

1 SUPPLEMENTARY FILE

2 **Appendix A: Details on data collection for discourse network analysis**

3

4 *Figure A1: Geographical distribution of newspapers*



5 *Table A2: List of collected newspapers on micropollutants*

<i>Geographical scope</i>	<i>Newspaper</i>	<i>Articles on micropollutants</i>
Germany	Frankfurter Allgemeine Zeitung	67
Baden-Württemberg	Stuttgarter Zeitung	111
	Südwest Presse	62
Bavaria	Nürnberger Nachrichten	67
	Passauer Neue Presse	44
Berlin	Berliner Zeitung	31
Brandenburg	Märkische Allgemeine	40
Bremen	Weser Kurier	70
Hamburg	Hamburger Abendblatt	59
Hessen	Rhein Main Digital GmbH	124
Lower Saxony	Hannoversche Allgemeine Zeitung	17
	Neue Osnabrücker Zeitung	46
	Nordwest-Zeitung	39
Mecklenburg-Vorpommern	Nordkurier	16
	Ostsee-Zeitung	41
North Rhine-Westphalia	Rheinische Post Gesamt	47
Rhineland-Palatinate	Rhein-Zeitung	41
	Wormser Zeitung	21
Saarland	Saarbrücker Zeitung	34
Saxony	Sächsische Zeitung	38
Saxony-Anhalt	Mitteldeutsche Zeitung	19
Schleswig-Holstein	Schleswig-Holsteiner Zeitungsverlag	18
Thuringia	Thüringer Allgemeine	17
<i>Sum</i>	23	1069

6

7 Figure A3: Overview of keyword search terms



Combination of key words used for the analysis of articles on micropollutants in aquatic ecosystems in Germany from January 2013 to December 2017. Key words located within circles are combined using the operator “OR” and circles are combined by using the operator “AND”. Example from the graph on the left: “Give me every article that contains any of the key words ‘medikament’, ‘arznei’, ‘tablette’, ‘kapsel’, or ‘salbe’ in combination with any of the key words ‘wasser’, ‘abwasser’, ‘gewässer’, ‘klo’, ‘toilette’, ‘ausguss’, ‘entsorg’, ‘müll’, ‘kläranlage’, ‘klärstufe’, ‘biodivers’, ‘fisch’, ‘barsch’, ‘forelle’, ‘zebra’, ‘schnecke’, ‘kiemen’, or ‘mikrobiom’”.

8

9 **Appendix B: Overview of actors**

10

11 *Table B1. Actors in the discourse network*

<i>Actor code</i>	<i>Full actor name in English</i>	<i>Full actor name in German</i>	<i>Affiliation</i>	<i>Type</i>
BASF	BASF	BASF	Industry, Retail	Container
Beiersdorf AG	Beiersdorf AG	Beiersdorf AG	Industry, Retail	Container
BPI	German Pharmaceutical Industry Association	Bundesverband der Pharmazeutischen Industrie	Industry, Retail	Container
HDE	German Trade Association	Handelsverband Deutschland	Industry, Retail	Container
LWK NW	Chamber of Agriculture North Rhine-Westphalia	Landwirtschaftskammer Nordrhein-Westfalen	Agricultural association	Container
Unilever	Unilever	Unilever	Industry, Retail	Container
BDEW	Federal Association of Energy and Water Industry	Bundesverband der Energie- und Wasserwirtschaft	Water association, municipal utility	Expander
Bioland	Bioland	Bioland	Other	Expander
BUND	Friends of the Earth Germany	Bund für Umwelt und Naturschutz	Environment organization	Expander
BWB	Water Company Berlin	Berliner Wasserbetriebe	Water association, municipal utility	Expander
DBU	German Federal Environmental Foundation	Deutsche Bundesstiftung Umwelt	Environment organization	Expander
DUH	Environmental Action Germany	Deutsche Umwelthilfe	Environment organization	Expander
DWA	German Association for Water, Wastewater and Waste	Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall	Water association, municipal utility	Expander
ELW	Municipal utility Wiesbaden	Entsorgungsbetriebe Wiesbaden	Water association, municipal utility	Expander
Greenpeace	Greenpeace Germany	Greenpeace Deutschland	Environment organization	Expander
Grüne BE	Alliance '90/The Greens (Berlin)	Bündnis 90/Die Grünen (Berlin)	Green party	Expander

Grüne BP	Alliance '90/The Greens (Federal Party)	Bündnis 90/Die Grünen (Bundespartei)	Green party	Expander
Grüne BW	Alliance '90/The Greens (Baden-Württemberg)	Bündnis 90/Die Grünen (Baden-Württemberg)	Green party	Expander
Grüne HE	Alliance '90/The Greens (Hesse)	Bündnis 90/Die Grünen (Hessen)	Green party	Expander
Grüne NI	Alliance '90/The Greens (Lower Saxony)	Bündnis 90/Die Grünen (Niedersachsen)	Green party	Expander
Grüne OS	Alliance '90/The Greens (Osnabrück)	Bündnis 90/Die Grünen (Osnabrück)	Green party	Expander
Grüne RP	Alliance '90/The Greens (Rhineland-Palatinate)	Bündnis 90/Die Grünen (Rheinland-Pfalz)	Green party	Expander
Grüne SH	Alliance '90/The Greens (Schleswig-Holstein)	Bündnis 90/Die Grünen (Schleswig-Holstein)	Green party	Expander
HEW	Hessenwasser	Hessenwasser	Water association, municipal utility	Expander
KüGePI	Küste gegen Plastik	Küste gegen Plastik	Environment organization	Expander
LDEW	Energy- and Water Association Hesse/Rhineland-Palatinate	Landesverband der Energie- und Wasserwirtschaft Hessen/Rheinland-Pfalz	Water association, municipal utility	Expander
LW BW	Water Supplier Baden-Württemberg	Landeswasserversorgung Baden-Württemberg	Water association, municipal utility	Expander
NABU	Nature And Biodiversity Conservation Union	Naturschutzbund	Environment organization	Expander
NV	Niersverband	Niersverband	Water association, municipal utility	Expander
SEW DD	Municipal utility Dresden	Stadtentwässerung Dresden	Water association, municipal utility	Expander
SWD AG	Municipal utility Düsseldorf	Wasserwerke Düsseldorf	Water association, municipal utility	Expander
VKU	Association of Municipal Companies	Verband Kommunaler Unternehmen	Water association, municipal utility	Expander
VS BY	Customer Service Bavaria	Verbraucher-Service Bayern	Other	Expander
WWF	World Wildlife Fund	World Wildlife Fund	Environment organization	Expander

BMU	Federal Ministry for the Environment	Bundesumweltministerium	Federal government	Political-administrative
BR	German Federal Council	Bundesrat	State government	Political-administrative
BReg	Federal Government Germany	Bundesregierung	Federal government	Political-administrative
BV	Association of German Cities	Bundesverband der kommunalen Spitzenverbände	Regional, local government	Political-administrative
HES	State of Hesse	Landesregierung Hessen	State government	Political-administrative
HNLUG	Hessian Agency for Nature Conservation, Environment and Geology	Hessisches Landesamt für Naturschutz, Umwelt und Geologie	State government	Political-administrative
LMU BW	Ministry of the Environment Baden-Württemberg	Landesumweltministerium Baden-Württemberg	State government	Political-administrative
SBU Bremen	Environmental Agency Bremen	Umweltbehörde Bremen	State government	Political-administrative
UBA	German Environmental Agency	Umweltbundesamt	Federal government	Political-administrative
AKDS	Chamber of Pharmacy (Saarland)	Apothekerkammer Saarland	Pharmacy association	Third-party
AWI	Alfred Wegener Institute	Alfred-Wegener-Institut	Science	Third-party
CDU BP	Christian Democratic Union (Federal Party)	Christlich Demokratische Union (Bundespartei)	Christian democratic party	Third-party
CDU NI	Christian Democratic Union (Lower Saxony)	Christlich Demokratische Union (Niedersachsen)	Christian democratic party	Third-party
FAU	University Erlangen-Nürnberg	Universität Erlangen-Nürnberg	Science	Third-party
HAW	Hamburg University of Applied Sciences	Hochschule für Angewandte Wissenschaften Hamburg	Science	Third-party
HFU	Furtwangen University of Applied Sciences	Hochschule Furtwangen	Science	Third-party
IOW	Leibniz Institute for Baltic Sea Research	Leibniz-Institut für Ostseeforschung	Science	Third-party
ISOE	Institute for Social-Ecological Research	Institut für sozial-ökologische Forschung	Science	Third-party

SPD BP	Social Democratic Party of Germany (Federal Party)	Sozialdemokratische Partei Deutschlands (Bundespartei)	Social democratic party	Third-party
TU Berlin	Technical University of Berlin	Technische Universität Berlin	Science	Third-party
TU Darmstadt	Technical University of Darmstadt	Technische Universität Darmstadt	Science	Third-party
TUHH	Hamburg University of Technology	Technische Universität Hamburg-Harburg	Science	Third-party
TUM	Mittelhessen University	Technische Hochschule Mittelhessen	Science	Third-party
Uni Bremen	Bremen University	Universität Bremen	Science	Third-party
Uni Frankfurt	Frankfurt University	Universität Frankfurt	Science	Third-party
Uni Lüneburg	Lüneburg University	Universität Lüneburg	Science	Third-party
Uni Oldenburg	Oldenburg University	Universität Oldenburg	Science	Third-party
Uni Stuttgart	Stuttgart University	Universität Stuttgart	Science	Third-party
Uni Tübingen	Tübingen University	Universität Tübingen	Science	Third-party

12

13 *Table B2. Actors in the policy network*

<i>Actor code</i>	<i>Full actor name in English</i>	<i>Full actor name in German</i>	<i>Affiliation</i>	<i>Type</i>
BAH	Federal Association of Medicine Manufacturers	Bundesverband der Arzneimittel-Hersteller	Industry, Retail	Container
DBV	German Farmers Association	Deutscher Bauernverband	Agricultural association	Container
IVA	Agrochemical Association	Industrieverband Agrar	Industry, Retail	Container
MWV	Association of German Petroleum Industry	Mineralölwirtschaftsverband	Industry, Retail	Container
VCI	German Chemical Industry Association	Verband der Chemischen Industrie	Industry, Retail	Container
VDMA	German Engineering Federation	Verband Deutscher Maschinen- und Anlagenbau	Industry, Retail	Container
WVM	German Metal Industry Association	Wirtschaftsvereinigung Metalle	Industry, Retail	Container
AÖW	Alliance of Public Water Management	Allianz der öffentlichen Wasserwirtschaft	Water association, municipal utility	Expander
BBU	Federal Association of Citizens' Initiative on Environmental Protection	Bundesverband Bürgerinitiativen Umweltschutz	Environment organization	Expander

BDEW	Federal Association of Energy and Water Industry	Bundesverband der Energie- und Wasserwirtschaft	Water association, municipal utility	Expander
BUND	Friends of the Earth Germany	BUND für Umwelt und Naturschutz	Environment organization	Expander
DAFV	German Fishing Association	Deutscher Angelfischer-Verband/ Mitglied Deutscher Fischerei-Verband	Other	Expander
DWA	German Association for Water, Wastewater and Waste	Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall	Water association, municipal utility	Expander
GrLi	Green League	Grüne Liga	Environment organization	Expander
BfG	German Federal Institute of Hydrology	Bundesanstalt für Gewässerkunde, Referat Gewässerkunde	Federal government	Political-administrative
BMG	Federal Ministry of Health	Bundesministerium für Gesundheit, Referat Gesundheit und Umwelt (TrinkW)	Federal government	Political-administrative
BMU	Federal Ministry for the Environment	Bundesministerium für Umwelt	Federal government	Political-administrative
BMWi	Federal Ministry of Economics	Bundeswirtschaftsministerium	Federal government	Political-administrative
BV	Federation of Municipal Organizations	Bundesvereinigung der kommunalen Spitzenverbände	Regional, local government	Political-administrative
HES	State of Hesse	Hessen	State government	Political-administrative
LAWA/BLAK	Common Working Group on Water of the Federal Government and States Governments	Bund/Länder-Arbeitsgemeinschaft Wasser/Bund/Länder-Arbeitskreis Wasser	State government	Political-administrative
NRW	State of North Rhine-Westphalia	Nordrhein-Westfalen	State government	Political-administrative
RLP	State of Rhineland-Palatinate	Rheinland-Pfalz	State government	Political-administrative
UBA	Federal Environmental Agency	Umweltbundesamt	Federal government	Political-administrative

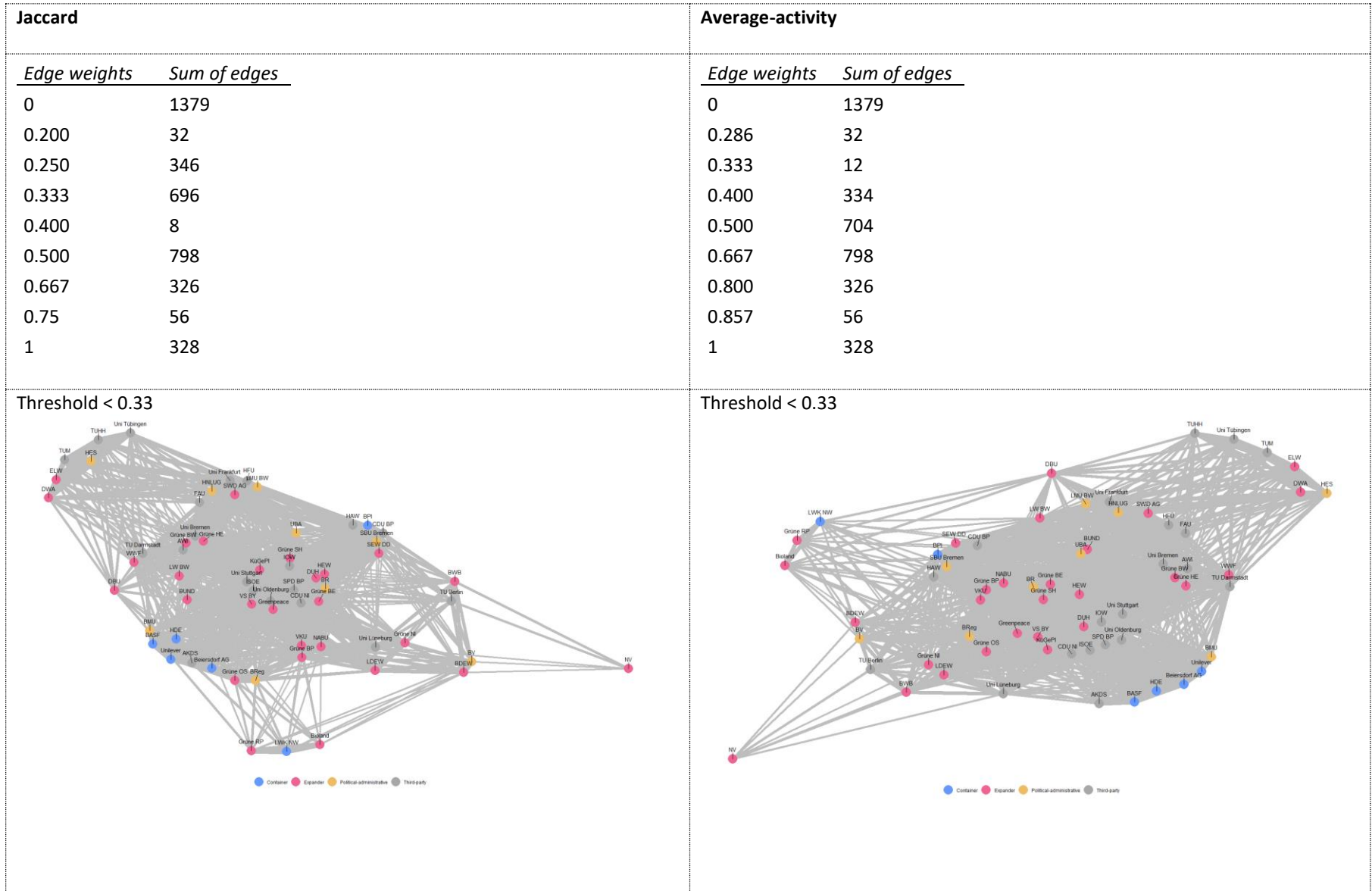


BWK	Association of Engineers for Water Management, Waste Management and Environmental Construction	Bund der Ingenieure für Wasserwirtschaft, Abfallwirtschaft und Kulturbau	Water association, municipal utility	Third-party
DVGW	German Technical and Scientific Association for Gas and Water	Deutscher Verein des Gas- und Wasserfaches	Water association, municipal utility	Third-party
GÖD	Union of Public Services	Gewerkschaft öffentlicher Dienst und Dienstleistungen	Other	Third-party

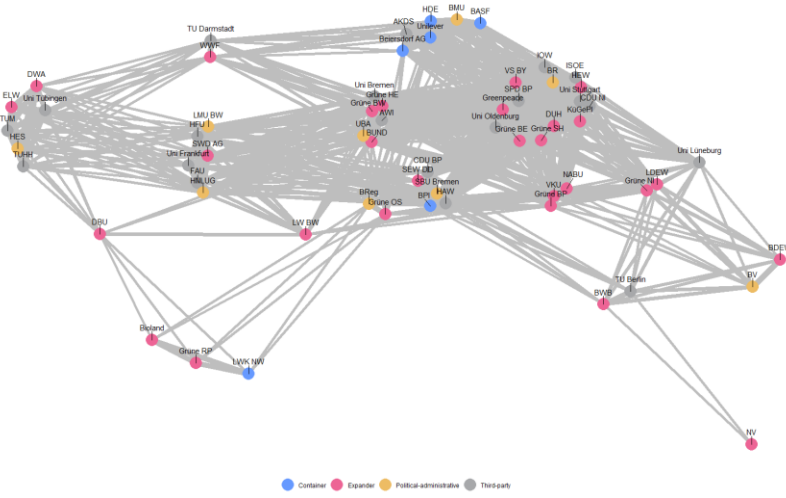
15 **Appendix C: Robustness checks for full observation period (4.3)**

16

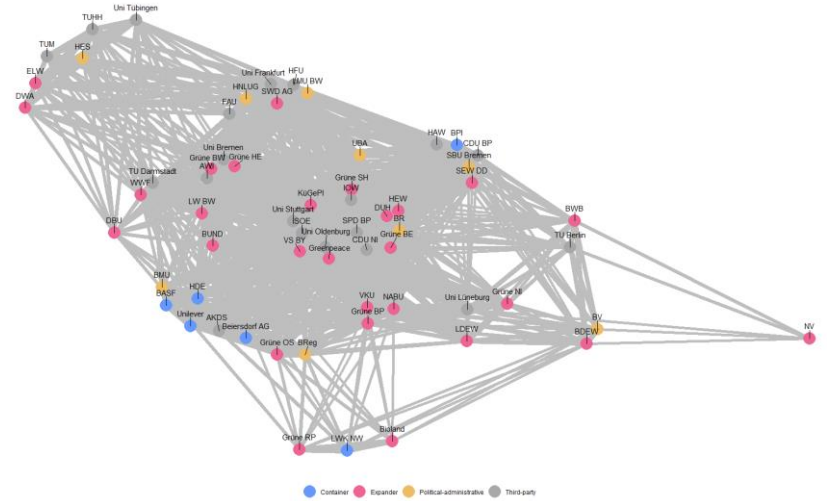
17 *C1: Discourse network with different threshold values and different normalization algorithms*



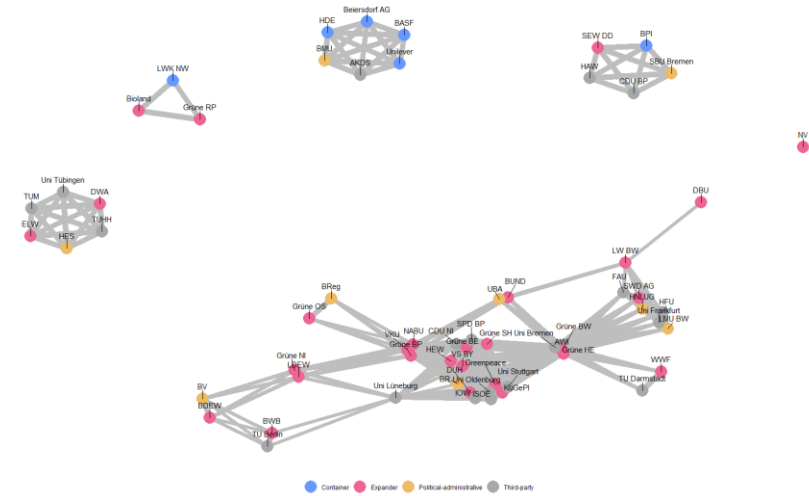
Threshold < 0.50



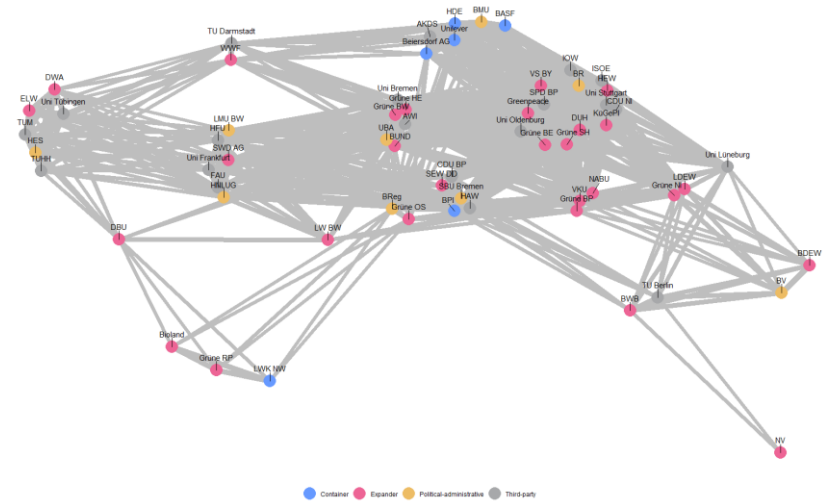
Threshold < 0.50



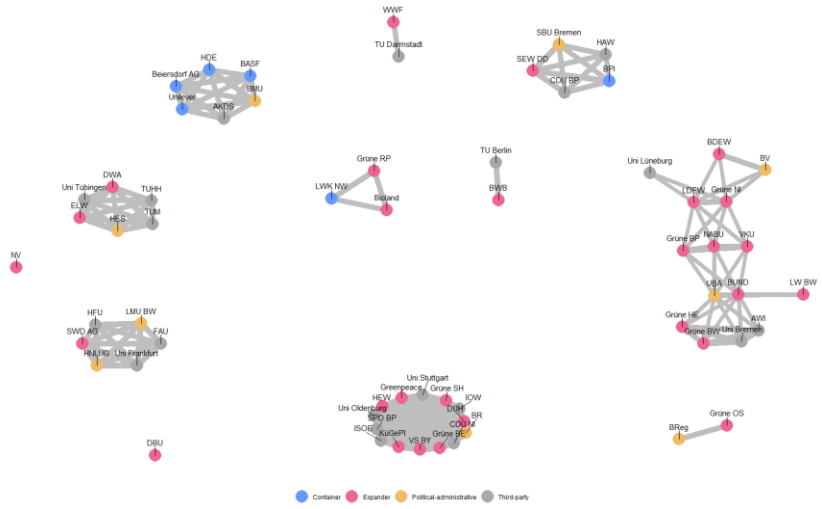
Threshold < 0.66



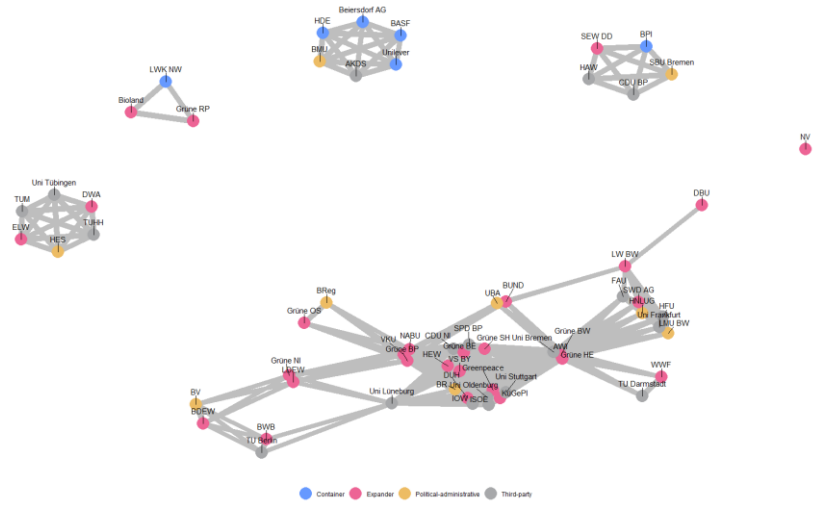
Threshold < 0.66



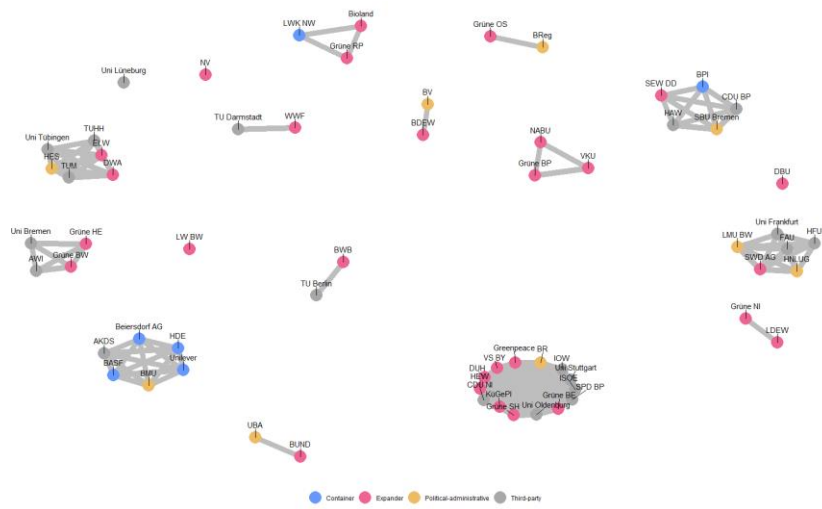
Threshold < 0.75



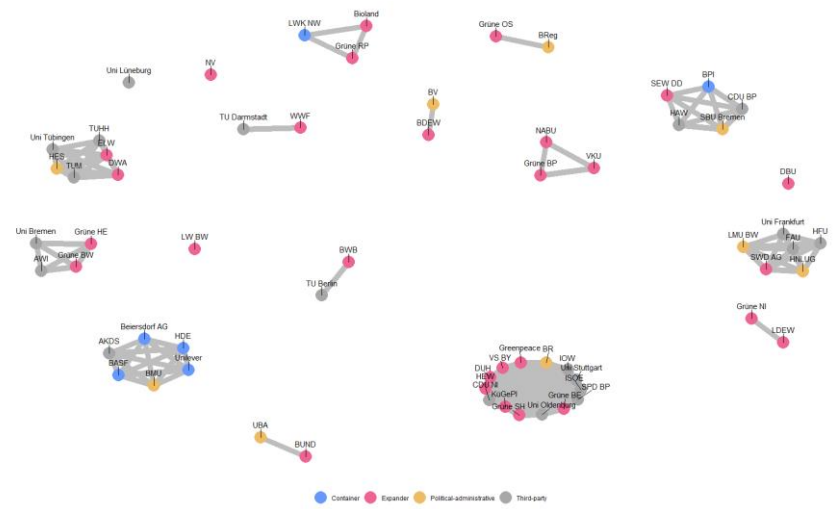
Threshold < 0.75



Threshold < 1



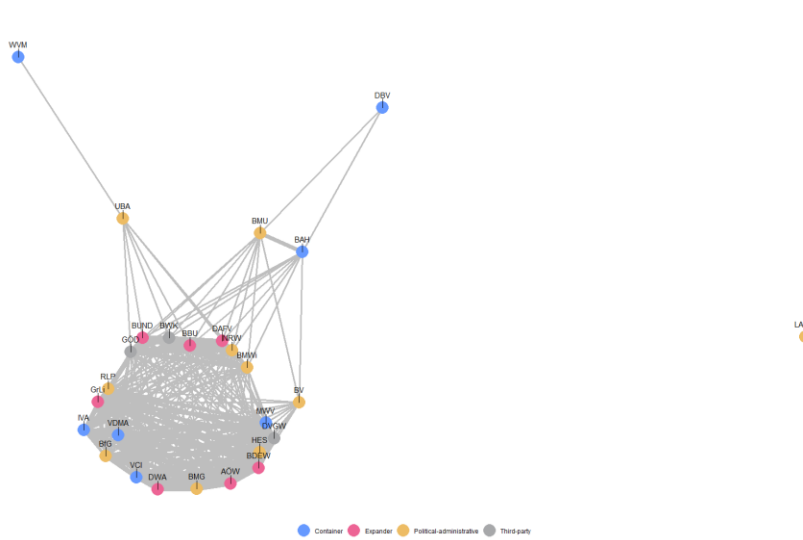
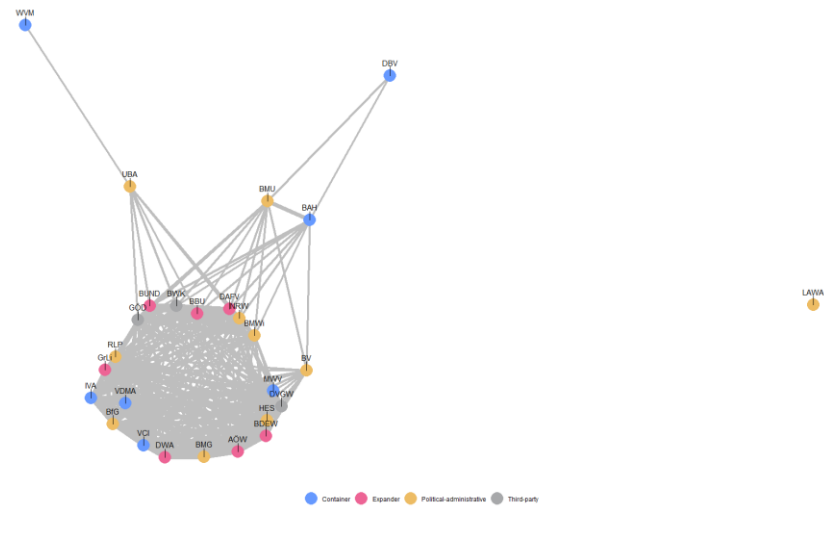
Threshold < 1

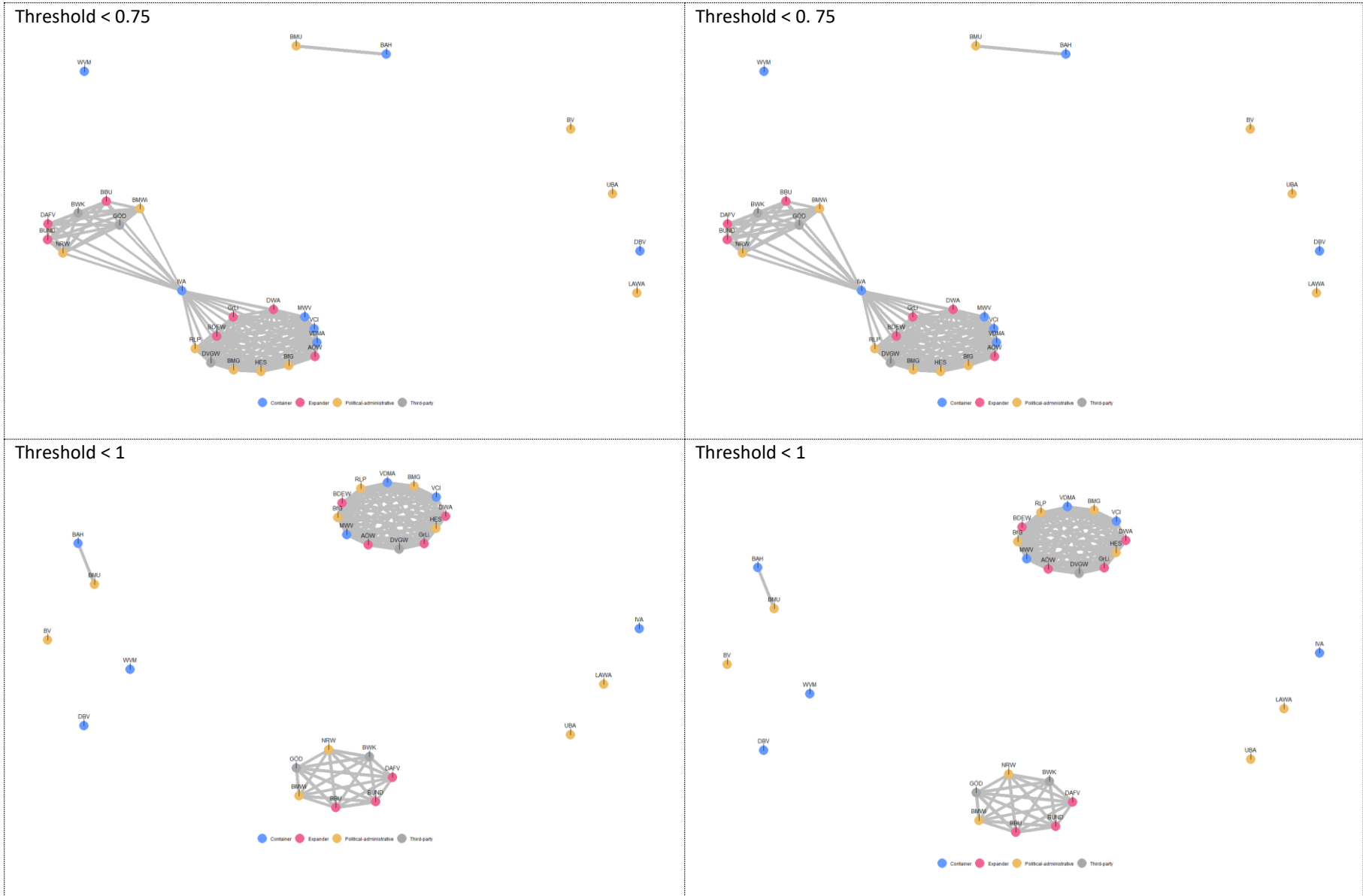


18

19 Note: Thresholds have been chosen based on the distribution of edge weights in the networks.

20 C2: Policy network with different threshold values and different normalization algorithms

Jaccard	Average-activity																								
<table border="1"> <thead> <tr> <th><u>Edge weights</u></th> <th><u>Sum of edges</u></th> </tr> </thead> <tbody> <tr><td>0</td><td>235</td></tr> <tr><td>0.200</td><td>36</td></tr> <tr><td>0.400</td><td>244</td></tr> <tr><td>0.750</td><td>38</td></tr> <tr><td>1</td><td>176</td></tr> </tbody> </table>	<u>Edge weights</u>	<u>Sum of edges</u>	0	235	0.200	36	0.400	244	0.750	38	1	176	<table border="1"> <thead> <tr> <th><u>Edge weights</u></th> <th><u>Sum of edges</u></th> </tr> </thead> <tbody> <tr><td>0</td><td>235</td></tr> <tr><td>0.286</td><td>36</td></tr> <tr><td>0.500</td><td>244</td></tr> <tr><td>0.857</td><td>38</td></tr> <tr><td>1</td><td>176</td></tr> </tbody> </table>	<u>Edge weights</u>	<u>Sum of edges</u>	0	235	0.286	36	0.500	244	0.857	38	1	176
<u>Edge weights</u>	<u>Sum of edges</u>																								
0	235																								
0.200	36																								
0.400	244																								
0.750	38																								
1	176																								
<u>Edge weights</u>	<u>Sum of edges</u>																								
0	235																								
0.286	36																								
0.500	244																								
0.857	38																								
1	176																								
<p>Threshold &lt; 0.40</p> 	<p>Threshold &lt; 0.40</p> 																								

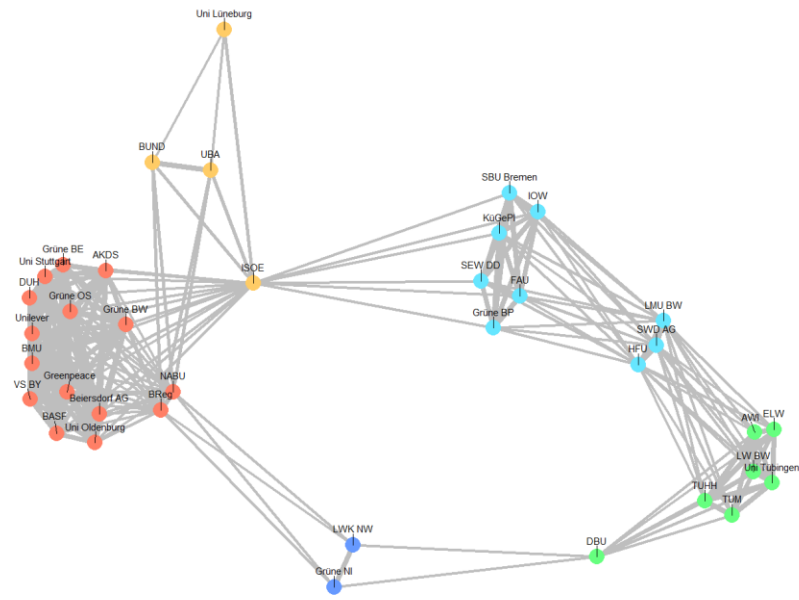


21

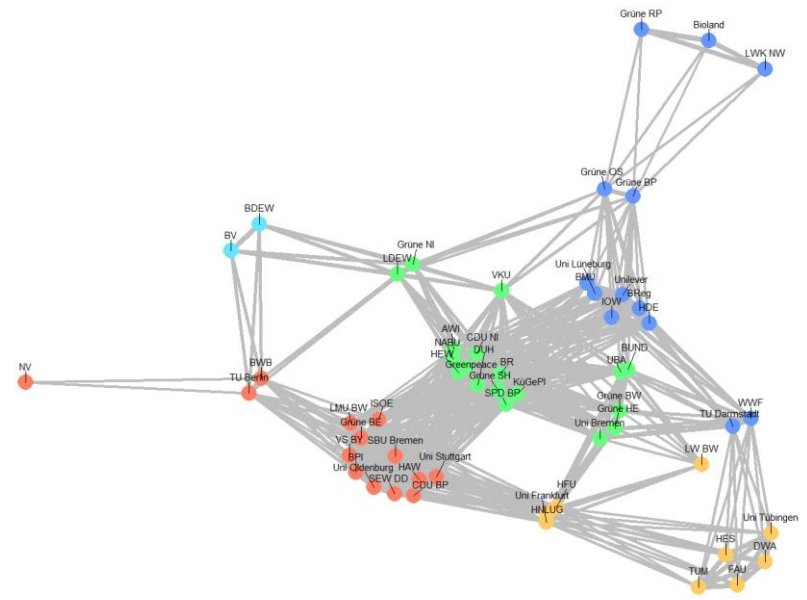
22 Note: Thresholds have been chosen based on the distribution of edge weights in the networks.



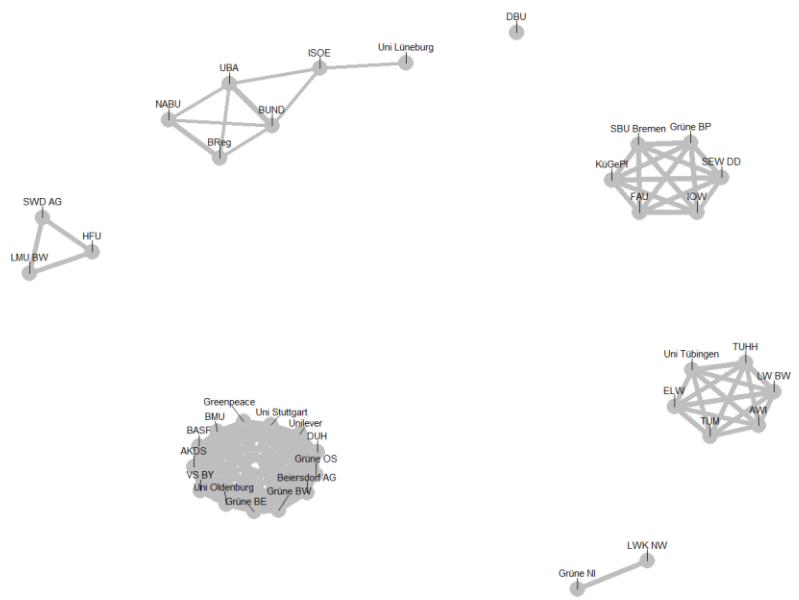
Threshold < 0.50



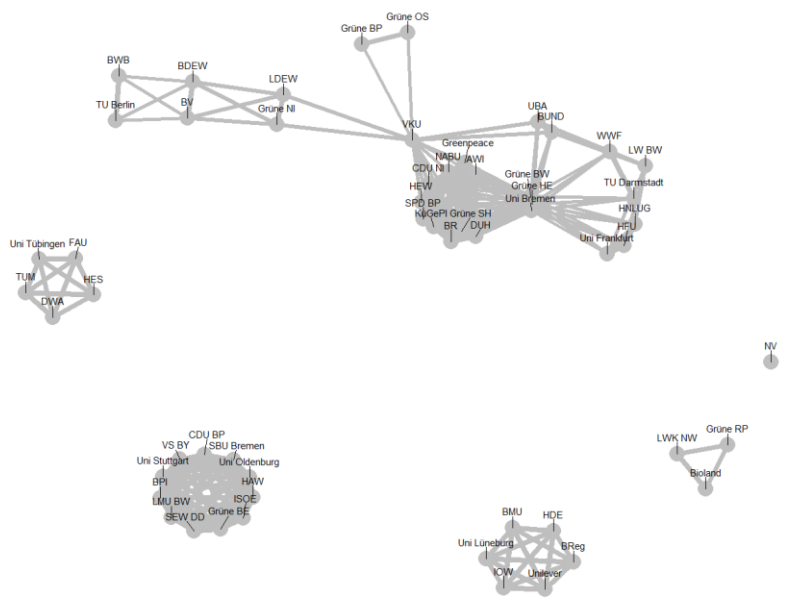
Threshold < 0.50



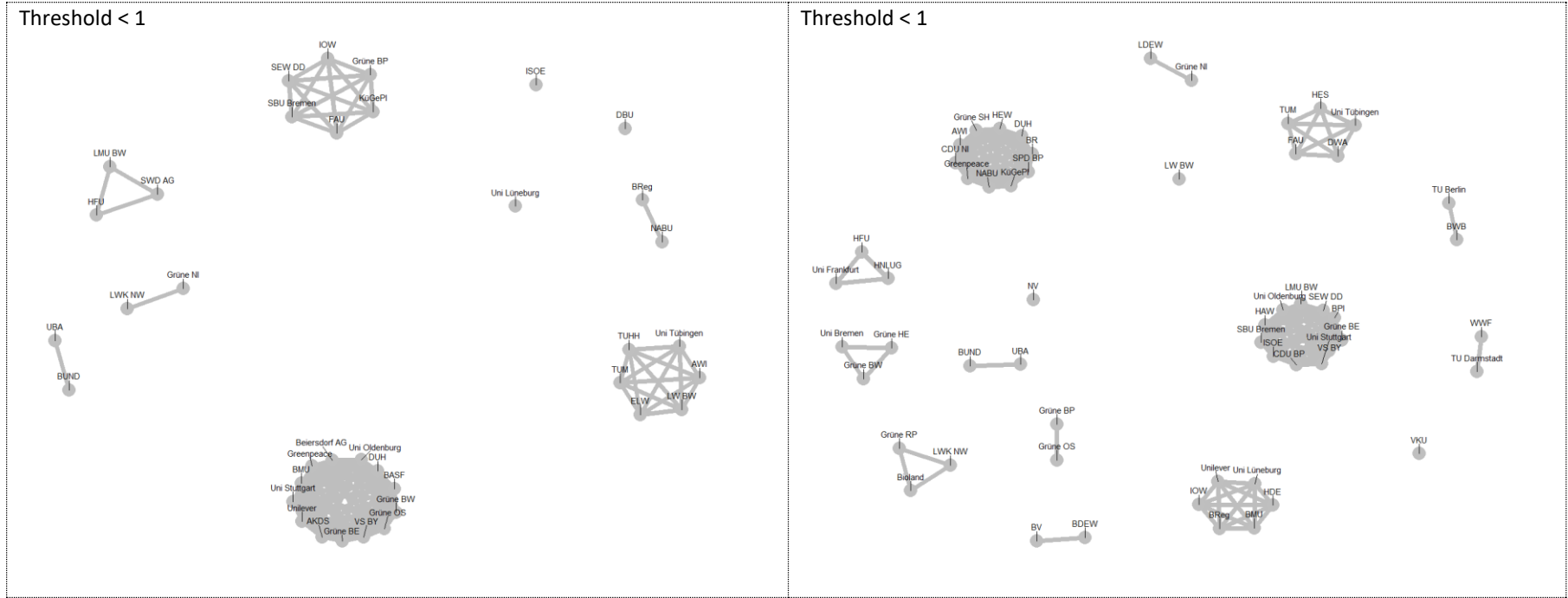
Threshold < 0.66



Threshold < 0.66







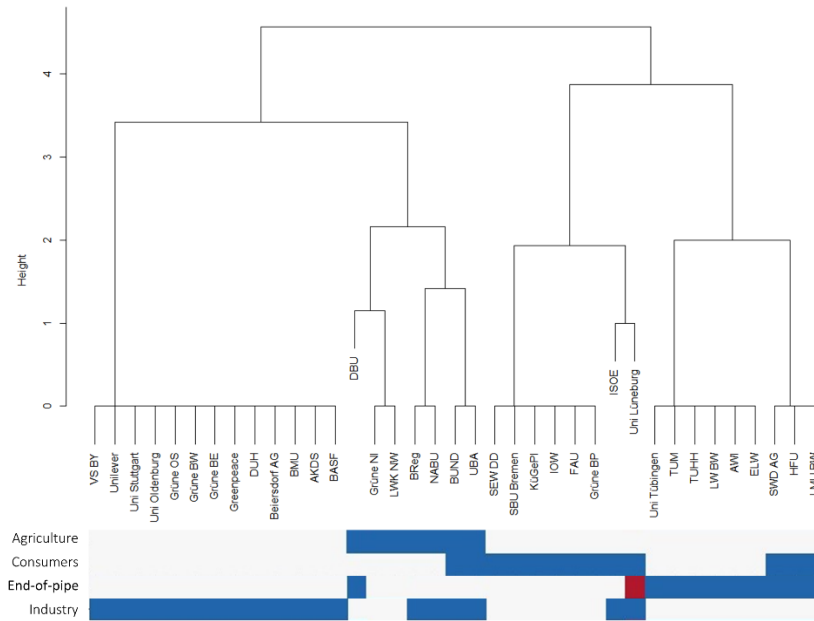
26

27 Note: Thresholds have been chosen based on the distribution of edge weights in the networks.

28

29 **Appendix E**

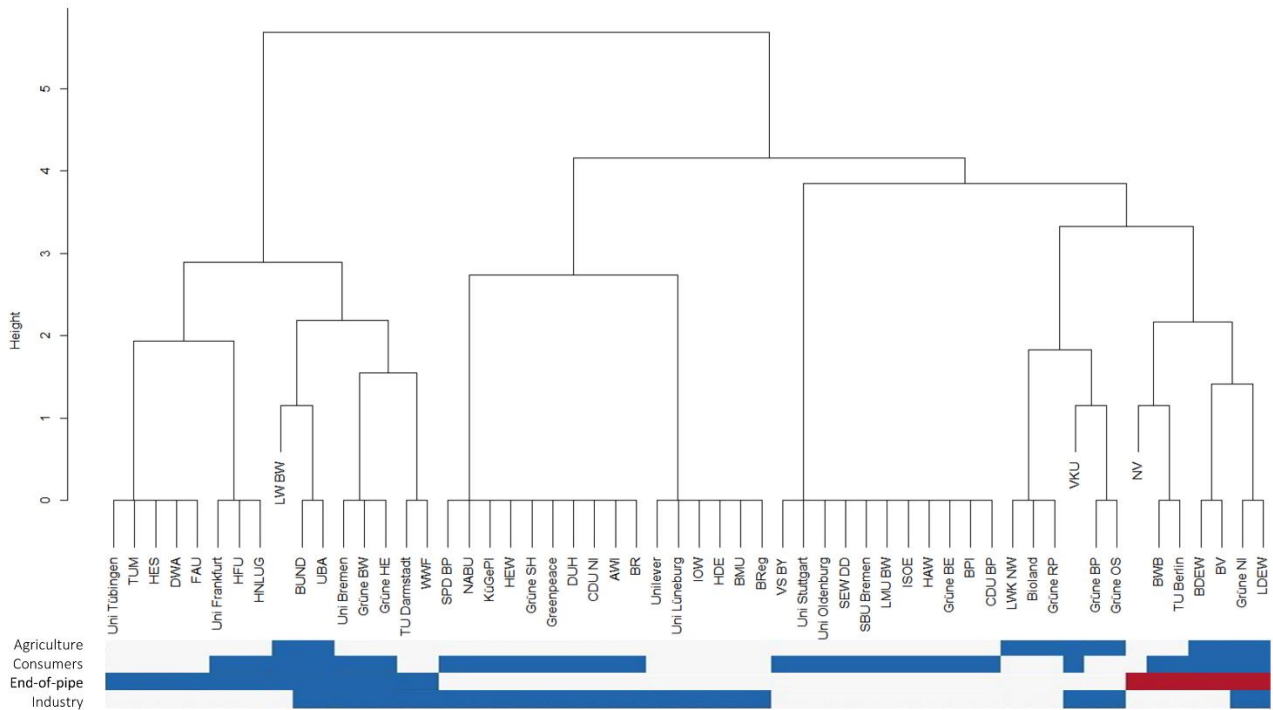
30 **Figure E1. Hierarchical clustering of the discourse network in period 1**



31

32 Note: blue = agreement; red = disagreement; white = no statement.

33 **Figure E2. Hierarchical clustering of the discourse network in period 2**



34

35 Note: blue = agreement; red = disagreement; white = no statement.