

CCA and RCA Analysis

Contents

1 CCA	1
1.1 Summary	1
1.2 Modules	2
1.2.1 Module 1	3
1.2.1.1 Module 1 - Kamada Kawai Layout - Color - Drop Neg Ties	3
1.2.1.2 Module 1 - Kamada Kawai Layout - Color	5
1.2.1.3 Module 1 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout	8
1.2.1.4 Module 1 - Fruchtername Reingold Layout - Color	9
1.2.2 Module 2	9
1.2.2.1 Module 2 - Kamada Kawai Layout - Color - Drop Neg Ties	9
1.2.2.2 Module 2 - Kamada Kawai Layout - Color	11
1.2.2.3 Module 2 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout	14
1.2.2.4 Module 2 - Fruchtername Reingold Layout - Color	15
1.2.3 Module 3	15
1.2.3.1 Module 3 - Kamada Kawai Layout - Color - Drop Neg Ties	15
1.2.3.2 Module 3 - Kamada Kawai Layout - Color	17
1.2.3.3 Module 3 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout	20
1.2.3.4 Module 3 - Fruchtername Reingold Layout - Color	21
2 RCA	21
2.1 RCA P = 0.05	21
2.2 RCA P = 0.075	22
2.3 RCA P = 0.1	23
2.4 RCA P = 0.25	24
2.5 RCA P = 0.5	25

1 CCA

1.1 Summary

CCA found 3 schematic classes. Sizes: 6947 3553 2304

	Length	Class	Mode
membership	12804	-none-	numeric
modules	3	-none-	list
cormat	163942416	-none-	numeric

1.2 Modules

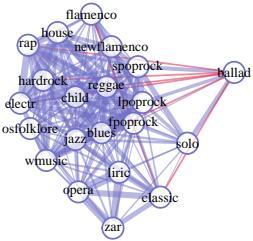
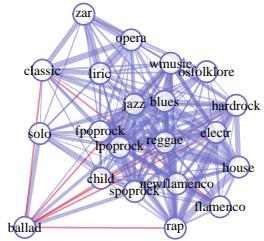
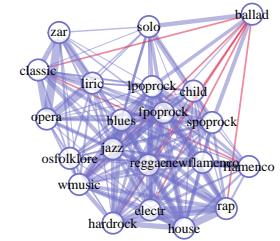
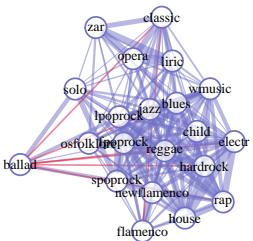
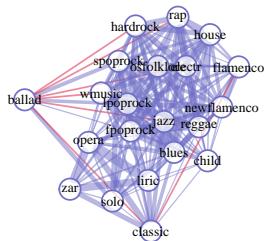
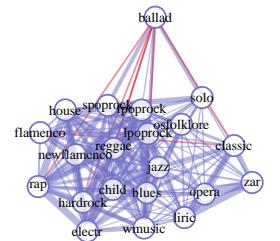
1.2.1 Module 1

1.2.1.1 Module 1 - Kamada Kawai Layout - Color - Drop Neg Ties

for Layout

[,1] [,2]

```
[1.] -0.66636574 2.1032102 [2.] 0.56568440 1.6018740 [3.] 1.07899536 2.3685604 [4.] -0.49057626 2.9991696  
[5.] -0.27136640 2.6468939 [6.] -1.16249429 1.7603270 [7.] 0.02064902 2.4303090 [8.] 0.07106194 2.0432317 [9.]  
-0.02698982 1.8176698 [10.] -0.37847648 1.7144775 [11.] -0.66487532 1.6426772 [12.] -0.98618436 1.4153707  
[13.] -0.32391489 2.2117671 [14.] -1.18532302 2.6627156 [15.] -1.27118984 2.0347541 [16.] -1.02111583  
2.2836495 [17.] -0.86062771 2.7999054 [18.] 0.26728251 1.0175789 [19.] -0.18634524 1.2873921 [20.] -0.63356656  
1.0744830 [21.] -0.25372650 0.6823552 [,1] [,2] [1,] 0.9967087 -0.108431231 [2,] 0.3912571 0.329378049 [3,]  
0.2425646 -0.590165732 [4,] 2.1731574 -0.388447484 [5,] 1.7473694 -0.163526361 [6,] 2.0404748 0.936258711  
[7,] 1.3289292 -0.238216996 [8,] 1.1803613 0.196653051 [9,] 0.9865231 0.349678522 [10,] 1.6253290 0.646778569  
[11,] 1.3248410 0.615558892 [12,] 1.6853388 1.018681417 [13,] 1.6281853 0.243286219 [14,] 1.7305242 -  
0.597002053 [15,] 2.1328638 0.340832288 [16,] 2.3336968 0.606612482 [17,] 2.3574361 0.001486037 [18,]  
0.4179337 0.950759784 [19,] 0.9864350 0.919412105 [20,] 1.2956406 1.247338532 [21,] 0.8266494 1.500080946  
[,1] [,2] [1,] 0.84794894 -1.6999189 [2,] 0.44119722 -1.0662956 [3,] 1.38248364 -0.9443887 [4,] 1.35376547  
-2.4413906 [5,] 0.93023302 -2.4009997 [6,] -0.27816460 -2.3608474 [7,] 1.01757523 -2.0091843 [8,] 0.47135375  
-1.6552103 [9,] 0.57539507 -1.9122310 [10,] 0.19194494 -1.9851449 [11,] 0.11061474 -2.2683416 [12,] -0.19320719  
-2.6179342 [13,] 0.43815527 -2.4272181 [14,] 1.14736340 -2.8551808 [15,] 0.45323422 -2.8684363 [16,] 0.11435180  
-2.9971891 [17,] 0.76266777 -3.0465876 [18,] -0.56707762 -1.4926951 [19,] -0.07340823 -1.6216861 [20,] -  
0.49043032 -1.9749016 [21,] -0.37700155 -1.1248669 [,1] [,2] [1,] -2.343384 -1.5666823 [2,] -3.723131 -1.1223942  
[3,] -4.344117 -1.9141407 [4,] -2.960847 -2.6122134 [5,] -2.850246 -2.2087766 [6,] -3.567342 -1.6907291 [7,]  
-3.252020 -2.0884400 [8,] -3.225978 -1.4132241 [9,] -3.174081 -1.6889350 [10,] -2.576076 -1.2705176 [11,]  
-2.877551 -1.3362668 [12,] -2.196083 -1.1205386 [13,] -2.709076 -1.7707798 [14,] -2.047800 -2.3053277 [15,]  
-1.922133 -1.6736021 [16,] -2.260973 -1.9307340 [17,] -2.480278 -2.4750557 [18,] -2.741856 -0.3700282 [19,]  
-2.623108 -0.8284457 [20,] -3.068050 -0.8045599 [21,] -3.488025 -0.4781586 [,1] [,2] [1,] 1.16487022 0.9695640  
[2,] 0.07467085 0.5647099 [3,] -0.93161260 1.5830996 [4,] 1.52090469 1.9143129 [5,] 1.32653572 1.5103792 [6,]  
0.59552133 1.9213302 [7,] 0.14453096 1.9709638 [8,] 0.24533116 1.5416405 [9,] 0.28119022 1.2690929 [10,]  
0.77960904 1.0545921 [11,] 0.66474283 1.3645109 [12,] -0.05546335 1.6518717 [13,] 1.06605204 1.3119541 [14,]  
0.82482993 2.4139975 [15,] 0.91822884 1.9208165 [16,] 0.33898261 2.3263740 [17,] 1.19351974 2.2389334 [18,]  
0.51539115 0.2615501 [19,] 0.48390961 0.7726562 [20,] -0.20016235 1.1547972 [21,] -0.41324659 0.6836993
```

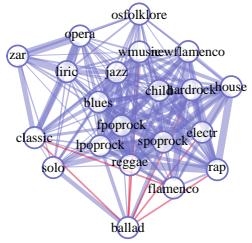
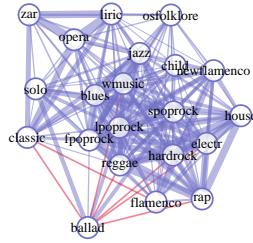
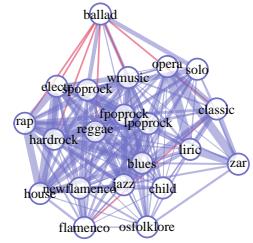
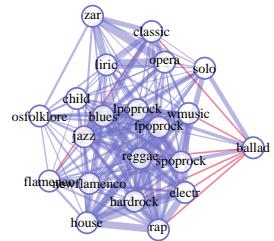
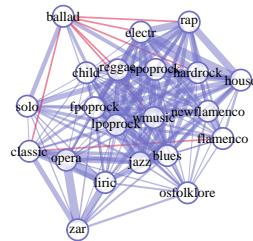
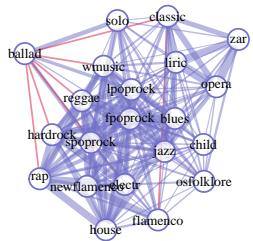
Module #1**Module #1****Module #1****Module #1****Module #1****Module #1**

```
[,1] [,2] [1,] -1.37617134 -1.3224306 [2,] -0.41237723 -0.3204923 [3,] -0.91904707 0.5557712 [4,] -2.16020585
-0.7026588 [5,] -1.77848088 -0.9445627 [6,] -0.63568688 -0.6125653 [7,] -1.43226766 -0.4059288 [8,] -0.99672892
-0.7148795 [9,] -1.06678777 -0.4568425 [10,] -1.00909696 -1.3596604 [11,] -0.88215367 -1.0829867 [12,] -
1.03958513 -1.7435877 [13,] -1.36666267 -0.8773225 [14,] -2.18206950 -1.2913048 [15,] -1.65244054 -1.7780052
[16,] -1.69828569 -1.4615964 [17,] -1.88910964 -0.4557623 [18,] -0.06819159 -0.8449097 [19,] -0.60295193
-1.6297127 [20,] -0.38446747 -1.3739145 [21,] 0.12741676 -1.2471629
```

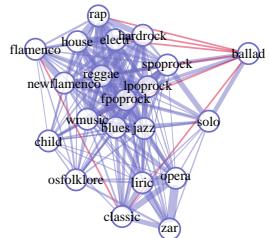
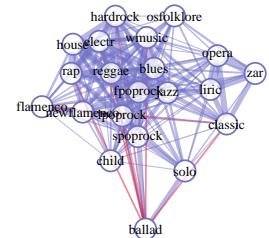
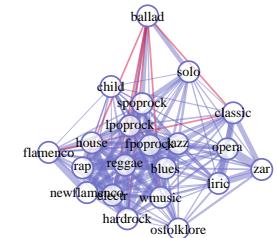
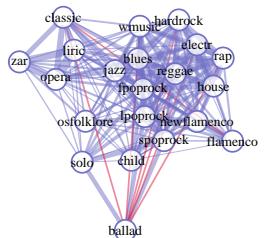
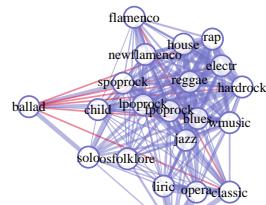
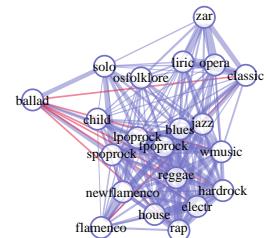
1.2.1.2 Module 1 - Kamada Kawai Layout - Color

[,1] [,2]

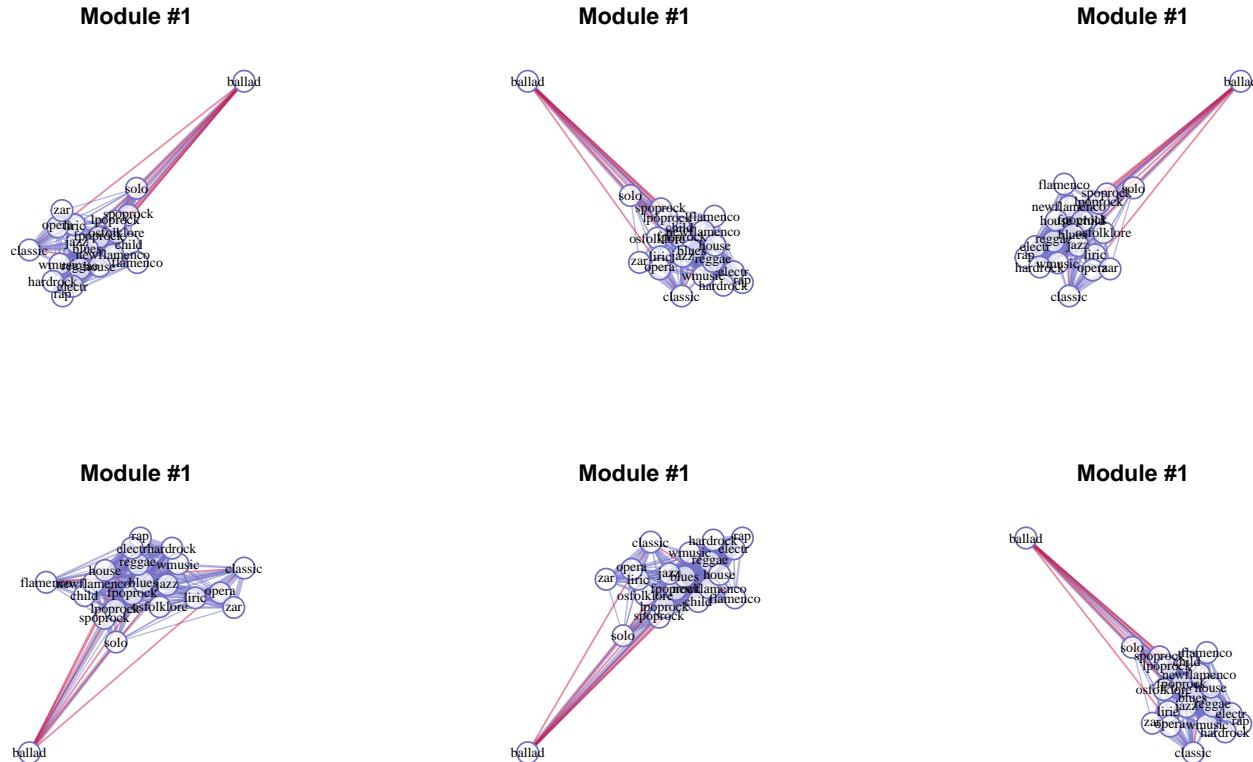
[1,] 0.55230817 -2.661313 [2,] -0.54770911 -3.404360 [3,] 0.22725531 -3.983591 [4,] 0.70153575 -3.601305 [5,]
 0.85382745 -2.285579 [6,] 0.34538562 -1.923125 [7,] 0.59417860 -3.157815 [8,] -0.06002670 -3.194741 [9,]
 0.16085486 -3.000819 [10,] -0.07870801 -2.772078 [11,] 0.11238306 -2.487153 [12,] 0.34729418 -2.288152 [13,]
 0.25013376 -3.377971 [14,] 1.15512750 -3.424751 [15,] 0.99763863 -3.063424 [16,] 0.89091893 -2.654851 [17,]
 1.30116173 -2.624739 [18,] -0.74326769 -3.116005 [19,] -0.40767509 -2.478845 [20,] -0.27018566 -2.135061
 [21,] -0.91732375 -2.328874 [,1] [,2] [1,] -0.7410127 -1.2626273 [2,] -2.0839440 -1.4736857 [3,] -1.5833649
 -2.7211236 [4,] -0.9264263 -2.4915163 [5,] -0.3726030 -1.3100627 [6,] -0.7840445 -0.8096931 [7,] -0.7585248
 -1.6800957 [8,] -1.2807414 -1.8197635 [9,] -1.5686158 -1.9345853 [10,] -1.5118266 -1.5309548 [11,] -1.0840937
 -1.1549612 [12,] -1.2418468 -1.4259629 [13,] -1.2733454 -2.1584497 [14,] -0.4833780 -2.4635221 [15,] -0.4396092
 -1.9636836 [16,] -0.7630132 -2.0696742 [17,] -0.1112595 -1.7153691 [18,] -2.1654676 -1.9100328 [19,] -1.3572300
 -0.8006669 [20,] -1.7146407 -1.0321322 [21,] -2.1472961 -0.8071312 [,1] [,2] [1,] 2.504025 -0.39419706 [2,]
 2.866099 0.75232034 [3,] 1.848242 1.28542613 [4,] 1.679257 -0.77709359 [5,] 1.630953 -0.39658778 [6,]
 2.339731 -0.76967164 [7,] 1.711934 0.55170947 [8,] 2.352481 0.22558994 [9,] 2.099000 0.30953769 [10,]
 2.285903 -0.15381533 [11,] 2.094024 -0.36360379 [12,] 2.139284 0.67204965 [13,] 1.793721 0.15033316 [14,]
 1.053239 0.22972409 [15,] 1.389392 0.58769989 [16,] 1.360661 0.07661233 [17,] 1.214774 -0.44808765 [18,]
 3.070885 0.36885644 [19,] 2.791275 -0.02176659 [20,] 2.552165 0.77832747 [21,] 3.297949 -0.16479859 [,1]
 [,2] [1,] -0.54375696 -0.5242796 [2,] 0.73232042 -0.2128074 [3,] 1.21708091 -1.0303552 [4,] -0.81690421
 -1.3721588 [5,] -0.41732429 -1.3970348 [6,] -0.91264454 -0.7038028 [7,] 0.49793093 -1.1766047 [8,] 0.06381059
 -0.6397929 [9,] 0.27576306 -0.8179577 [10,] -0.27925202 -0.7033140 [11,] -0.47085439 -0.9174536 [12,]
 0.57218968 -0.6782825 [13,] 0.09155795 -1.1400191 [14,] 0.27110507 -1.8726155 [15,] 0.53577678 -1.4888520
 [16,] 0.03281441 -1.5788748 [17,] -0.44137016 -1.7992267 [18,] 0.20400213 0.1637363 [19,] -0.24777625
 -0.1782677 [20,] 0.33322427 -0.1505382 [21,] -0.38591774 0.3204110 [,1] [,2] [1,] -0.21621987 -2.180786 [2,]
 -0.77183326 -2.516111 [3,] -0.43330514 -1.613275 [4,] 1.06871582 -2.841323 [5,] 0.92874053 -2.567011 [6,]
 0.73658723 -3.387141 [7,] 0.43544693 -2.147076 [8,] 0.06429777 -2.706142 [9,] -0.13784028 -2.531450 [10,]
 0.54510595 -3.012988 [11,] 0.28954615 -3.082878 [12,] 0.41813090 -2.631297 [13,] 0.08049081 -2.150676 [14,]
 0.75160617 -1.671883 [15,] 0.29631653 -1.772354 [16,] 0.83286586 -2.180092 [17,] 1.23742986 -2.254511 [18,]
 -0.75240183 -2.969241 [19,] -0.03946443 -3.283200 [20,] -0.40464517 -3.058744 [21,] -0.29737888 -3.758465

Module #1**Module #1****Module #1****Module #1****Module #1****Module #1**

```
[,1] [,2] [1,] -0.01766455 0.07978098 [2,] -0.84023244 1.24276567 [3,] -1.72570510 0.93291093 [4,] -0.45303220  
-0.62856353 [5,] -1.13032241 -0.31274657 [6,] -0.01295824 -0.26620059 [7,] -1.09441437 0.09869483 [8,]  
-0.70775136 0.59517934 [9,] -0.72129487 0.31934298 [10,] -0.29060612 0.32455875 [11,] -0.38906114 0.01424419  
[12,] -0.97131599 0.81423448 [13,] -1.18033781 0.48977799 [14,] -1.58239083 -0.24212224 [15,] -0.76943426  
-0.29554515 [16,] -1.46386356 0.17169570 [17,] -0.95000195 -0.72097405 [18,] -0.35934885 1.28336668 [19,]  
-0.28142544 0.85140008 [20,] 0.10620749 0.62159985 [21,] 0.31586360 1.06594076
```

Module #1**Module #1****Module #1****Module #1****Module #1****Module #1**

1.2.1.3 Module 1 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout



1.2.1.4 Module 1 - Fruchtername Reingold Layout - Color

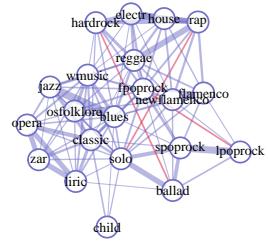
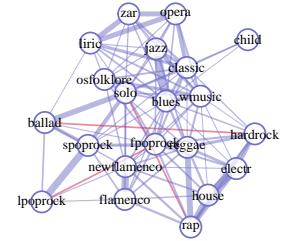
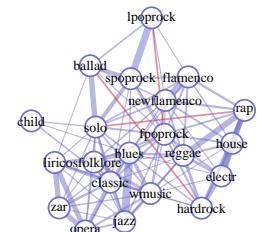
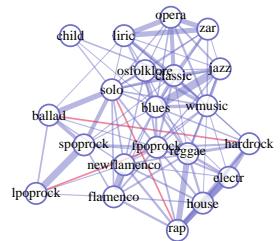
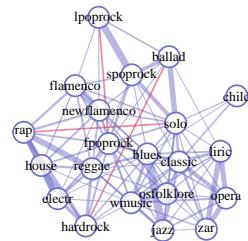
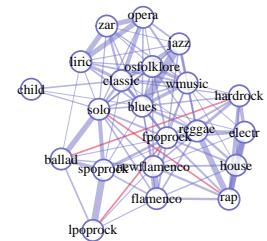
1.2.2 Module 2

1.2.2.1 Module 2 - Kamada Kawai Layout - Color - Drop Neg Ties

for Layout

[,1] [,2]

```
[1.] 2.461614 -1.70001429 [2.] 2.657810 -0.82443632 [3.] 3.393975 -1.23058437 [4.] 3.830463 0.01971007  
[5.] 3.389080 -0.06565181 [6.] 1.999106 -0.21207252 [7.] 3.499823 -0.68519770 [8.] 4.350843 -0.73729418  
[9.] 2.972232 0.06912741 [10.] 2.562860 -0.28425135 [11.] 1.651684 0.09626084 [12.] 2.185552 0.24860595  
[13.] 2.842271 0.43761263 [14.] 3.751224 0.92994507 [15.] 2.801271 1.03413850 [16.] 2.301642 0.92167328  
[17.] 3.271362 0.97355230 [18.] 2.232616 -0.58044110 [19.] 2.016426 -1.11496329 [20.] 1.326014 -0.39143339  
[21.] 1.490613 -0.83653023 [,1] [,2] [1.] 3.629088 1.5413098 [2.] 2.173490 0.8376805 [3.] 1.211916 0.4432287  
[4.] 2.165305 -0.5759696 [5.] 2.172668 -0.1418132 [6.] 1.921565 1.0147744 [7.] 1.726114 0.1397210 [8.]  
1.175977 -0.6085711 [9.] 2.525744 0.1559130 [10.] 2.657324 0.7280983 [11.] 2.537031 1.4193615 [12.] 3.066657  
0.7924057 [13.] 2.909380 0.1142419 [14.] 2.950489 -0.9422994 [15.] 3.492337 -0.1669416 [16.] 3.713381  
0.2927142 [17.] 3.156722 -0.5190839 [18.] 2.902255 1.1726023 [19.] 1.754924 1.4964110 [20.] 2.768995  
1.8833587 [21.] 2.212062 1.8833481 [,1] [,2] [1.] -2.10997670 -0.9223492 [2.] -1.22839370 -1.0053244 [3.]  
-1.30250854 -0.1707134 [4.] 0.04077273 -0.3221821 [5.] -0.27422828 -0.6432954 [6.] -1.25316990 -1.4837639  
[7.] -0.74650723 -0.3465547 [8.] -0.46054413 0.4817618 [9.] -0.28575236 -1.1052461 [10.] -0.76560237  
-1.3605829 [11.] -0.83005855 -2.2942700 [12.] -0.47479453 -1.9118356 [13.] -0.02687197 -1.3932819 [14.]  
0.81355792 -0.7784908 [15.] 0.49474116 -1.6728863 [16.] 0.22356321 -2.1109819 [17.] 0.64317885 -1.2278657  
[18.] -1.02738114 -1.7577494 [19.] -1.79075750 -1.4893032 [20.] -1.37078240 -2.4230683 [21.] -1.72870405  
-2.1081729 [,1] [,2] [1.] 1.1197572 -0.7708881 [2.] 1.6233335 -1.4989896 [3.] 0.8588095 -1.8404678 [4.] 1.6467004  
-2.9400504 [5.] 1.7733896 -2.5080636 [6.] 2.0281331 -1.2415812 [7.] 1.2837101 -2.2410158 [8.] 0.7009714  
-2.8939984 [9.] 2.1701993 -2.2726416 [10.] 2.1589552 -1.7290984 [11.] 2.9424536 -1.2171558 [12.] 2.7818918  
-1.7146075 [13.] 2.5485276 -2.3585256 [14.] 2.4209990 -3.3923815 [15.] 3.0467751 -2.6772910 [16.] 3.2960606  
-2.2253670 [17.] 2.7308478 -3.0243580 [18.] 2.3778620 -1.3071844 [19.] 1.7709024 -0.7711319 [20.] 2.3415353  
-0.5239161 [21.] 2.7914358 -0.6828009 [,1] [,2] [1.] 0.149917416 -4.427635 [2.] -0.679645477 -4.770188 [3.]  
-0.770487220 -3.933616 [4.] -2.043855163 -4.298415 [5.] -1.719616734 -4.609317 [6.] -0.799401586 -5.662225 [7.]  
-1.276260389 -4.161826 [8.] -1.725213729 -3.436510 [9.] -1.589663628 -5.028427 [10.] -1.064999712 -5.159523  
[11.] -0.852529009 -6.123797 [12.] -1.284553048 -5.774808 [13.] -1.816420806 -5.346043 [14.] -2.741841048  
-4.886876 [15.] -2.281139873 -5.722726 [16.] -1.900308945 -6.066920 [17.] -2.502219240 -5.304695 [18.]  
-0.633892199 -5.259050 [19.] -0.072533633 -5.126266 [20.] 0.003485951 -5.716302 [21.] -0.263846569 -6.108035
```

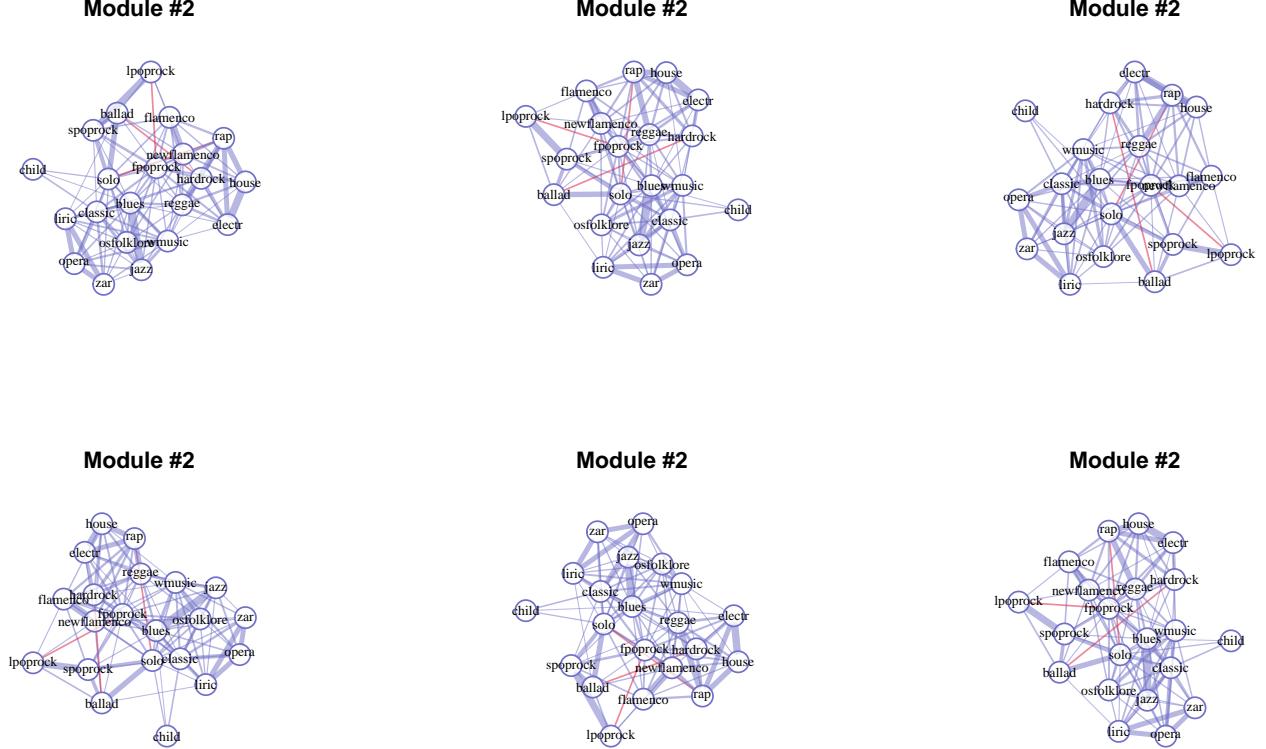
Module #2**Module #2****Module #2****Module #2****Module #2****Module #2**

```
[,1] [,2] [1,] -0.2031401 -0.90675018 [2,] 0.6494423 -1.18724842 [3,] 0.1739056 -1.88153036 [4,] 1.3766380  
-2.43473278 [5,] 1.3339620 -1.98686205 [6,] 1.3223044 -0.58968702 [7,] 0.7066999 -2.03726653 [8,] 0.5730773  
-2.87980960 [9,] 1.5083937 -1.58456640 [10,] 1.1948390 -1.14349252 [11,] 1.6622545 -0.27302695 [12,] 1.7625538  
-0.81961486 [13,] 1.8871662 -1.49091820 [14,] 2.2900849 -2.44331096 [15,] 2.4851443 -1.50722612 [16,]  
2.4207295 -0.99911842 [17,] 2.3801033 -1.96923899 [18,] 0.9331573 -0.78555804 [19,] 0.4207318 -0.52196636  
[20,] 1.2065247 0.09785028 [21,] 0.7483207 -0.02425637
```

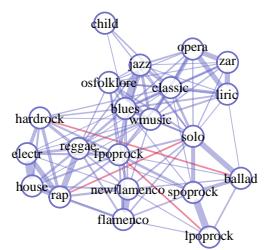
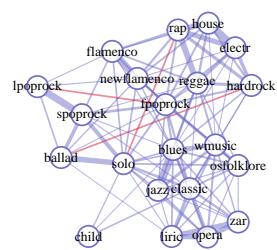
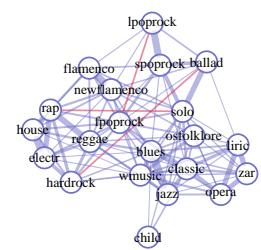
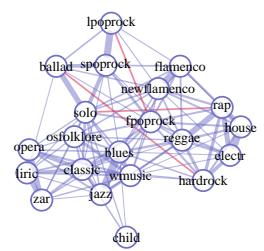
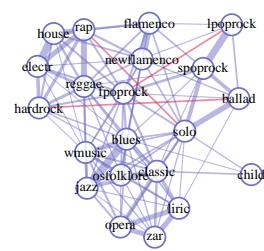
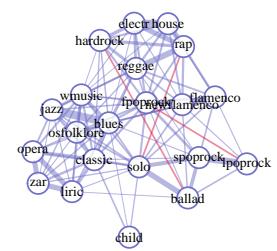
1.2.2.2 Module 2 - Kamada Kawai Layout - Color

[, 1] [, 2]

[1,] -3.8400297 -2.549784 [2,] -2.8222968 -2.680798 [3,] -2.7037755 -1.789783 [4,] -1.9962928 -1.846179 [5,] -1.8139898 -2.343324 [6,] -2.5746428 -3.538827 [7,] -3.0284134 -2.022266 [8,] -2.2494156 -1.232315 [9,] 2.1747243 -2.527733 [10,] -2.5264498 -3.007022 [11,] -2.3765350 -3.909958 [12,] -2.0226953 -3.520825 [13,] -1.8275458 -3.031370 [14,] -1.2661803 -2.130448 [15,] -1.2132315 -3.298028 [16,] -1.5701311 -2.672148 [17,] -0.9739692 -2.720453 [18,] -2.9786762 -3.126470 [19,] -3.4028599 -3.219229 [20,] -3.2842542 -3.826568 [21,] -2.8863587 -4.106786 [,1] [,2] [1,] 2.47723552 1.1698586 [2,] 0.88819752 1.3654495 [3,] -0.01195851 1.3572425 [4,] 0.42760800 2.6357722 [5,] 0.62335415 2.2347436 [6,] 0.63080087 0.9847764 [7,] 0.16206862 1.7952194 [8,] -0.39026464 2.3223076 [9,] 0.85749037 1.9528752 [10,] 1.30617588 1.4682530 [11,] 1.14047123 0.7376677 [12,] 1.72615703 1.4713916 [13,] 1.27853091 2.0969436 [14,] 1.06806099 2.8693019 [15,] 1.93706188 2.5248944 [16,] 1.85642919 2.0812915 [17,] 1.50817686 2.8613508 [18,] 1.55787847 1.0455172 [19,] 0.65411742 0.4615833 [20,] 1.78721318 0.4921683 [21,] 1.30069163 0.2518701 [,1] [,2] [1,] -0.98517228 -0.5734909 [2,] 0.14165457 -1.6848396 [3,] 0.71022973 -2.4158639 [4,] 1.45037266 -1.2780857 [5,] 1.02708545 -1.3825274 [6,] 0.03732036 -2.1444857 [7,] 0.94690916 -2.0136364 [8,] 1.70900868 -2.1242412 [9,] 0.65772728 -1.3763046 [10,] -0.01091647 -1.3117956 [11,] -0.47838053 -1.8990202 [12,] -0.22457506 -0.9908108 [13,] 0.50727854 -0.9561279 [14,] 0.93733276 -0.4052887 [15,] 0.44732025 -0.1546272 [16,] 0.12202355 -0.4877324 [17,] 1.25679289 -0.5325118 [18,] -0.50923735 -1.3597343 [19,] -0.39937607 -2.4438157 [20,] -1.07288019 -1.5326651 [21,] -0.96348492 -2.0618090 [,1] [,2] [1,] -1.1771732 -2.51546508 [2,] -1.3733397 -1.52849201 [3,] -2.0581374 -2.08267243 [4,] -2.5751282 -0.72715414 [5,] -2.1547681 -1.01459893 [6,] -0.7278512 -0.98612330 [7,] -2.2440258 -1.64742002 [8,] -2.9897054 -1.55873945 [9,] -1.7775204 -0.92629942 [10,] -1.3226453 -1.13936258 [11,] -0.5137769 -0.57948947 [12,] -1.0603204 -0.50962120 [13,] -1.5324021 -0.39799375 [14,] -1.6162594 0.06327844 [15,] -2.2883811 -0.11629966 [16,] -2.1668139 -0.67048954 [17,] -2.0572700 0.25678934 [18,] -0.9970828 -1.50635325 [19,] -0.6497077 -1.84307052 [20,] -0.1918587 -1.45162782 [21,] -0.1152172 -0.96871670 [,1] [,2] [1,] 0.5149302 0.66130290 [2,] 1.5365753 0.47650885 [3,] 1.3924984 -0.39658821 [4,] 2.0552620 -0.56473164 [5,] 2.4302244 -0.12987963 [6,] 2.3030904 1.30737605 [7,] 1.1092044 -0.09894536 [8,] 1.6296640 -1.07562186 [9,] 2.0736535 0.11550004 [10,] 1.9086984 0.71913082 [11,] 1.8567962 1.40371360 [12,] 2.5563612 1.03502550 [13,] 2.5111255 0.49283684 [14,] 2.8298509 -0.52083095 [15,] 3.2420707 0.59096235 [16,] 2.7496970 0.13187264 [17,] 3.2991082 -0.04651188 [18,] 1.4945417 0.92739398 [19,] 1.1342913 1.17809272 [20,] 2.0513265 1.86517160 [21,] 1.4536466 1.75321074

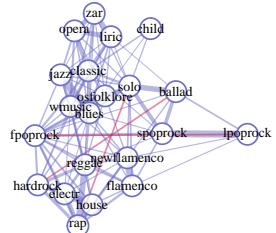


[,1] [,2] [1,] 0.2170149 -1.25621010 [2,] -1.3760399 -1.42526537 [3,] -2.2498165 -1.63812030 [4,] -2.1119690
-0.29296509 [5,] -1.8297811 -0.63765341 [6,] -1.5387199 -1.85516192 [7,] -2.1792183 -1.17215913 [8,] -2.8376383
-0.78341467 [9,] -1.5394760 -0.86031278 [10,] -0.9917558 -1.23113427 [11,] -0.9867619 -1.98007685 [12,] -
0.5833731 -1.13221089 [13,] -1.1599977 -0.62496547 [14,] -1.5424916 0.08066265 [15,] -0.6167472 -0.05870032
[16,] -0.5952331 -0.50889535 [17,] -1.1109166 0.17146421 [18,] -0.6498358 -1.58477545 [19,] -1.3978253 -
2.35923056 [20,] -0.7206069 -2.41709894 [21,] -0.3015807 -2.07262114

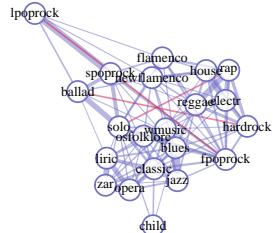
Module #2**Module #2****Module #2****Module #2****Module #2****Module #2**

1.2.2.3 Module 2 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout

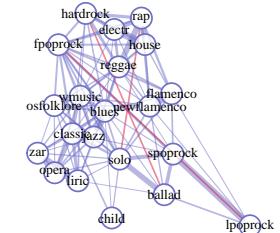
Module #2



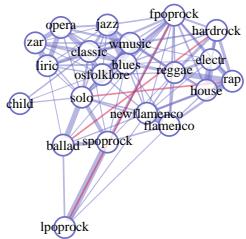
Module #2



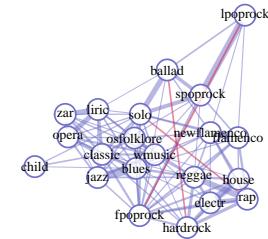
Module #2



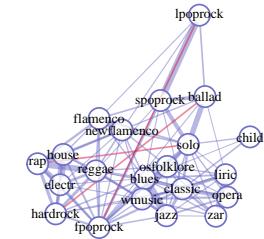
Module #2



Module #2



Module #2



1.2.2.4 Module 2 - Fruchtername Reingold Layout - Color

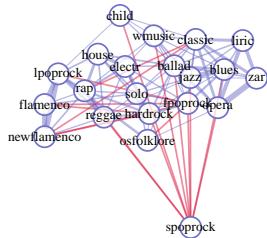
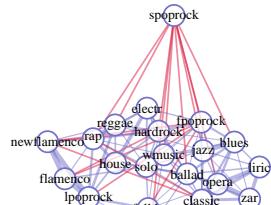
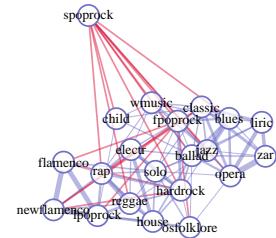
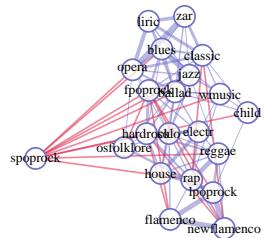
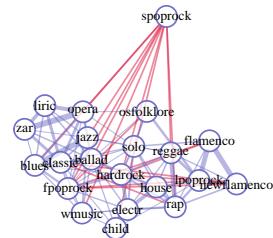
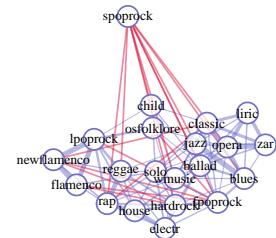
1.2.3 Module 3

1.2.3.1 Module 3 - Kamada Kawai Layout - Color - Drop Neg Ties

for Layout

[,1] [,2]

```
[1,] -1.44402957 2.2289164 [2,] -1.18155786 0.7611343 [3,] -0.59591252 1.2849791 [4,] -2.62572524 0.5557370 [5,]
-2.62605002 -0.0477940 [6,] -1.01401079 -0.1156393 [7,] -0.33695586 -1.7528695 [8,] -2.41279939 1.1329145 [9,]
-0.38396778 0.5776622 [10,] 0.18810498 1.2140228 [11,] -0.34412476 1.0632107 [12,] -0.91536522 1.8480263 [13,]
-1.69821668 0.3198822 [14,] -2.00093434 0.8139967 [15,] -1.36617176 1.2706813 [16,] -0.98790471 0.3868714
[17,] -1.79118042 1.5028798 [18,] -0.25895655 1.7792061 [19,] 0.47865281 1.7573692 [20,] 0.08774339 0.4972768
[21,] 0.69544145 1.0513124 [1,] [2,] [1,] 0.94602739 -4.7297246 [2,] 0.87378216 -3.5696999 [3,] 1.56898152
-3.7112240 [4,] -0.50481721 -3.8027887 [5,] -0.79886229 -3.0985312 [6,] 0.90657114 -4.3703377 [7,] 1.34671262
-0.6962443 [8,] -0.10170146 -4.1598928 [9,] 1.80641060 -2.7255018 [10,] 2.36793496 -3.1050633 [11,] 1.83797413
-3.2674855 [12,] 1.17232649 -3.3468658 [13,] 0.34632179 -2.7794014 [14,] -0.02593759 -3.0419188 [15,] 0.88738401
-2.4590942 [16,] 1.08539631 -2.8967149 [17,] 0.35350137 -3.5020613 [18,] 1.81413413 -4.2084106 [19,] 2.79536112
-3.5801174 [20,] 2.08539166 -3.9026944 [21,] 2.62670725 -4.1879542 [,1] [,2] [1,] 0.19133011 3.176654 [2,]
0.81751717 2.260135 [3,] 1.40283923 2.533649 [4,] -0.65359831 2.420425 [5,] -0.81412444 1.589123 [6,]
1.37066334 1.283032 [7,] -0.25397344 4.973009 [8,] -0.11037949 1.488918 [9,] 1.17361999 3.132379 [10,]
1.99763849 3.181618 [11,] 1.64552815 2.622096 [12,] 0.75591760 3.454072 [13,] 0.40788502 1.699022 [14,]
-0.04287046 2.221862 [15,] 0.42530953 2.638448 [16,] 1.22580075 1.931618 [17,] 0.77580963 1.387379 [18,]
1.55603811 3.381721 [19,] 2.52205653 3.113450 [20,] 2.01903914 2.178365 [21,] 2.58013804 2.522148 [,1]
[,2] [1,] 2.29379927 -0.96106084 [2,] 0.80485614 -1.30135157 [3,] 0.91796355 -0.62324565 [4,] 0.82566064 -
2.70131725 [5,] 1.85091211 -2.84766211 [6,] -0.04674692 -1.52929798 [7,] -1.72363889 -1.70749518 [8,] 1.63887048
-2.26457296 [9,] 0.41957541 -0.60053105 [10,] 0.66805285 0.07552354 [11,] 1.18944708 -0.35132986 [12,]
1.77262259 -0.65914316 [13,] 1.73847665 -1.62946723 [14,] 1.23489925 -2.05764640 [15,] 1.36307630 -1.27326811
[16,] 0.37704140 -1.30418535 [17,] 0.64749972 -1.95153495 [18,] 1.43902190 -0.02707201 [19,] 0.41508402
0.52820964 [20,] 0.11256182 -0.26282525 [21,] 1.09831893 0.60654314 [,1] [,2] [1,] 1.37826704 -4.518087 [2,]
1.67759946 -3.023229 [3,] 0.97492710 -3.254949 [4,] 2.93005088 -2.921738 [5,] 3.37597008 -3.708144 [6,]
1.89193322 -2.384925 [7,] 2.21701568 -0.652851 [8,] 2.75448989 -3.644512 [9,] 0.58707597 -3.791127 [10,]
0.03935928 -3.368763 [11,] 0.90882374 -2.862361 [12,] 0.81916440 -4.238121 [13,] 2.29116627 -3.141539 [14,]
2.36242313 -4.124888 [15,] 1.57121086 -4.173645 [16,] 1.46753201 -3.534374 [17,] 2.05003872 -3.762863 [18,]
0.46693758 -3.313312 [19,] 0.20454739 -2.279507 [20,] 0.83468370 -2.392335 [21,] -0.13123490 -2.712179
```

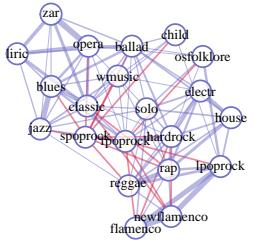
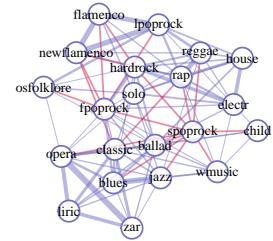
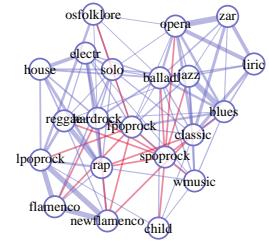
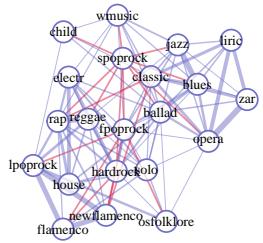
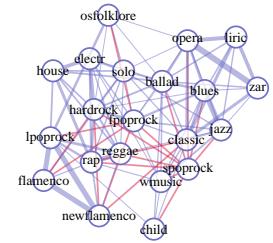
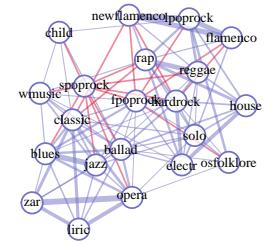
Module #3**Module #3****Module #3****Module #3****Module #3****Module #3**

```
[,1] [,2] [1,] 3.429925 1.90953065 [2,] 3.505411 0.69013443 [3,] 4.270020 0.79730850 [4,] 2.154836 0.44499787 [5,]
1.761564 0.90871746 [6,] 3.458300 1.49288923 [7,] 3.032984 3.54525660 [8,] 2.454695 1.28364398 [9,] 4.565376
0.12306137 [10,] 5.018719 0.56239564 [11,] 4.189324 1.20220735 [12,] 3.833735 0.56406768 [13,] 2.912483
0.69721141 [14,] 2.678046 0.10044213 [15,] 3.666548 -0.35545334 [16,] 3.840621 0.07119949 [17,] 3.148637
-0.03166796 [18,] 4.381643 1.58139438 [19,] 5.075627 1.76810438 [20,] 4.729005 1.14295533 [21,] 5.382654
1.18160932
```

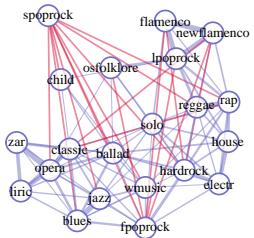
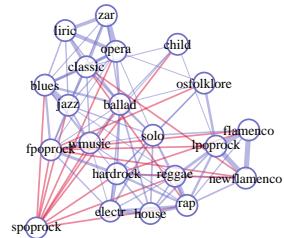
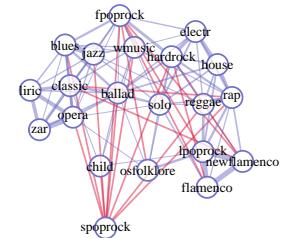
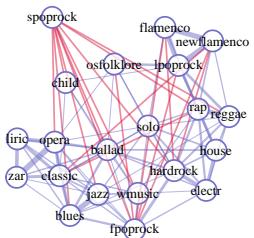
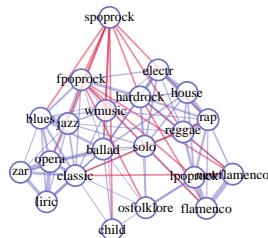
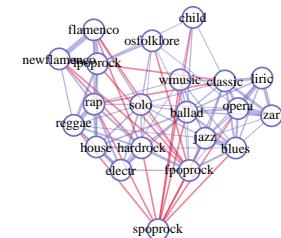
1.2.3.2 Module 3 - Kamada Kawai Layout - Color

[,1] [,2]

[1,] 0.81737081 -0.17017206 [2,] 0.46042243 -1.07128354 [3,] 0.27612270 -0.30913302 [4,] 0.32442302
 -2.52137877 [5,] 0.76420145 -2.37961149 [6,] 1.16005150 -0.43474396 [7,] -0.30365359 -1.41590892 [8,]
 1.38044630 -1.77283293 [9,] 0.19539706 -1.46694719 [10,] -0.73054542 -0.79869925 [11,] -0.86678174
 -1.31646274 [12,] 0.09994539 -0.67220484 [13,] 0.23398731 -2.00754538 [14,] 0.73511842 -1.81554246 [15,]
 1.13036917 -0.85492443 [16,] 0.76809432 -1.40836286 [17,] 1.51284926 -1.17892368 [18,] -0.28271557
 -1.03735343 [19,] -1.15340054 -0.40146247 [20,] -0.26605079 -0.30943402 [21,] -0.73188134 0.07995828 [,1]
 [,2] [1,] -1.587531 0.75314382 [2,] -2.933643 1.26876254 [3,] -2.702889 0.55099687 [4,] -3.311870 2.36787965
 [5,] -3.559753 1.83384456 [6,] -3.914600 1.35551243 [7,] -2.293781 0.73714326 [8,] -2.664437 2.22041449
 [9,] -3.254550 1.05093722 [10,] -3.155795 0.02989133 [11,] -2.642892 0.09902805 [12,] -2.025186 0.18376492
 [13,] -2.208171 1.83097024 [14,] -2.418906 1.49739541 [15,] -1.848087 1.11574059 [16,] -2.923778 1.63460713
 [17,] -1.752627 1.75698369 [18,] -3.141448 0.49377863 [19,] -3.639634 -0.36182544 [20,] -3.721654 0.39535943
 [21,] -2.954088 -0.59733464 [,1] [,2] [1,] 1.27642424 1.144737 [2,] 0.68943021 2.841708 [3,] 1.29565390
 2.752759 [4,] -0.04434468 1.373035 [5,] 0.62572350 1.221915 [6,] 0.44779980 3.433822 [7,] 1.35982010 1.905555
 [8,] -0.22313218 1.872491 [9,] 0.93724397 2.226379 [10,] 2.11177349 2.390725 [11,] 1.66185125 2.769314
 [12,] 1.73694855 1.649276 [13,] 0.07481119 2.291670 [14,] 0.55280760 1.792654 [15,] 0.34768653 3.017315
 [16,] 0.49977490 2.320034 [17,] -0.23048052 2.844419 [18,] 1.72002776 2.143074 [19,] 2.49326300 2.900819
 [20,] 1.49363989 3.306566 [21,] 2.15779887 3.409975 [,1] [,2] [1,] -2.5750385 -0.1128158 [2,] -1.4855387
 -1.6396045 [3,] -1.3059546 -1.0012438 [4,] -2.5815805 -2.2957339 [5,] -2.0178322 -2.1421744 [6,] -1.2283838
 -2.2096428 [7,] -1.7982077 -0.4059447 [8,] -2.9711236 -1.5919953 [9,] -1.7806795 -1.1956970 [10,] -0.8211047
 -0.6933976 [11,] -1.0773411 -0.2571335 [12,] -1.8678239 0.0707976 [13,] -2.2522934 -1.0794030 [14,] -2.6491988
 -1.1034021 [15,] -2.5069429 -0.6136775 [16,] -1.8843067 -1.6548541 [17,] -2.5014901 -1.7989154 [18,] -1.4300972
 -0.6084768 [19,] -0.3791033 -0.2056902 [20,] -0.6781591 -1.3243345 [21,] -0.1704903 -0.8614313 [,1] [,2] [1,
 0.8359000907 -2.21629447 [2,] 0.4318409463 -0.42510796 [3,] 0.9483496847 -0.54328211 [4,] -0.6373278654
 -1.66443266 [5,] 0.1042531493 -2.06556535 [6,] 0.2287805183 0.20615764 [7,] 1.2953269360 -1.53767462 [8,]
 -0.5467445886 -1.18202646 [9,] 0.5652214271 -0.98985444 [10,] 1.5162350709 -0.64707976 [11,] 1.7345368610
 -1.09282196 [12,] 0.9301305941 -1.67782631 [13,] 0.3891816218 -1.36245617 [14,] 0.0006216726 -1.45668476 [15,
 -0.0221697819 -0.28595672 [16,] 0.0348107732 -0.86183591 [17,] -0.5114027287 -0.42315391 [18,] 1.2745255862
 -1.20417402 [19,] 1.9346972295 -0.04055563 [20,] 1.2865045772 -0.08287840 [21,] 2.2232544370 -0.61824294

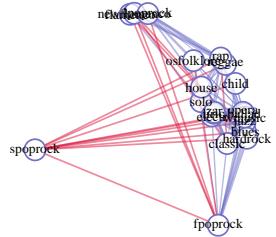
Module #3**Module #3****Module #3****Module #3****Module #3****Module #3**

```
[,1] [,2] [1,] -0.92694563 4.385547 [2,] 0.58414619 3.110755 [3,] -0.23930071 2.938238 [4,] 0.99202371 4.317595
[5,] -0.15024544 4.596787 [6,] 0.96322328 2.778173 [7,] -0.64717416 3.720986 [8,] 0.52110818 4.552028 [9,]
-0.07252109 3.536967 [10,] -1.08001565 2.884429 [11,] -0.51718715 2.745287 [12,] -1.14092514 3.631828 [13,]
0.61659491 3.893027 [14,] 0.03415215 4.045205 [15,] 0.44022173 2.747006 [16,] 0.37487272 3.535968 [17,]
1.15525042 3.478120 [18,] -0.78058799 3.303825 [19,] -0.70985852 1.952234 [20,] -0.11595397 2.344472 [21,]
-1.22964918 2.277860
```

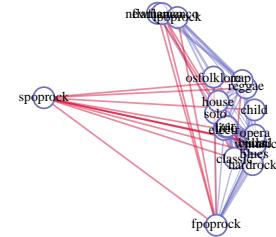
Module #3**Module #3****Module #3****Module #3****Module #3****Module #3**

1.2.3.3 Module 3 - Fruchtername Reingold Layout - Color - Drop Neg Ties for Layout

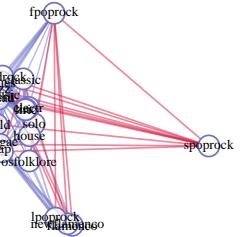
Module #3



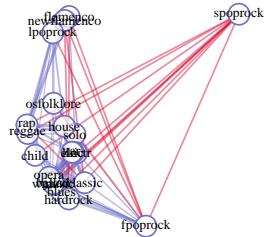
Module #3



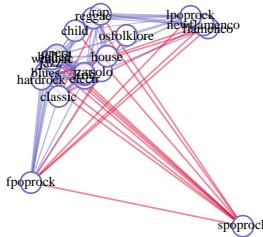
Module #3



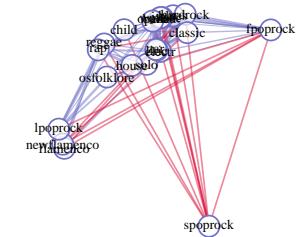
Module #3



Module #3



Module #3



1.2.3.4 Module 3 - Fruchtername Reingold Layout - Color

2 RCA

2.1 RCA P = 0.05

	Length	Class	Mode
member	14822	-none-	numeric
mod	1	-none-	numeric
merge	56	-none-	numeric

2.2 RCA P = 0.075

	Length	Class	Mode
member	14822	-none-	numeric
mod	1	-none-	numeric
merge	52	-none-	numeric

2.3 RCA P = 0.1

	Length	Class	Mode
member	14822	-none-	numeric
mod	1	-none-	numeric
merge	54	-none-	numeric

2.4 RCA P = 0.25

	Length	Class	Mode
member	14822	-none-	numeric
mod	1	-none-	numeric
merge	4	-none-	numeric

2.5 RCA P = 0.5

	Length	Class	Mode
member	14822	-none-	numeric
mod	1	-none-	numeric
merge	2	-none-	numeric