

Patent citation networks in the United Kingdom

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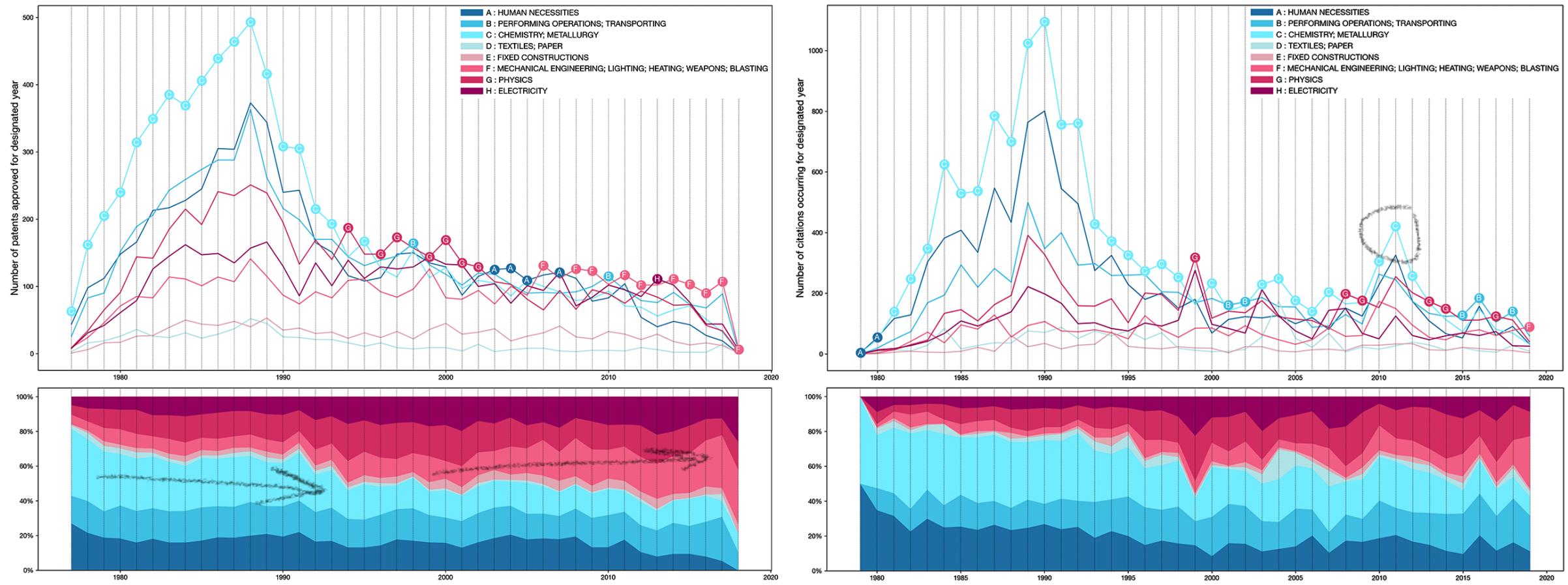


Fig. 1: Number of IPC category occurrences for the patents approved (left) and the citations within the class (right).

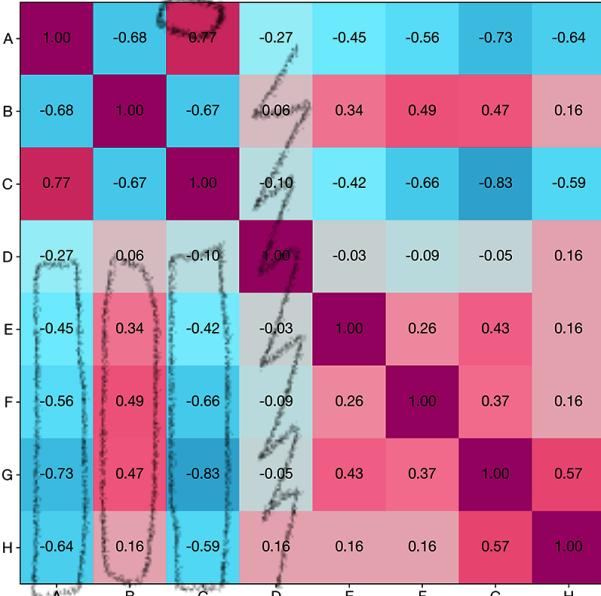
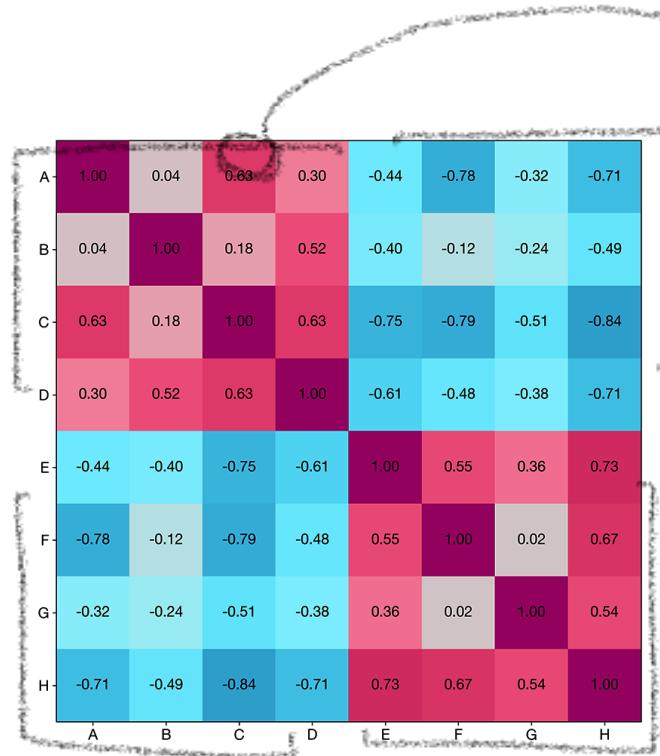


Fig. 2: Correlation matrices for the normalised patent counts (left) and the normalised citation counts (right).

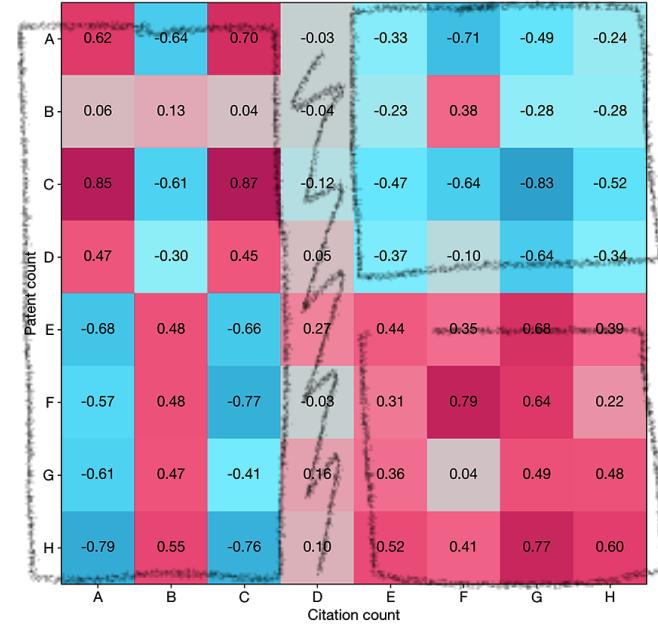


Fig. 3: Cross-correlation between the latter patent and citation counts.

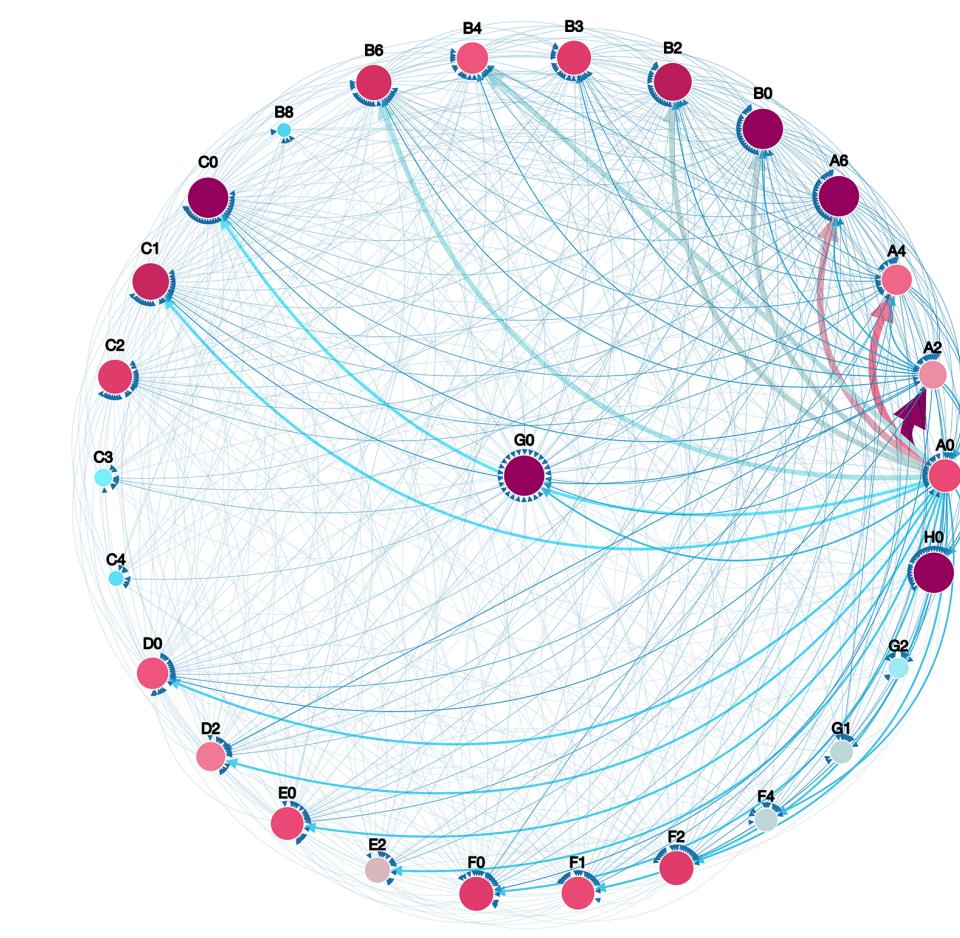
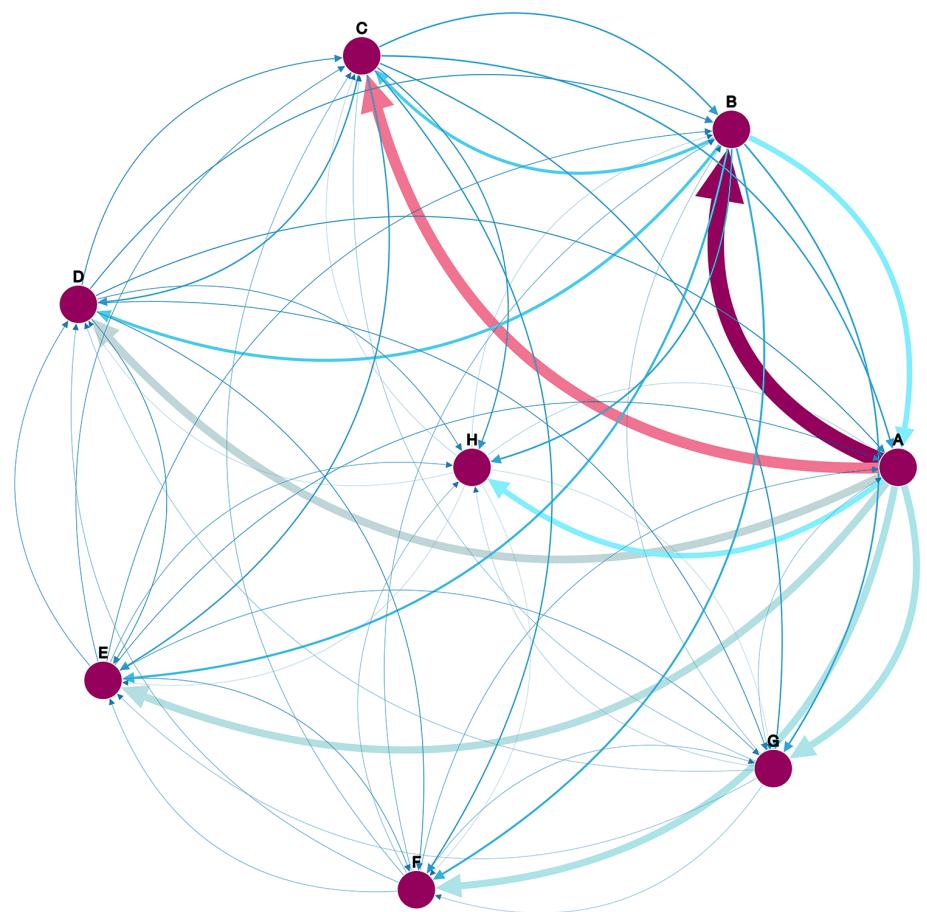


Fig. 4: Un-Normalised network of IPC citations at a precision of a single character (left) and two characters (right).

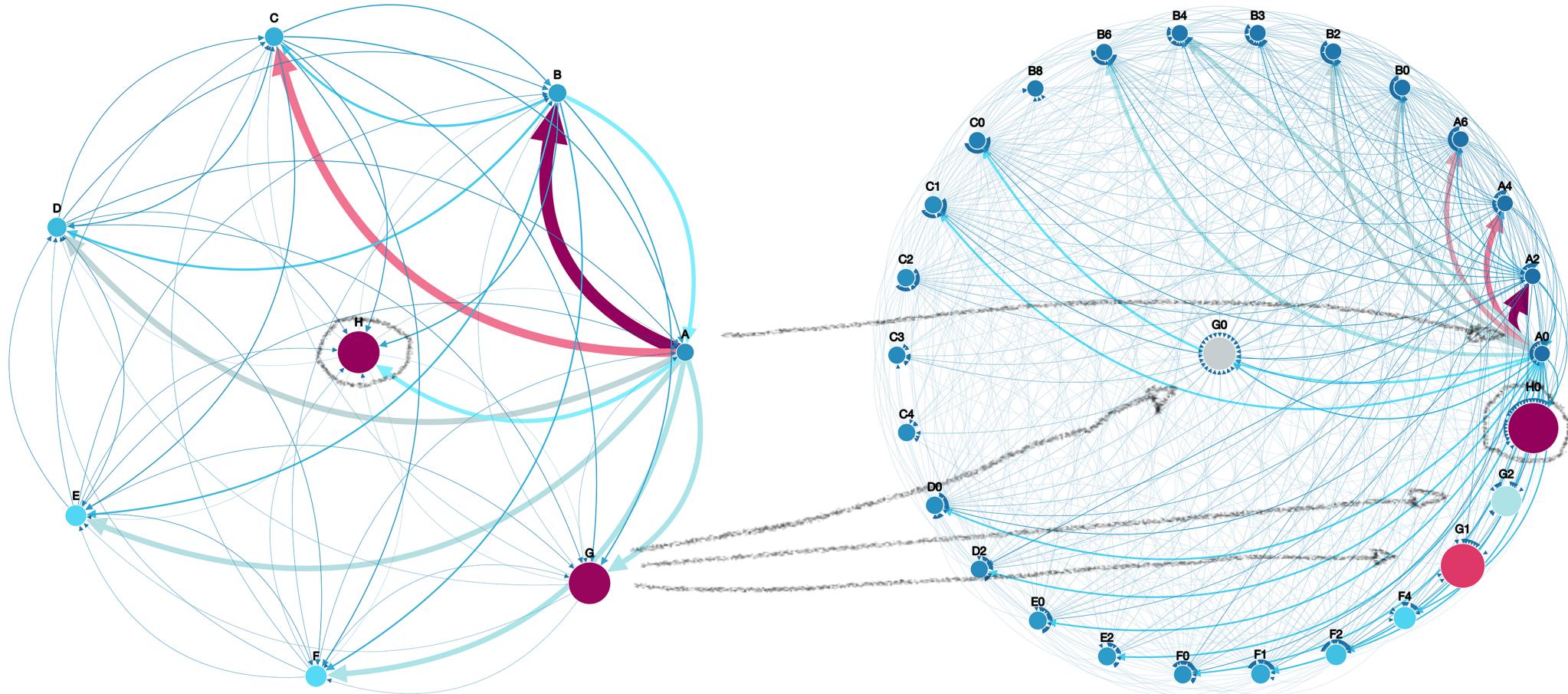


Fig. 5: Normalised network of IPC citations at a precision of a single character (left) and two characters (right).

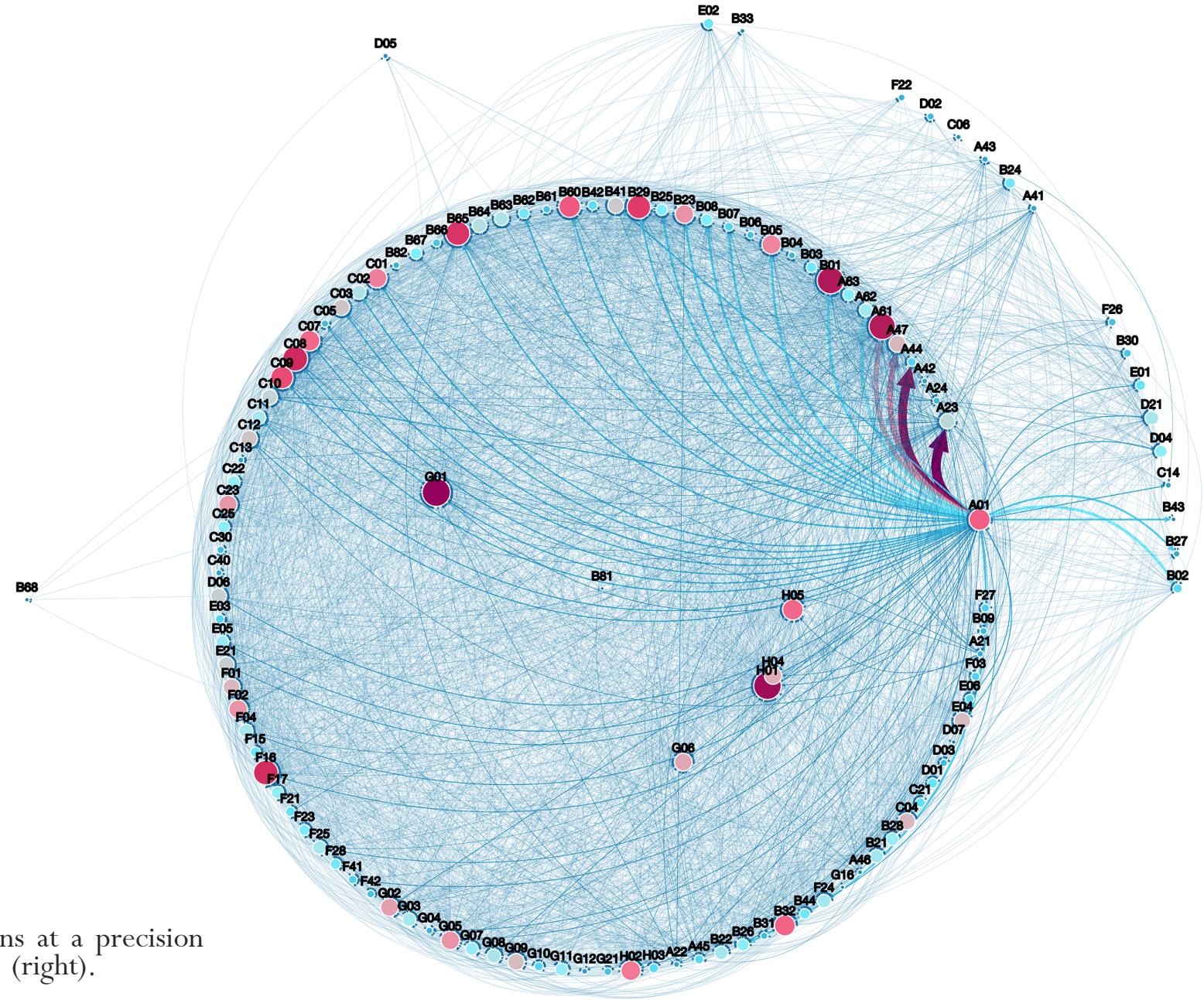


Fig. 6: Un-normalised network of IPC citations at a precision of a single character (left) and two characters (right).

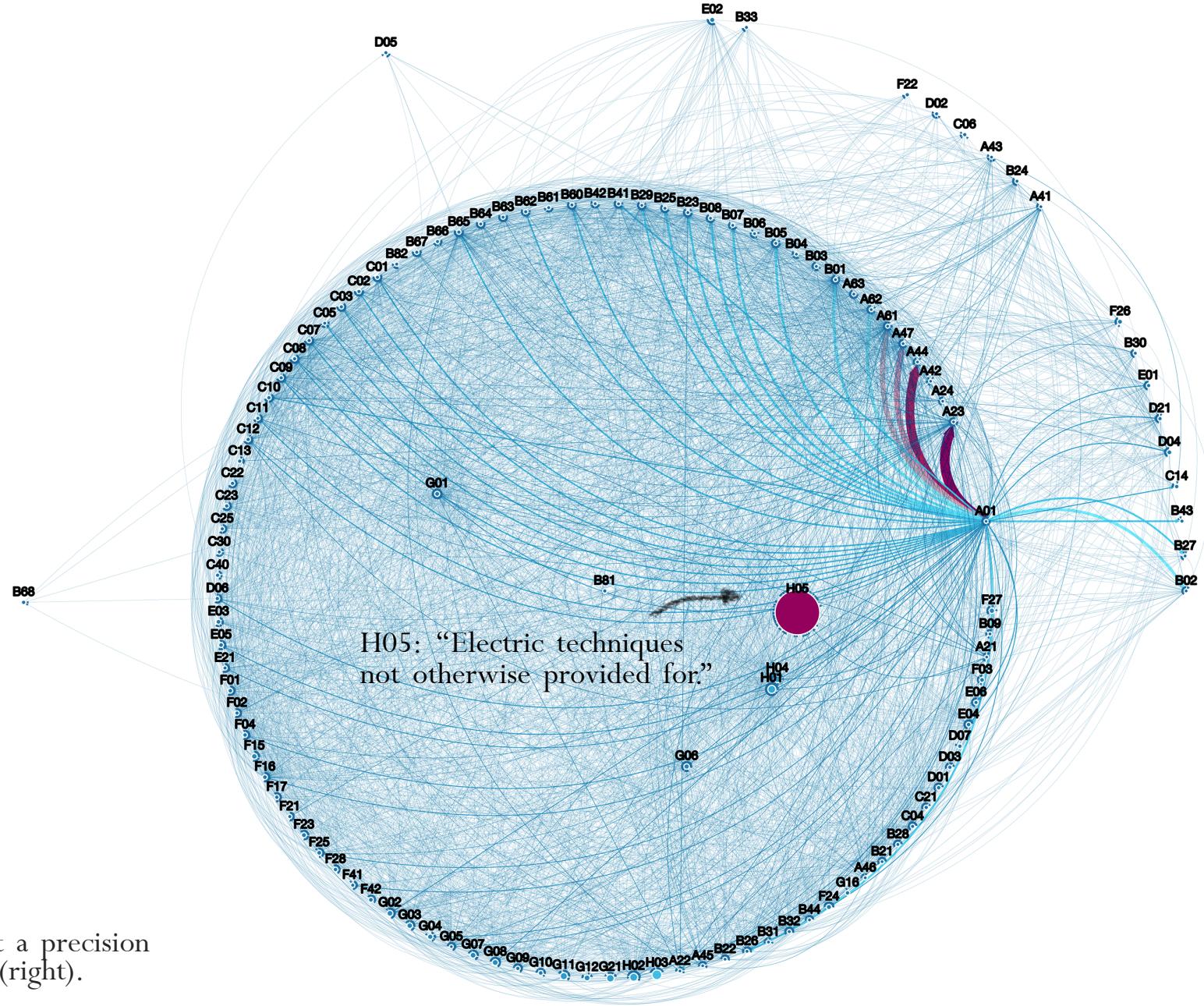


Fig. 7: Normalised network of IPC citations at a precision of a single character (left) and two characters (right).

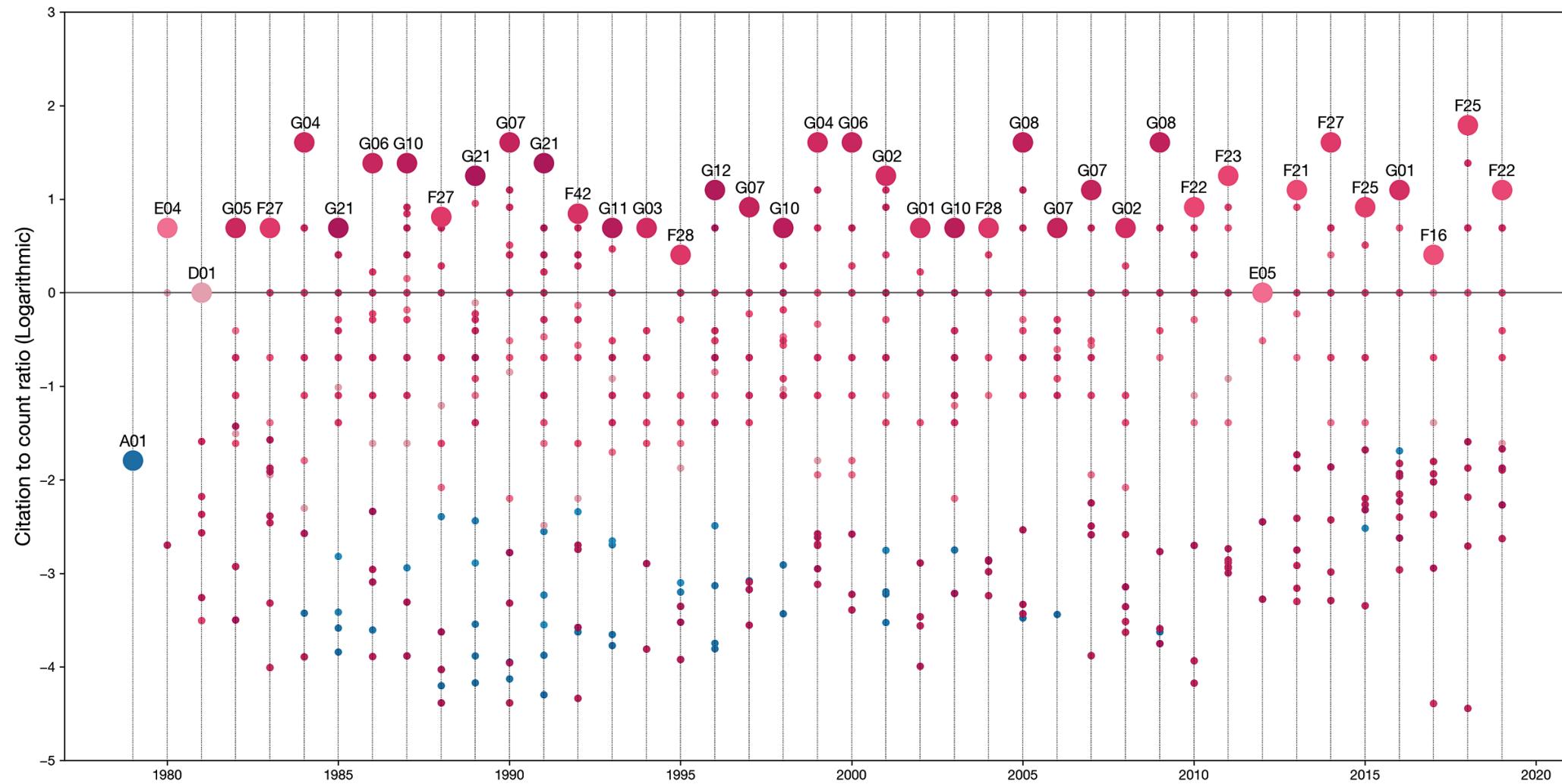


Fig. 8: Normalised IPC citation counts within the same year

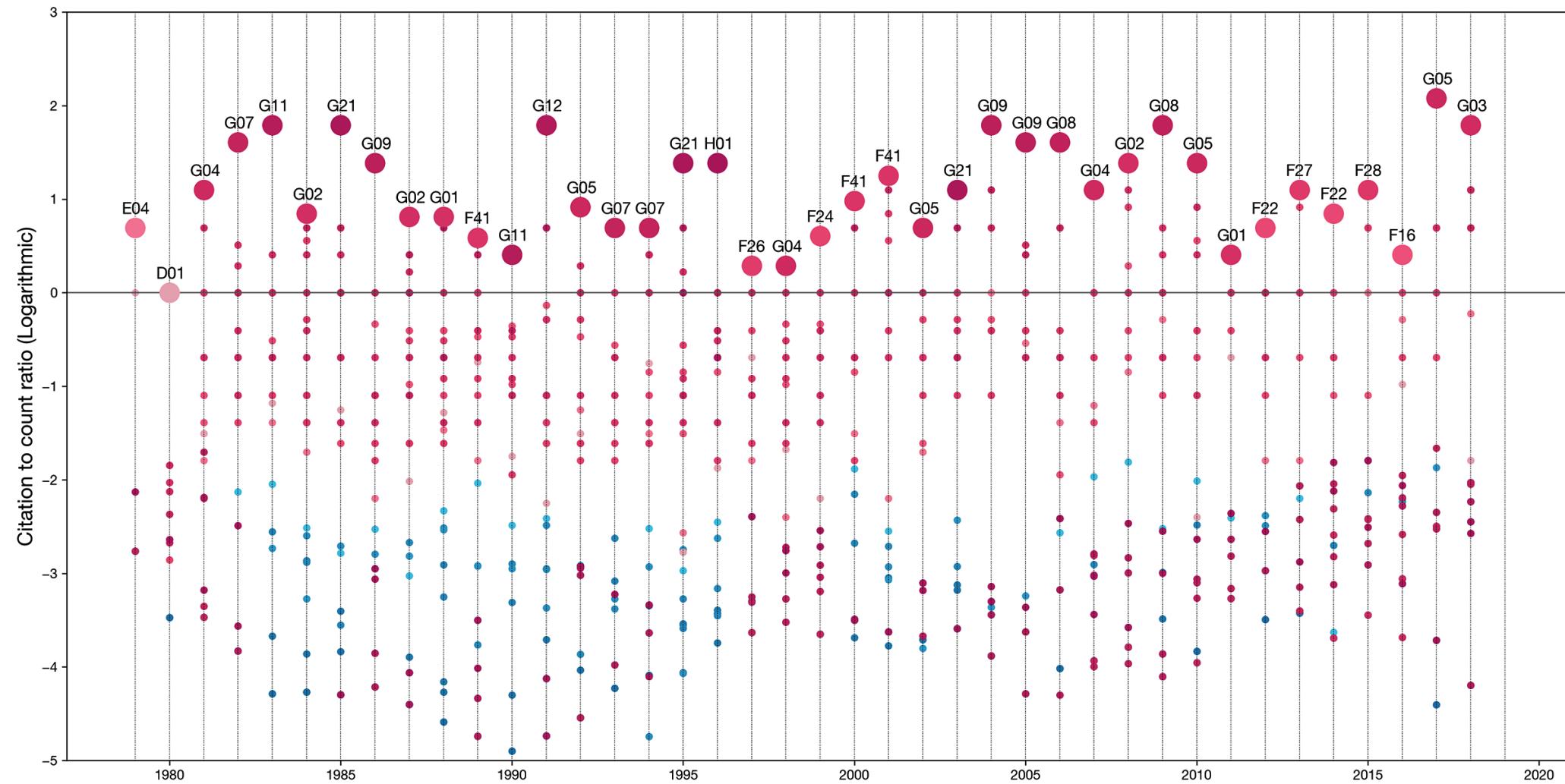


Fig. 9: Normalised IPC citation counts within the previous two years



Fig. 10: Normalised IPC citation counts within the previous three years

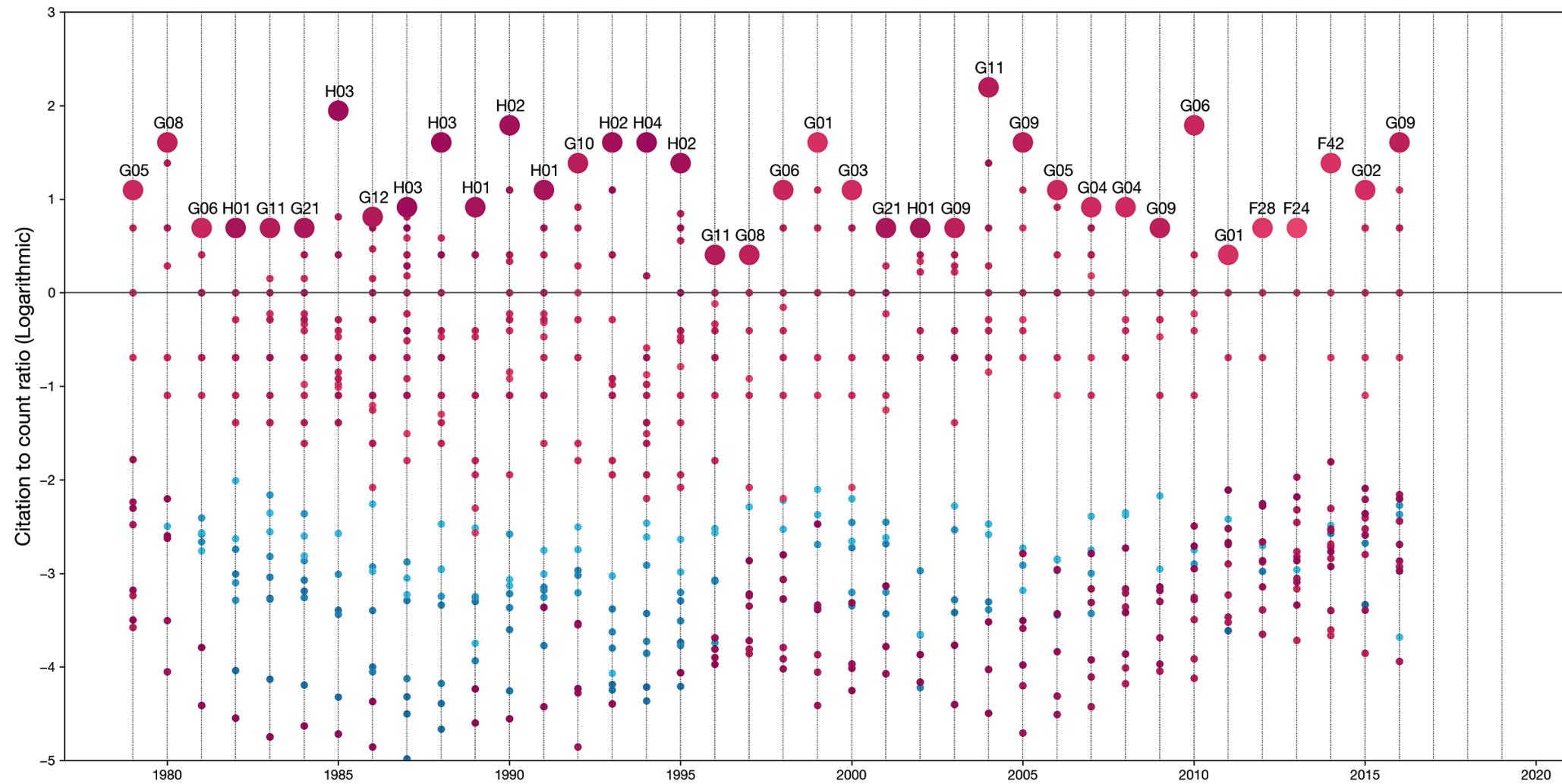


Fig. 11: Normalised IPC citation counts within the previous four years

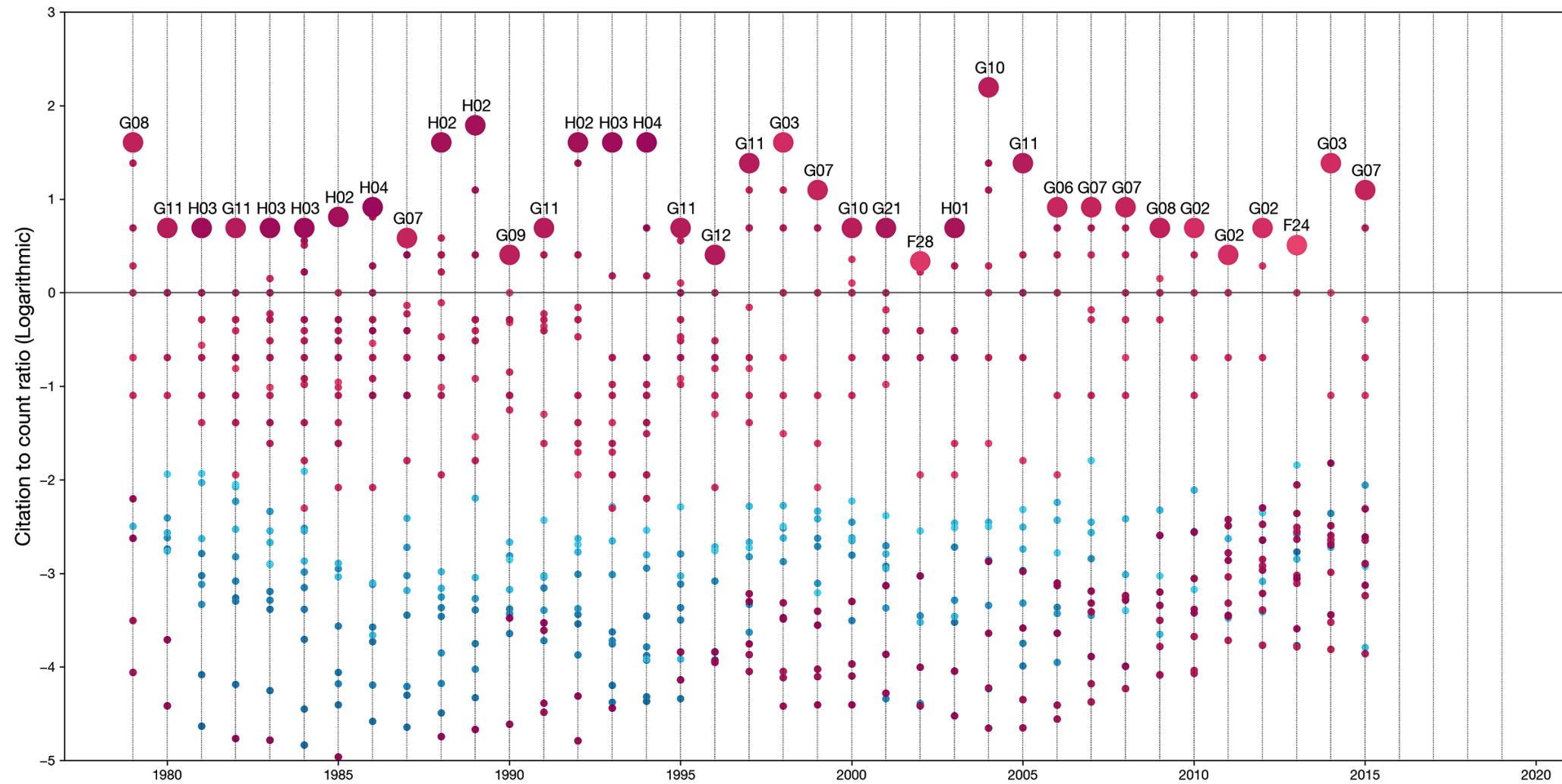
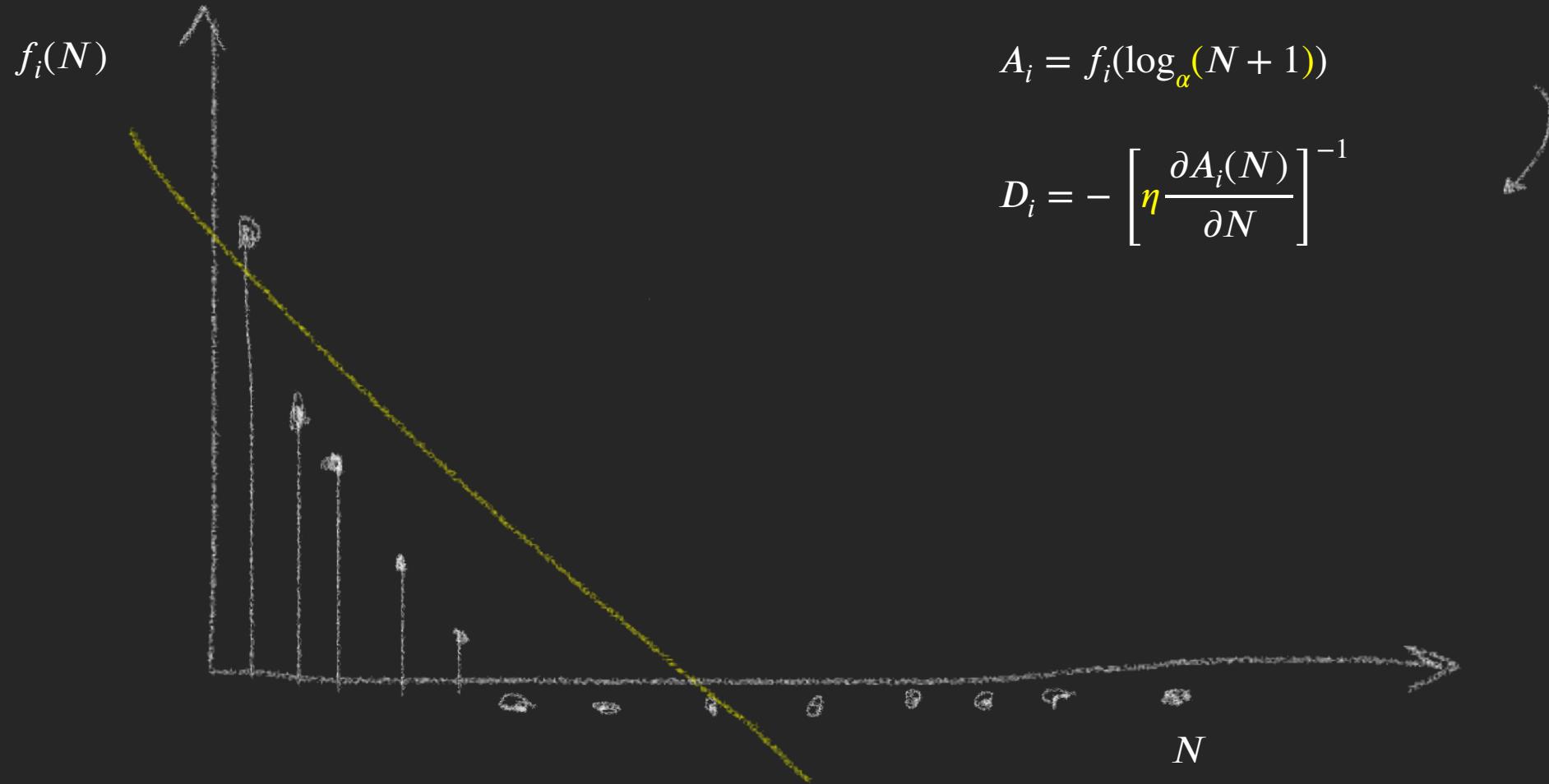


Fig. 12: Normalised IPC citation counts within the previous five years



IPC	Diversity Measure (D_i)	Description
A61	5.01	Medical or veterinary science; hygiene
C08	4.87	Organic macromolecular compounds; their preparation or chemical working-up; compositions based thereon
C07	4.76	Organic chemistry
G01	4.72	Measuring; testing
B01	4.64	Physical or chemical processes or apparatus in general
C09	4.59	Dyes; paints; polishes; natural resins; adhesives; compositions not otherwise provided for; applications of materials not otherwise provided for
H01	4.43	Electric elements
F16	4.17	Engineering elements or units; general measures for producing and maintaining effective functioning of machines or installations; thermal insulation in general
B65	3.84	Conveying; packing; storing; handling thin or filamentary material
G02	3.51	Optics

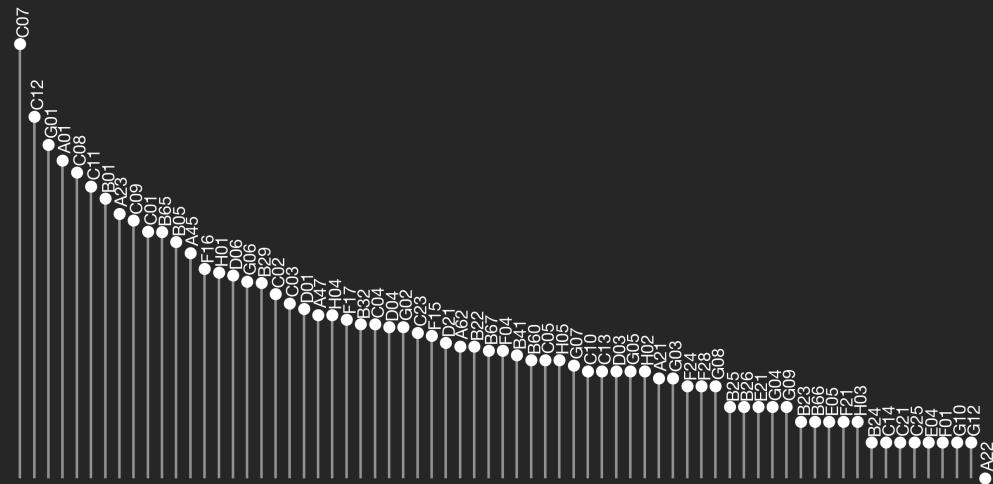


Fig. 13: Relative logarithmic diversity distribution for IPC A61

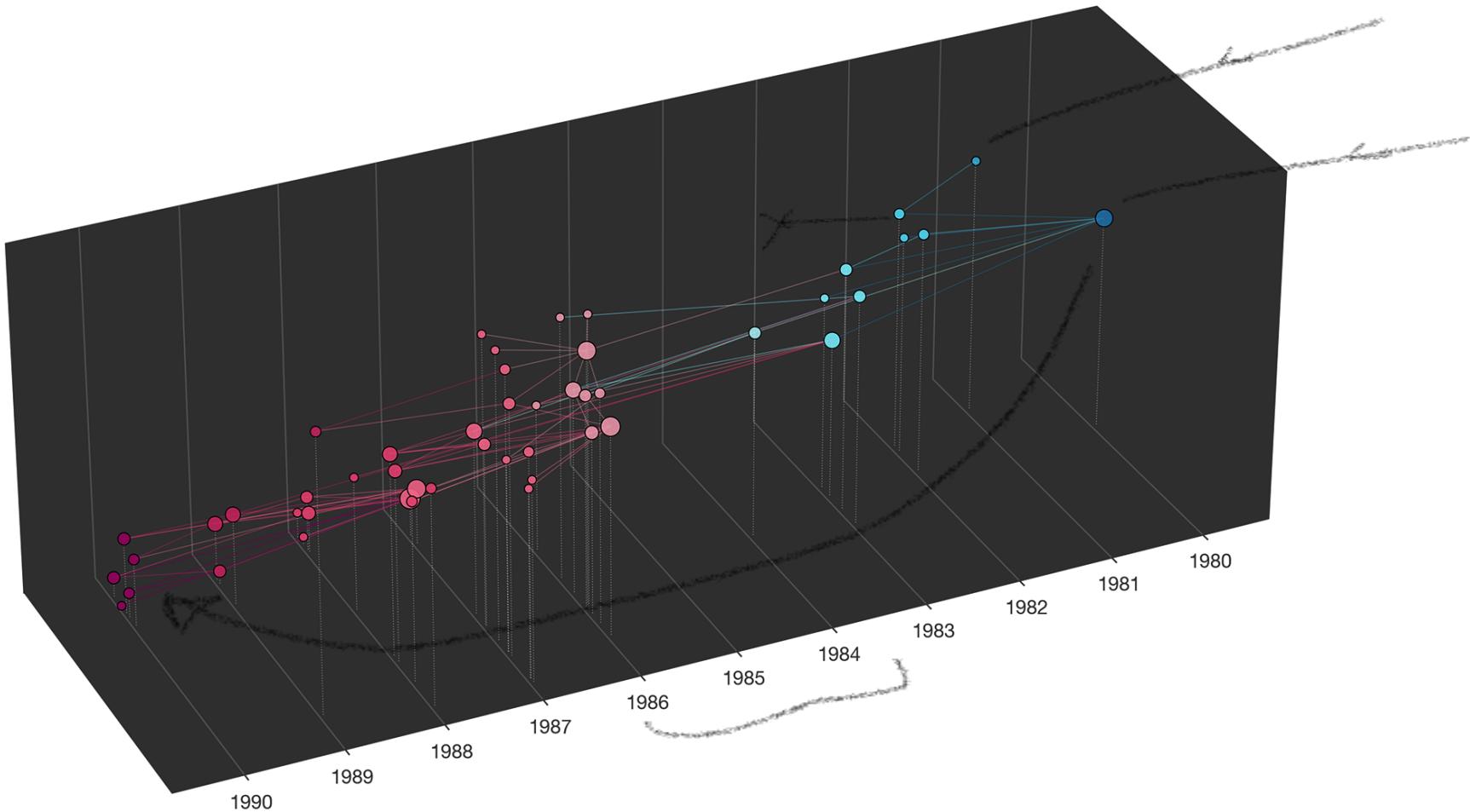


Fig. 14: A connected component of patent citations

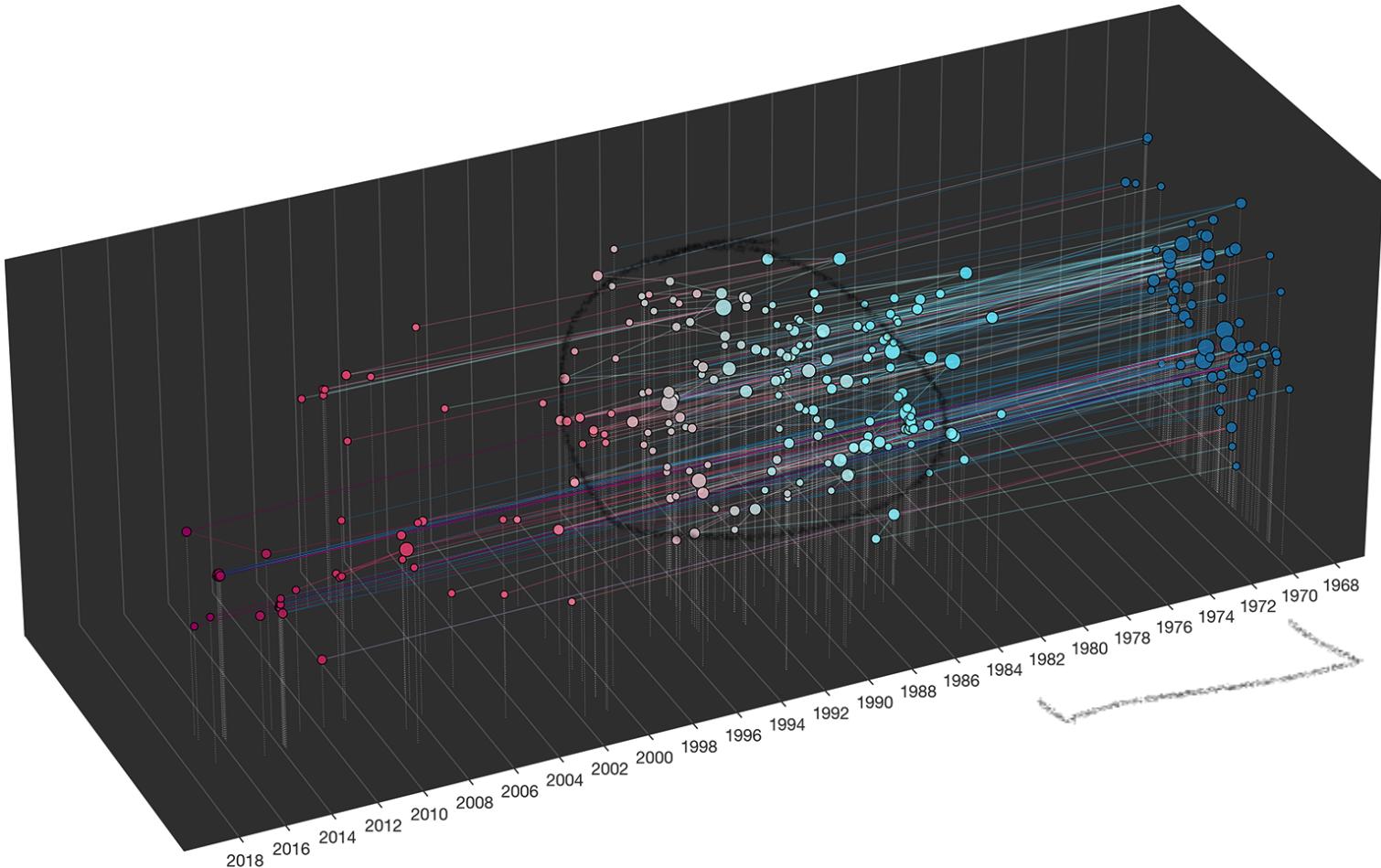


Fig. 14: Another large connected component of patent citations

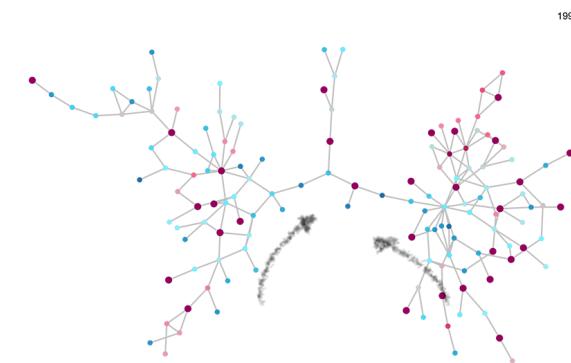
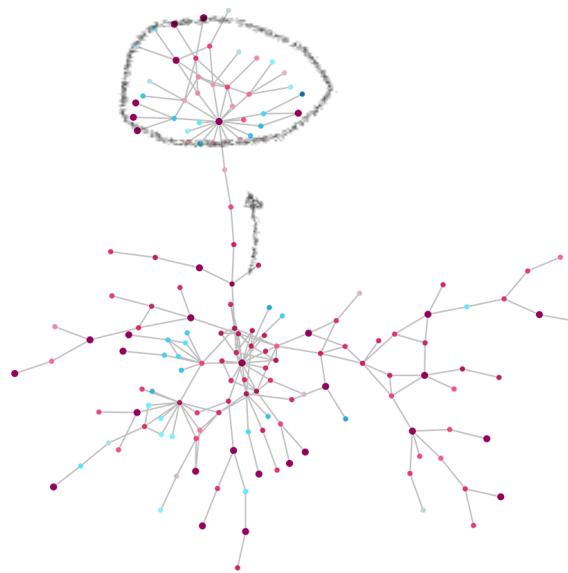
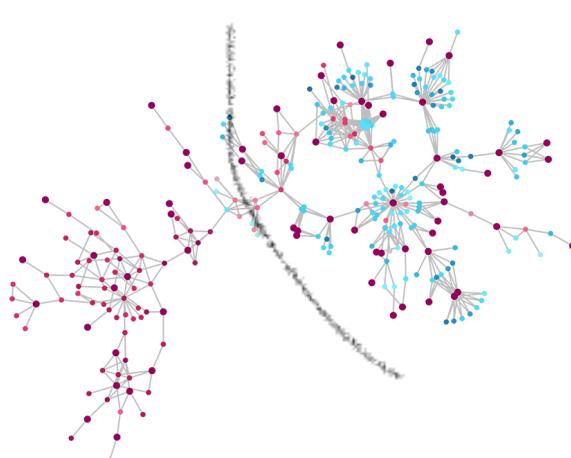
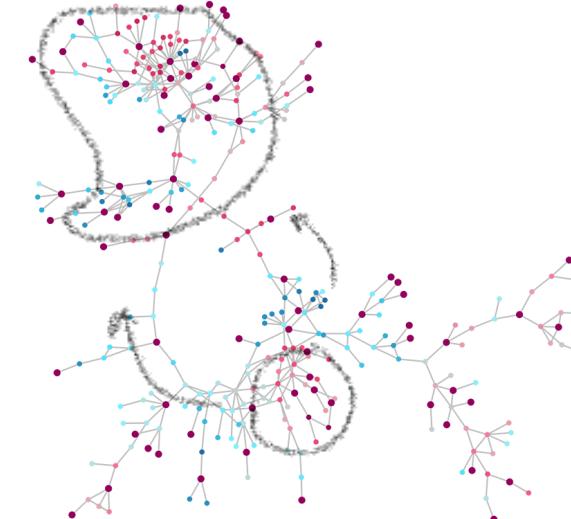
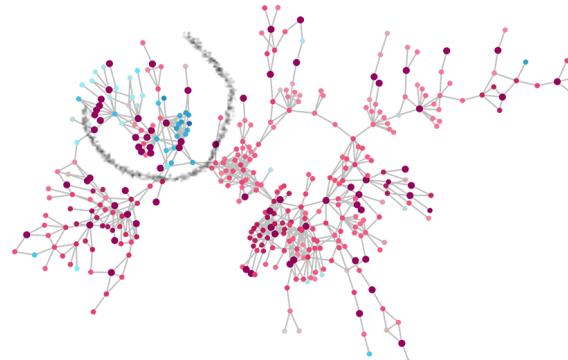
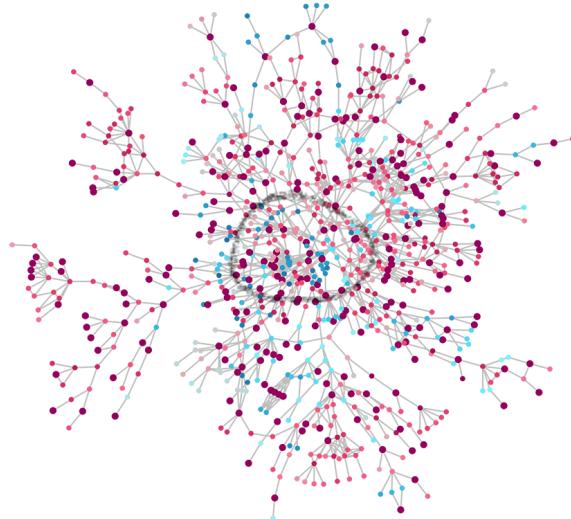
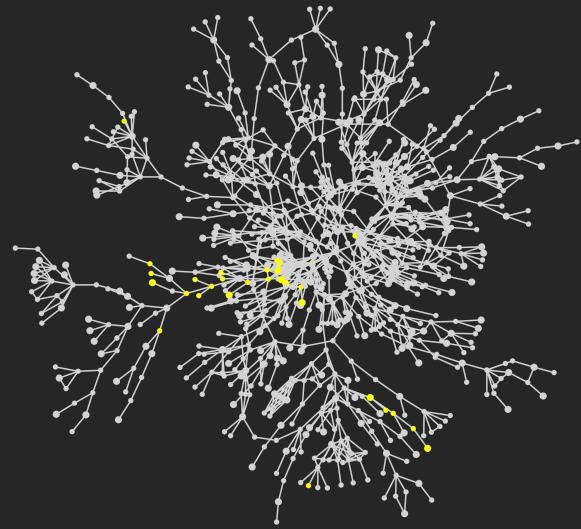
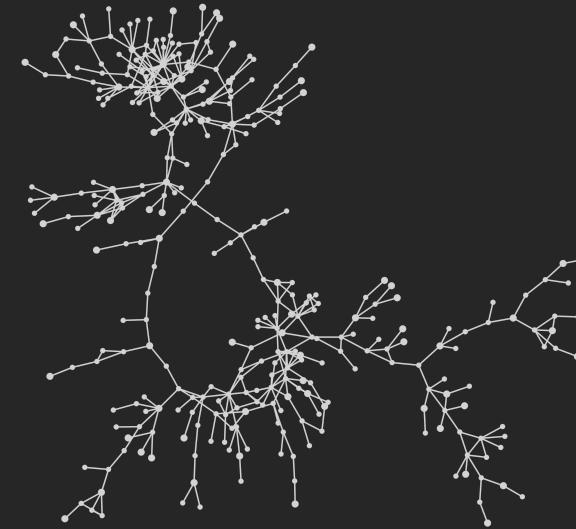


Fig. 15: Largest connected components of patents

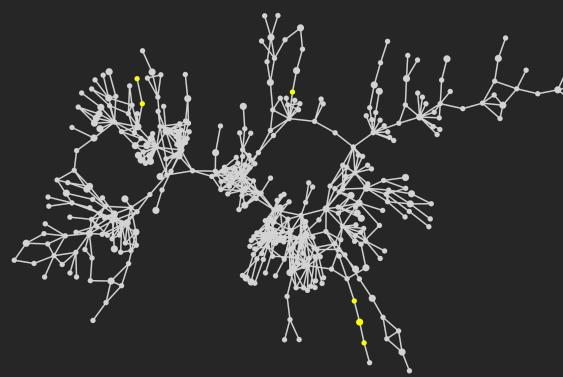
1980 – 2019



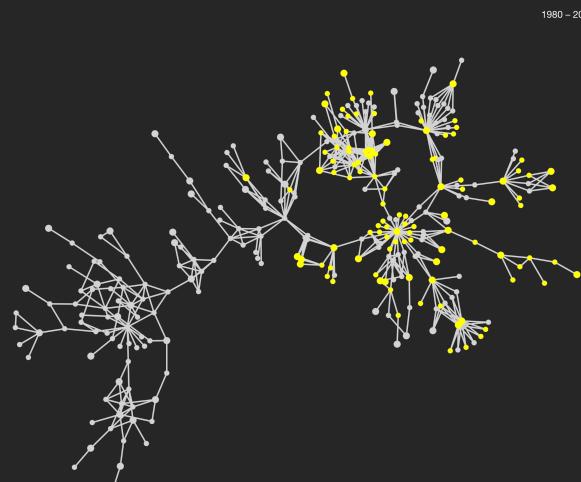
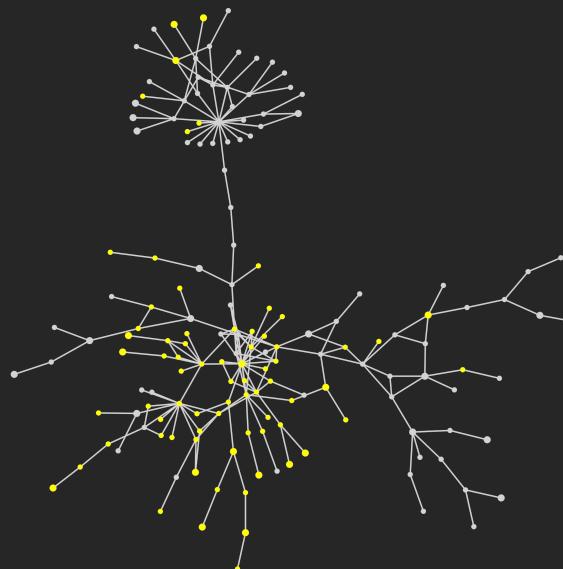
1980 – 2019



1980 – 2015



1982 – 2016



1990 – 2019

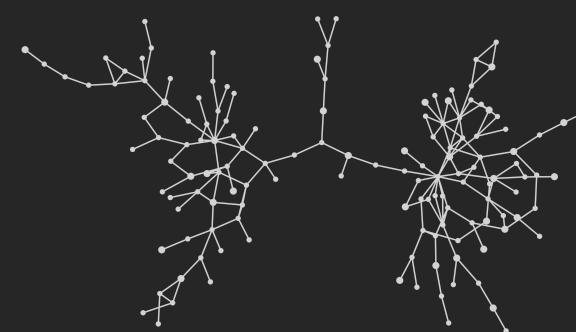


Fig. 16: Highlighted biotechnology patents.

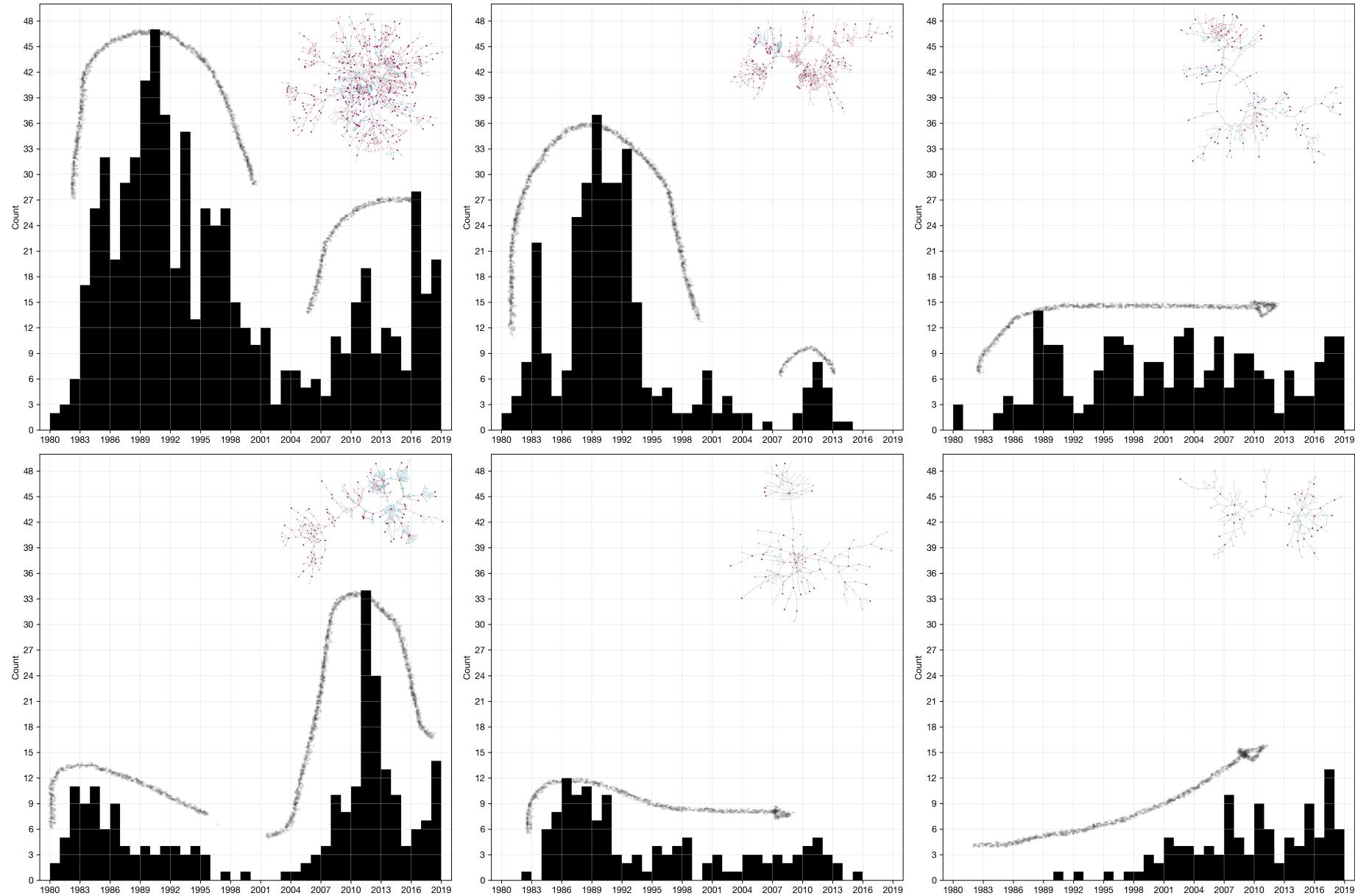
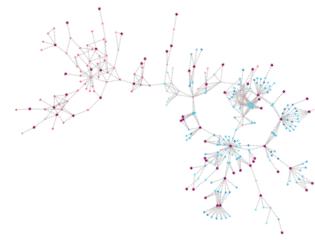


Fig. 17: Patent count evolution for each component



Biotechnology



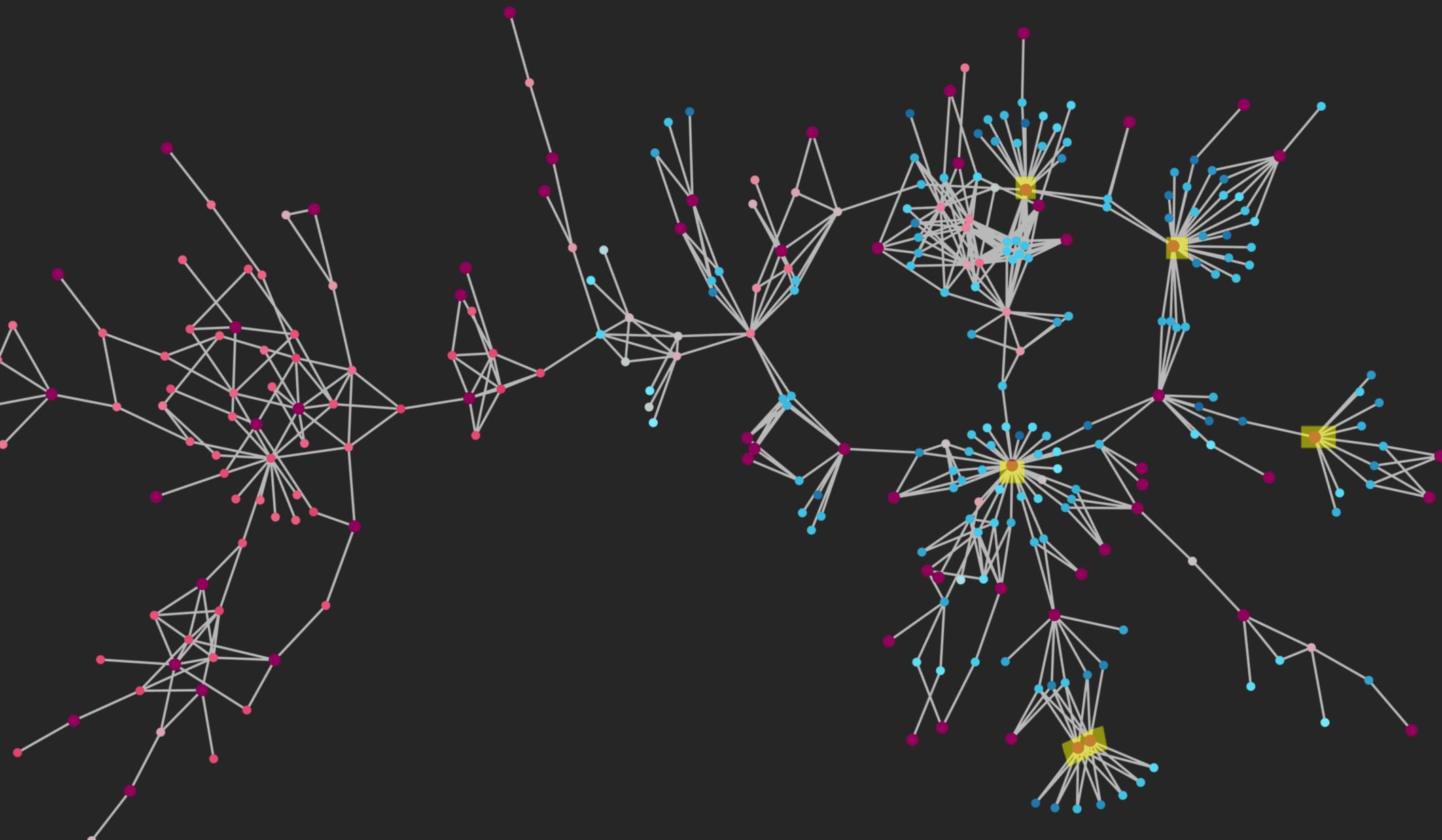


Fig. 18: Largest connected component containing the most amount of biotechnological patents