701 (2009)
[4] Phys. Rev. E 82, 066118 (2010)
[5] Appl. Netw. Sci. 4, 122 (2019)
[6] Phys. Rev. E 72, 026136 (2005)

Modeling clustering

Assume that the nodes are **embedded in a metric space** and that any two nodes are connected with a probability that is a **decreasing function of the distance** between them.