

Supplementary Materials

Table S1: Summary of connected component sizes

| Statistic | Value |
|-----------------------------|----------------------|
| Max size | 13,873 |
| Min size | 2 |
| Mean size | 5.50 |
| Median size | 2.0 |
| Component Size Distribution | |
| Component Size | Number of Components |
| 13,873 | 1 |
| 53 | 1 |
| 35 | 1 |
| 34 | 1 |
| 33 | 1 |
| 30 | 1 |
| 27 | 1 |
| 24 | 1 |
| 23 | 2 |
| 22 | 1 |
| 21 | 1 |
| 20 | 4 |
| 19 | 1 |
| 18 | 4 |
| 17 | 6 |
| 16 | 4 |
| 15 | 8 |
| 14 | 7 |
| 13 | 12 |
| 12 | 12 |
| 11 | 17 |
| 10 | 33 |
| 9 | 27 |
| 8 | 48 |
| 7 | 75 |
| 6 | 117 |
| 5 | 212 |
| 4 | 383 |
| 3 | 1115 |
| 2 | 3383 |

Table S2: Top 10 representative PIs in each cluster based on normalized degree

| Cluster | Top Ten PIs (Normalized Degrees) |
|---------|--|
| C0 | RAMACHANDRAN, VASAN S (6.30) SESHADRI, SUDHA (6.30) MESCHIA, JAMES F (5.04) GERSZTEN, ROBERT E (5.04) HOWARD, GEORGE (4.61) BRODERICK, JOSEPH PAUL (4.19) PSATY, BRUCE M (4.19) PERREIRA, KRISTA M (3.77) KOTTON, DARRELL N. (3.35) SACCO, RALPH L. (3.35) |
| C1 | SCAMPAVIA, LOUIS DANIEL (8.80) NDHLOVU, LISHOMWA C (7.27) HORVATH, TAMAS L (5.24) SPRINGER, SANDRA ANN (4.73) ROSENBERG, PAUL B (4.73) CARRICO, ADAM WAYNE (4.73) BUCH, SHILPA J. (3.71) IWASAKI, AKIKO (3.71) MIMIAGA, MATTHEW JAMES (3.21) SALTZMAN, W. MARK (3.21) |
| C2 | MADABHUSHI, ANANT (7.68) OGEDEGBE, OLUGBENGA G. (5.30) MASON, CHRISTOPHER EDWARD (4.82) NIZET, VICTOR (4.82) WANG, GE (4.82) HOU, LIFANG (4.35) EZECHI, OLIVER CHUKWUJEKWU (3.87) NAVAS-ACIEN, ANA (3.87) LARIN, KIRILL V (3.87) ALCAIDE, MARIA LUISA (3.87) |
| C3 | GRAY, NATHANAEL SCHIANDER (6.32) WILSON, DAVID M (5.30) LIN, HENING (4.78) WU, HAO (4.27) FELDMAN, EVA LUCILLE (4.27) WANG, YI (4.27) SUH, YOUSIN (4.27) CHENG, FEIXIONG (3.76) YU, HAIYUAN (3.76) KARCZMAR, GREGORY S. (3.24) |
| C4 | XU, XIANGMIN (6.88) YEO, EUGENE WEI-MING (5.97) REN, BING (5.51) MILLER, LEE (5.51) GOLSHANI, PEYMAN (3.68) CALHOUN, VINCE D (3.68) ZHANG, KUN (3.68) CHEN, HONG (3.68) WANG, LEI (3.23) XING, YI (3.23) |
| C5 | ZHANG, RONG (5.86) BINDER, ELLEN F (5.86) IRIMIA, DANIEL (4.41) STEINBACH, WILLIAM J (4.41) BATRA, SURINDER K. (4.41) MARIUZZA, ROY A (3.92) BURNS, JEFFREY MURRAY (3.44) SEGRE, DANIEL (3.44) DEWHIRST, FLOYD E (3.44) LI, WEI (3.44) |

| Cluster | Top Ten PIs (Normalized Degrees) |
|---------|--|
| C6 | BOOKHEIMER, SUSAN Y (5.93) BARCH, DEANNA (5.93) VAN ESSEN, DAVID C (5.12) BENOS, PANAGIOTIS V (4.72) BUCKNER, RANDY L (4.32) AMBALAVANAN, NAMASIVAYAM (4.32) SMITH, STEPHEN MARK (3.92) HEWITT, JOHN K. (3.92) DAPRETTO, MIRELLA (3.92) UGURBIL, KAMIL (3.52) |
| C7 | CHUNG, WENDY K (7.21) KIZER, JORGE R (6.19) HOROWITZ, CAROL R (4.15) NEEDHAM, DALE MURRAY (3.64) HOUGH, CATHERINE LEE (3.64) KRITCHEVSKY, STEPHEN B. (3.64) NEWMAN, ANNE B. (3.13) WAPNER, RONALD (3.13) IX, JOACHIM H (3.13) WENG, CHUNHUA (3.13) |
| C8 | POWERS, ALVIN C (8.78) KIM, SEUNG K (5.02) KOENEN, KARESTAN C (5.02) RESSLER, KERRY J. (4.34) THOMPSON, PAUL M (4.34) NEALE, BENJAMIN MICHAEL (4.00) SUNYAEV, SHAMIL (4.00) MACDONALD, PATRICK (3.66) BRISSOVA, MARCELA (3.66) ATKINSON, MARK A. (3.66) |
| C9 | PERICAK-VANCE, MARGARET A. (7.75) HAROUTUNIAN, VAHRAM (5.61) ROUSSOS, PANAGIOTIS (5.61) BLANGERO, JOHN (5.61) SHEPARD, KENNETH L (4.90) ZHANG, BIN (4.54) HAINES, JONATHAN L (4.19) SCHADT, ERIC E (4.19) LOIS, CARLOS (4.19) SESTAN, NENAD (3.47) |
| C10 | KENNY, EIMEAR ELIZABETH (6.52) EICHLER, EVAN (5.28) CLARK, ANDREW G (4.87) MCCARTHY, MARK IAN (4.46) WANG, TING (4.46) GESCHWIND, DANIEL H (4.05) MONTINE, THOMAS J (3.64) LIPTON, RICHARD B. (3.23) FREIMER, NELSON B. (3.23) DABELEA, DANA (3.23) |
| C11 | DEBAUN, MICHAEL R. (7.19) WEISS, MITCHELL J (4.81) SNYDER, MICHAEL P. (4.33) STEIN, LINCOLN D. (3.86) STAMER, W DANIEL (3.86) TRAYANOVA, NATALIA A. (3.86) SEEWALDT, VICTORIA L. (3.86) WU, JOSEPH C. (3.86) KHADEMHOSEINI, ALI (3.38) BLOBEL, GERD A (3.38) |

| Cluster | Top Ten PIs (Normalized Degrees) |
|---------|---|
| C12 | LI, DEBIAO (7.05) ZHANG, JIANYI (4.70) LENBURG, MARC ELLIOTT (4.70) LEIN, PAMELA J (4.70) SPIRA, AVRUM E (4.70) ABERLE, DENISE R. (4.23) ORALKAN, OMER (3.76) PAGE, JR., C DAVID (2.82) SHIM, HYUNSUK (2.82) WONG, DAVID T (2.82) |
| C13 | WOODRUFF, PRESCOTT G (5.68) WENZEL, SALLY E (5.68) LEVY, BRUCE D (4.86) HOFFMAN, ERIC ALFRED (4.46) CASTRO, MARIO (4.46) ISRAEL, ELLIOT (4.46) MEYERS, DEBORAH A. (4.46) DENLINGER, LOREN C (4.05) MAUGER, DAVID T. (4.05) COMHAIR, SUZY (4.05) |
| C14 | PLEVRITIS, SYLVIA KATINA (6.06) DE KONING, HARRY J (6.06) MANDELBLATT, JEANNE (5.34) TEMKIN, NANCY R (4.97) KONG, CHUNG YIN (4.61) HAAS, JENNIFER S (3.88) JIANG, XIAOQIAN (3.51) BIAN, JIANG (3.15) REIMAN, ERIC MICHAEL (3.15) DIAZ-ARRASTIA, RAMON (3.15) |
| C15 | ELLISMAN, MARK H (5.62) DICKERSON, BRADFORD C. (5.24) LIANGPUNSAKUL, SUTHAT (5.24) SEUNG, HYUNJUNE SEBASTIAN (4.86) FOROUD, TATIANA M. (4.86) EDEN, URI TZVI (4.48) JOHNSON, STERLING C (3.71) KARN, JONATHAN (3.33) CHEN, WEI (3.33) KRAMER, MARK ALAN (3.33) |
| C16 | FIGUEIREDO, JANE C. (6.76) LE MARCHAND, LOIC (5.16) HAIMAN, CHRISTOPHER ALAN (4.77) NORTH, KARI E. (4.37) CONWELL, DARWIN LEWIS (3.97) ULRICH, CORNELIA M (3.97) BELLIN, MELENA D. (3.97) LI, CHRISTOPHER I (3.57) STEEN, HANNO (3.57) HART, PHILIP A. (3.57) |
| C17 | LEWIS, JASON S. (6.40) SHAW, DANIEL S (5.35) TERRY, MARY BETH (4.83) GENNARO, MARIA LAURA (4.30) FAYAD, ZAHY A. (3.78) GUO, PEIXUAN (3.78) CANINO, GLORISA J (3.25) MONK, CATHERINE E (3.25) BRITTON, ROBERT A (3.25) ROCKNE, RUSSELL CHRISTIAN (3.25) |

| Cluster | Top Ten PIs (Normalized Degrees) |
|---------|--|
| C18 | DIAMOND, MICHAEL S (8.77) LI, JUN (4.21) FREMONT, DAVED H. (3.20) VAN VOORHIS, WESLEY C (3.20) STAPPENBECK, THADDEUS S (3.20) GARCIA-SASTRE, ADOLFO (2.69) DANTAS, GAUTAM (2.69) XAVIER, RAMNIK J (2.69) PADMANABHAN, VASANTHA (2.69) WANG, YONG (2.19) |

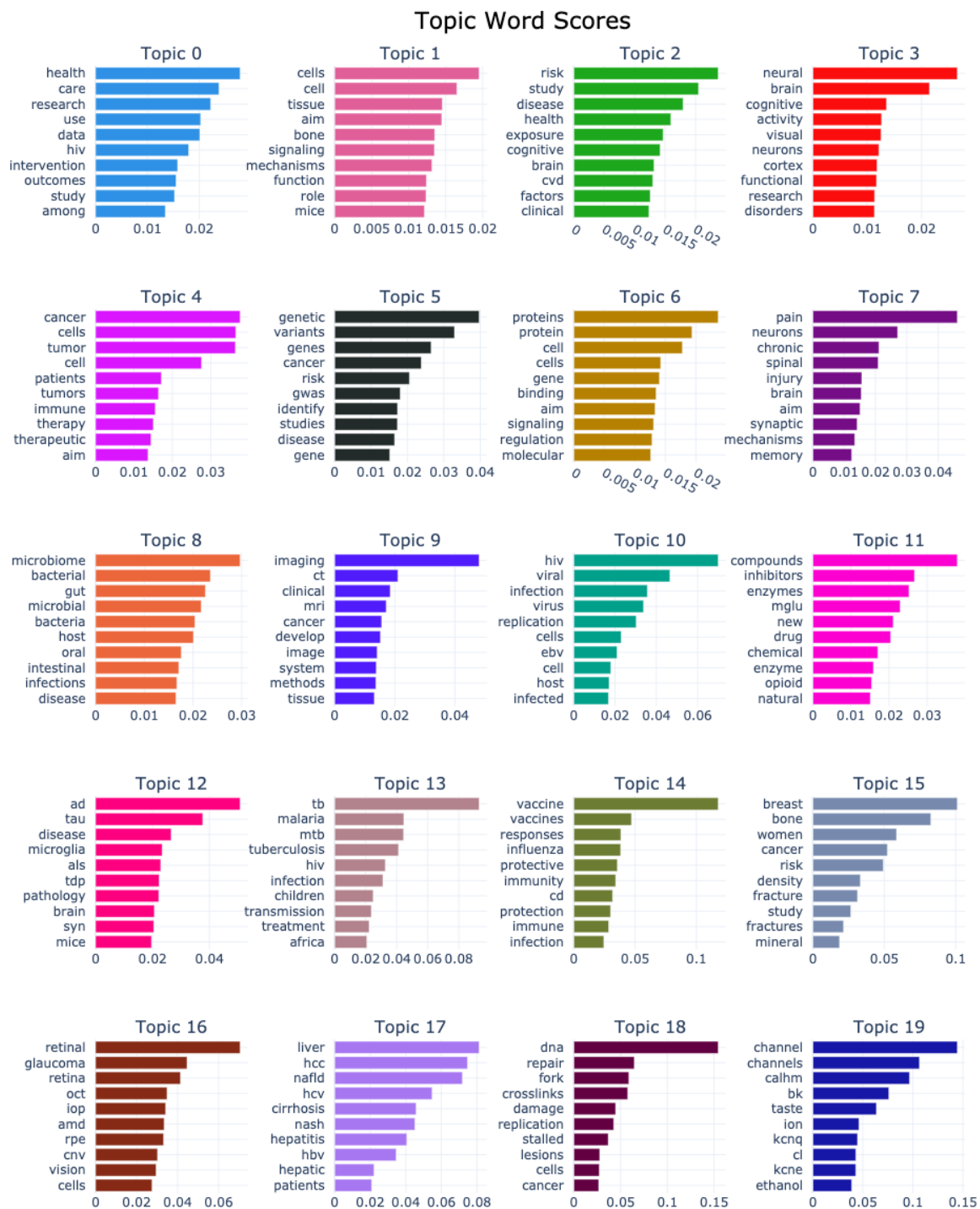


Figure S1: Topic modeling

Similarity Matrix

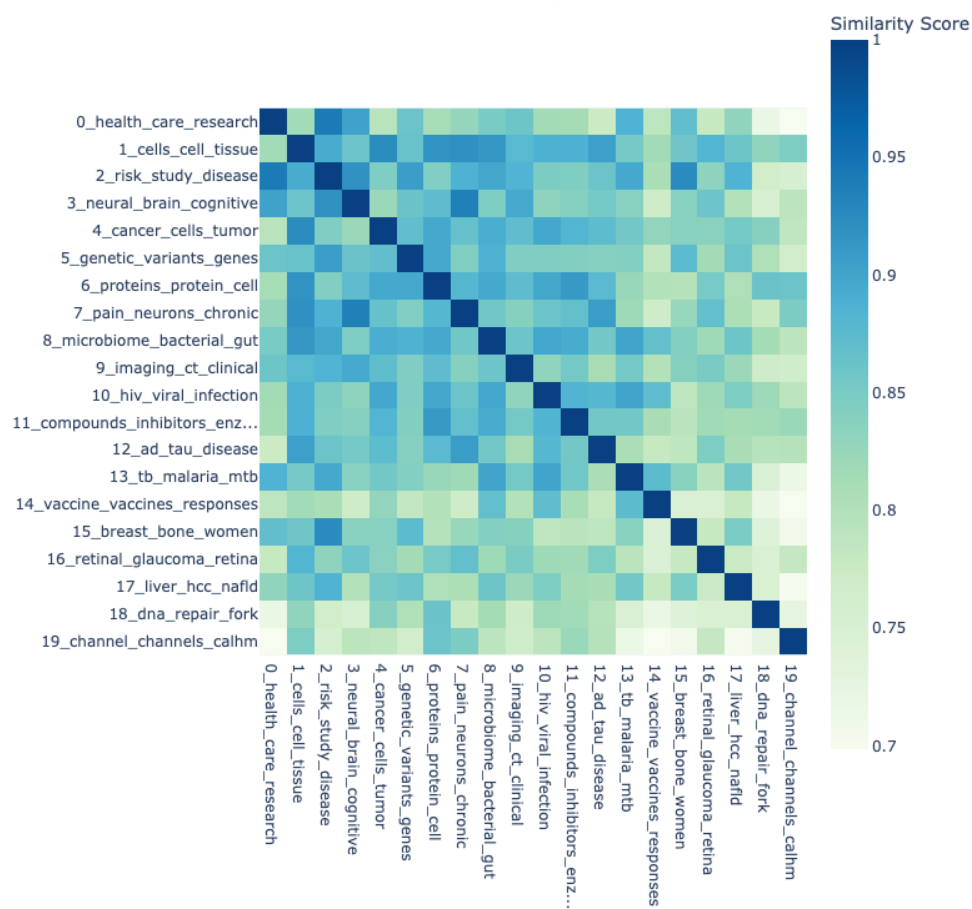


Figure S2: Similarity Matrix

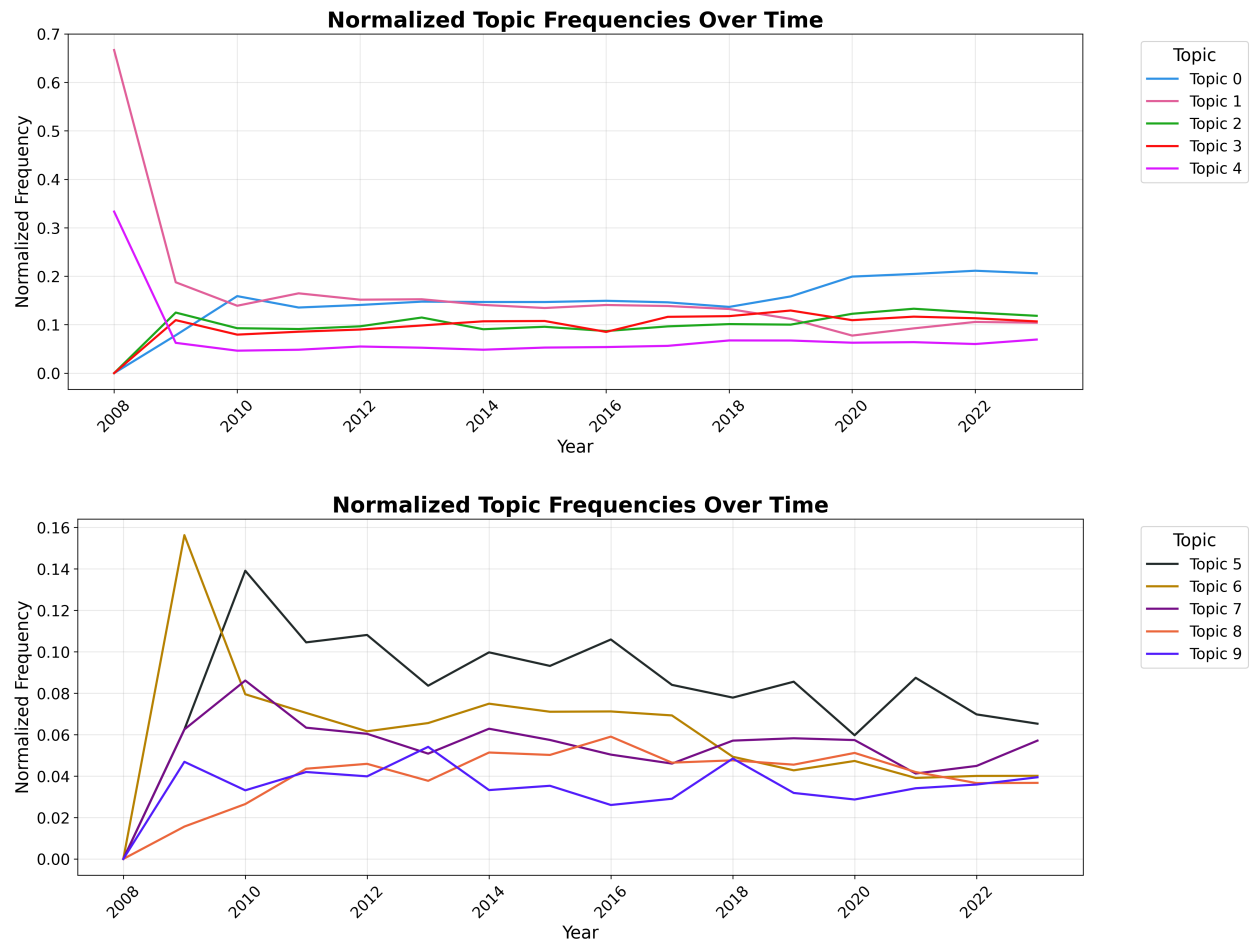


Figure S3: Dynamic Topic Modeling: Topics 0–9

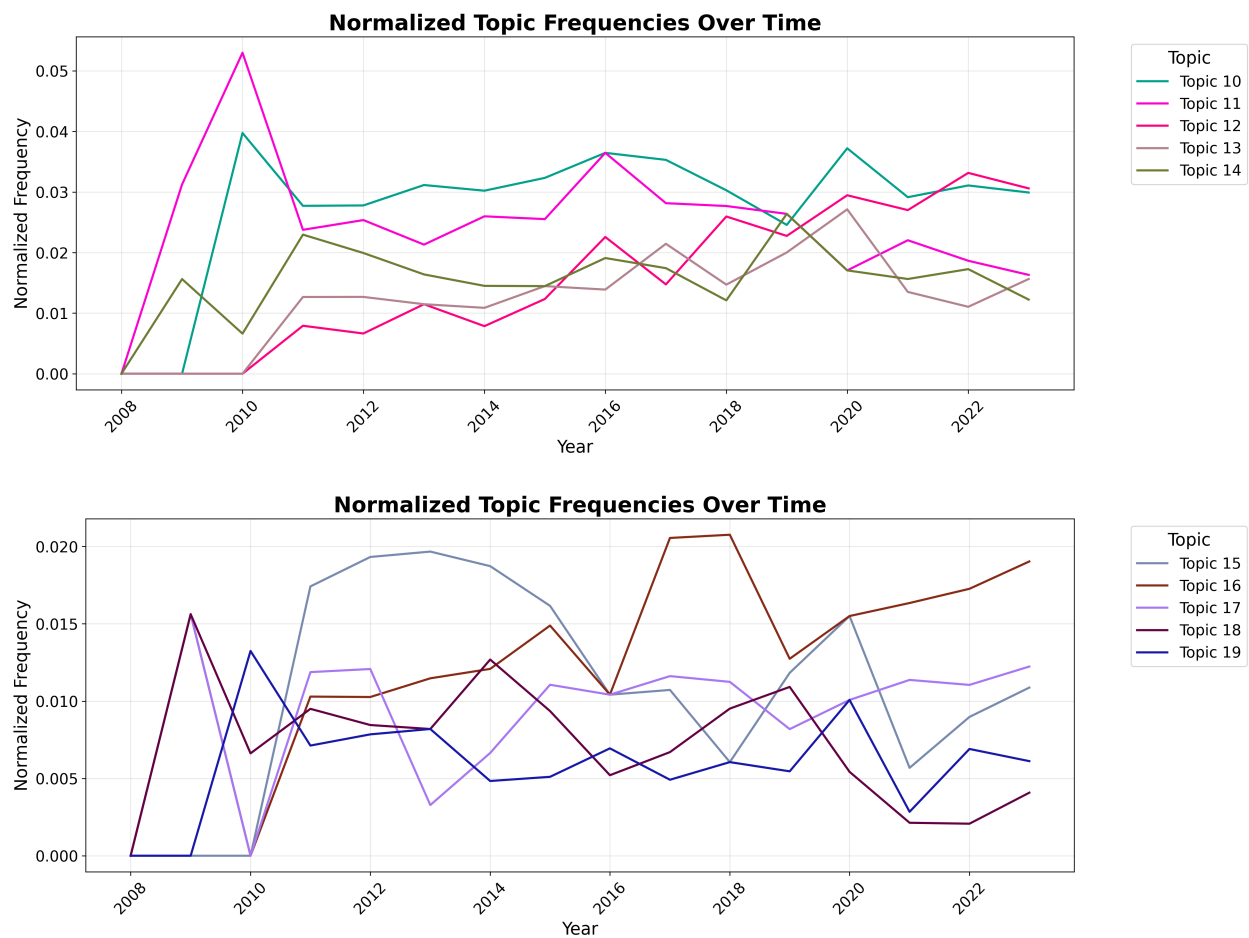


Figure S4: Dynamic Topic Modeling: Topics 10–19