**Supplementary Material**

**Nodes with the highest control power play an important role at the final level of cooperation in directed networks**

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**Fig S1.** Results regarding the s208 network. **a)** Analysis of cooperation level based on the deterministic update rule. **b)** Network dynamics in achieving steady state relevant to the deterministic update law (c=1). **c)** Analysis of cooperation level based on the Glauber update rule. **d)** Network dynamics in achieving steady state related to the Glauber update rule (c=1)

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**Fig S2.** Results regarding the Mangrove network. Designations are as Fig S1.