

Supplementary Table 1. Drug target relationships in *S. cerevisiae* extracted by literature curation.

Supplementary Table 2. Drug synergy predictions made using synergistic genetic interactions between genes encoding drug targets.

Supplementary Figure 1. For each pairwise drug interaction experiment, drug pairs were combined in 8 x 8 matrices where the concentration of one drug was linearly increased along each axis. On the left, growth rates for each 8 x 8 matrix is shown (white corresponds to high growth and black corresponds to no growth, color bar is identical to Figure 2). Also shown are sample isophenotypic curves (white solid lines), largest isophenotypic curve used for drug interaction scoring (yellow dots), and drug interaction scores. On the right, raw data plots are shown, where the x axis of each cell corresponds to time (0 to 24 hours), and the y axis corresponds to OD₅₉₅ measurements (0 to 1). For drug name abbreviations, see Table 1.

Supplementary Data 1. Raw cell growth measurements for all 200 drug-drug interaction assays. Each file contains a 96x64 matrix of numbers which corresponds to OD₅₉₅ readings for one drug-drug interaction. Rows correspond to different time points with 15 minutes intervals that span 24 hours. Columns correspond to the 8 x 8 matrix of drug concentration combinations.

Supplementary Table 1.

Compound Name	Target Gene Symbol	Target Gene Systematic Name	Reference	PMID
3-amino-triazole	<i>HIS3</i>	<i>YOR202W</i>	Baganz et al, 1997	9509575
5-fluorocytosine	<i>CDC21</i>	<i>YOR074C</i>	Goodman et al, 2006	book
5-fluorodeoxyuridine	<i>CDC21</i>	<i>YOR074C</i>	Goodman et al, 2006	book
5-fluoro-dUMP	<i>CDC21</i>	<i>YOR074C</i>	Kunz et al 1980	6449701
5-fluorouracil	<i>CDC21</i>	<i>YOR074C</i>	Goodman et al, 2006	book
Acifluorfen-methyl	<i>HEM14</i>	<i>YER014W</i>	Camadro & Labbe, 1996	8621563
Amiloride	<i>NHX1</i>	<i>YDR456W</i>	Darley et al, 2000	10998367
Amsacrine	<i>TOP2</i>	<i>YNL088W</i>	Nitiss et al, 1992	1322791
Ansamycin	<i>HSC82</i>	<i>YMR186W</i>	Bohen, 1998	9584173
Ansamycin	<i>HSP82</i>	<i>YPL240C</i>	Bohen, 1998	9584173
Asulam	<i>FOL1</i>	<i>YNL256W</i>	Patel et al, 2003	12820798
Asulam	<i>FOL3</i>	<i>YMR113W</i>	Patel et al, 2003	12820798
Atorvastatin	<i>HMG1</i>	<i>YML075C</i>	Hillenmeyer et al, 2010	20226027
Atorvastatin	<i>HMG2</i>	<i>YLR450W</i>	Hillenmeyer et al, 2010	20226027
Aureobasidin A	<i>AUR1</i>	<i>YKL004W</i>	Heidler & Radding, 1995	8593016
Benomyl	<i>TUB1</i>	<i>YML085C</i>	Stearns et al, 1990	2407611
Benomyl	<i>TUB2</i>	<i>YFL037W</i>	Stearns et al, 1990	2407611
Benomyl	<i>TUB3</i>	<i>YML124C</i>	Hillenmeyer et al, 2010	20226027
Bromopyruvate	<i>PYK1</i>	<i>YAL038W</i>	Yun & Suelter, 1979	370116
Buthionine Sulfoximine	<i>GSH2</i>	<i>YOL049W</i>	Preveral et al, 2006	16806635
Caffeine	<i>TOR1</i>	<i>YJR066W</i>	Kuranda et al, 2006	16925551
Calyculin A	<i>GLC7</i>	<i>YER133W</i>	Hoon et al, 2008	18622389
Camptothecin	<i>TOP1</i>	<i>YOL006C</i>	Pommier et al, 1998	9748515
Carbendazim	<i>TUB1</i>	<i>YML085C</i>	Geissler et al, 1998	9463374
Carbendazim	<i>TUB2</i>	<i>YFL037W</i>	Geissler et al, 1998	9463374
Carbendazim	<i>TUB3</i>	<i>YML124C</i>	Hillenmeyer et al, 2010	20226027
Carmustine	<i>GLR1</i>	<i>YPL091W</i>	Hillenmeyer et al, 2010	20226027
Caspofungin	<i>FKS1</i>	<i>YLR342W</i>	Lesage et al, 2004	15166135
Cervastatin	<i>HMG1</i>	<i>YML075C</i>	Smith et al, 2009	19622793
Clotrimazole	<i>ERG11</i>	<i>YHR007C</i>	Truan et al, 1994	8181746
Clozapine	<i>COX17</i>	<i>YLL009C</i>	Hillenmeyer et al, 2010	20226027
Colchicine	<i>TUB2</i>	<i>YFL037W</i>	Hillenmeyer et al, 2010	20226027
Colchicine	<i>TUB3</i>	<i>YML124C</i>	Hillenmeyer et al, 2010	20226027
Compactin	<i>HMG1</i>	<i>YML075C</i>	Rine et al, 1983	6316322
Compactin	<i>HMG2</i>	<i>YLR450W</i>	Rine et al, 1983	6316322
Cycloheximide	<i>RPL28</i>	<i>YGL103W</i>	Kaufer, et al 1983	6304624

Cycloheximide	<i>RPL41A</i>	<i>YDL184C</i>	Stocklein & Piepersberg, 1980	7016025
Cycloheximide	<i>RPL41B</i>	<i>YDL133C</i>	Stocklein & Piepersberg, 1980	7016025
Cyclosporin A	<i>CNB1</i>	<i>YKL190W</i>	Parsons et al, 2004	14661025
Doxorubicin	<i>TOP2</i>	<i>YNL088W</i>	Khozoie, et al 2009	9380029
Dyclonine	<i>ERG2</i>	<i>YMR202W</i>	Huang et al, 1992	1427091
Dyclonine	<i>ERG24</i>	<i>YNL280C</i>	Giaever et al, 2004	14718668
Econazole	<i>ERG11</i>	<i>YHR007C</i>	Hillenmeyer et al, 2010	20226027
Etopazole	<i>TOP2</i>	<i>YNL088W</i>	Nitiss et al, 1992	1322791
Fenbendazole	<i>TUB1</i>	<i>YML085C</i>	Hillenmeyer et al, 2010	20226027
Fenbendazole	<i>TUB2</i>	<i>YFL037W</i>	Hillenmeyer et al, 2010	20226027
Fenbendazole	<i>TUB3</i>	<i>YML124C</i>	Hillenmeyer et al, 2010	20226027
Fenpropimorph	<i>ERG2</i>	<i>YMR202W</i>	Marcireau et al, 1990	2203312
Fenpropimorph	<i>ERG24</i>	<i>YNL280C</i>	Giaever et al, 2004	14718668
Floxuridine	<i>CDC21</i>	<i>YOR074C</i>	Hillenmeyer et al, 2010	20226027
Fluconazole	<i>ERG11</i>	<i>YHR007C</i>	Parsons et al, 2004	14661025
Geldanamycin	<i>HSC82</i>	<i>YMR186W</i>	Mandal et al, 2008	18443039
Geldanamycin	<i>HSP82</i>	<i>YPL240C</i>	Mandal et al, 2008	18443039
Guanidine hydrochloride	<i>HSP104</i>	<i>YLL026W</i>	Moosavi et al, 2010	20014008
Haloperidol	<i>ERG2</i>	<i>YMR202W</i>	Moebius et al, 1996	8988026
Haloperidol	<i>ERG24</i>	<i>YNL280C</i>	Silve et al, 1996	8798407
Hydroxyurea	<i>RNR1</i>	<i>YER070W</i>	Lis et al, 2008	18400565
Hydroxyurea	<i>RNR2</i>	<i>YJL026W</i>	Rittberg & Wright, 1989	2675933
Hydroxyurea	<i>RNR4</i>	<i>YGR180C</i>	Rittberg & Wright, 1989	2675933
Hygromycin	<i>HOC1</i>	<i>YJR075W</i>	Kim et al, 2006	16407250
Idarubicin	<i>TOP2</i>	<i>YNL088W</i>	Dunstan et al, 2002	11792746
Itraconazole	<i>ERG11</i>	<i>YHR007C</i>	Craven et al, 2007	17954932
Ketoconazole	<i>ERG11</i>	<i>YHR007C</i>	Lewis et al, 1999	10445042
Latrunculin B	<i>ACT1</i>	<i>YFL039C</i>	Ayscough et al, 1997	9128251
Lithium	<i>INM1</i>	<i>YHR046C</i>	Murray & Greenberg, 2000	10844654
Lithium	<i>MET22</i>	<i>YOL064C</i>	Aggarwal et al, 2005	15849794
Lovastatin	<i>HMG1</i>	<i>YML075C</i>	Rine et al, 1983	6316322
Lovastatin	<i>HMG2</i>	<i>YLR450W</i>	Rine et al, 1983	6316322
mAMSA	<i>TOR2</i>	<i>YKL203C</i>	Nitiss & Wang 1988	2845409
Mebendazole	<i>TUB1</i>	<i>YML085C</i>	Laclette et al, 1980	7356473
Mebendazole	<i>TUB2</i>	<i>YFL037W</i>	Laclette et al, 1980	7356473
Mebendazole	<i>TUB3</i>	<i>YML124C</i>	Laclette et al, 1980	7356473
Methotrexate	<i>CDC21</i>	<i>YOR074C</i>	Yan et al, 2008	18622398
Methotrexate	<i>DFR1</i>	<i>YOR236W</i>	Huang et al, 1992	1427091
Miconazole	<i>ERG11</i>	<i>YHR007C</i>	Giaever et al, 2004	14718668

Myriocin	<i>LCB1</i>	<i>YMR296C</i>	Walther et al, 2007	18034155
Myriocin	<i>LCB2</i>	<i>YDR062W</i>	Luo et al, 2008	18296441
NaF	<i>IPP1</i>	<i>YBR011C</i>	Yan et al, 2009	19332878
Nikkomycin X/Z	<i>CHS1</i>	<i>YNL192W</i>	Cabib, 1991	2014972
Nikkomycin X/Z	<i>CHS2</i>	<i>YBR038W</i>	Cabib, 1991	2014972
Nocodazole	<i>EXO84</i>	<i>YBR102C</i>	Hillenmeyer et al, 2010	20226027
Nocodazole	<i>TUB1</i>	<i>YML085C</i>	Guthrie & Wickner, 1988	3292537
Nocodazole	<i>TUB2</i>	<i>YFL037W</i>	Laclette et al, 1980	7356473
Nocodazole	<i>TUB3</i>	<i>YML124C</i>	Laclette et al, 1980	7356473
Nystatin	<i>ERG11</i>	<i>YHR007C</i>	te Welscher et al, 2010	20385867
Omeprazole	<i>PMA1</i>	<i>YGL008C</i>	Monk et al, 1995	7548148
Pentamidine	<i>PNT1</i>	<i>YOR266W</i>	He & Fox, 1999	10490599
Phenylaminopyrimidine	<i>PKC1</i>	<i>YBL105C</i>	Luesch et al, 2005	15664515
Polyoxin D	<i>CHS1</i>	<i>YNL192W</i>	Cabib, 1991	2014972
Polyoxin D	<i>CHS2</i>	<i>YBR038W</i>	Cabib, 1991	2014972
Prednisolone	<i>HSC82</i>	<i>YMR186W</i>	Mandal et al, 2008	18443039
Prednisolone	<i>HSP82</i>	<i>YPL240C</i>	Mandal et al, 2008	18443039
Quinine	<i>TAT2</i>	<i>YOL020W</i>	Kozioe et al, 2009	19416971
Radicicol	<i>HSC82</i>	<i>YMR186W</i>	Taldone et al, 2009	19017562
Radicicol	<i>HSP82</i>	<i>YPL240C</i>	Taldone et al, 2009	19017562
Rapamycin	<i>TOR1</i>	<i>YJR066W</i>	Zheng & Schreiber, 1997	9096347
Rapamycin	<i>TOR2</i>	<i>YKL203C</i>	Zheng & Schreiber, 1997	9096347
Sirtinol	<i>SIR2</i>	<i>YDL042C</i>	Grozinger et al, 2001	11483616
Splitomicin	<i>SIR2</i>	<i>YDL042C</i>	Bedalov et al, 2001	11752457
Staurosporine	<i>PKC1</i>	<i>YBL105C</i>	Yoshida et al, 1992	1538690
Sulconazole nitrate	<i>ERG11</i>	<i>YHR007C</i>	Dimster-Denk et al, 1999	10224154
Sulfamethoxazole	<i>FOL1</i>	<i>YNL256W</i>	Patel et al, 2003	12820798
Sulfamethoxazole	<i>FOL3</i>	<i>YMR113W</i>	Patel et al, 2003	12820798
Sulfanilamide	<i>FOL1</i>	<i>YNL256W</i>	Patel et al, 2003	12820798
Sulfanilamide	<i>FOL3</i>	<i>YMR113W</i>	Patel et al, 2003	12820798
Tacrolimus (FK506)	<i>CNB1</i>	<i>YKL190W</i>	Parsons et al, 2004	14661025
Terbinafine	<i>ERG1</i>	<i>YGR175C</i>	Jandrositz et al, 1991	1743514
Thiabendazole	<i>TUB1</i>	<i>YML085C</i>	Chanklan et al, 2008	18391444
Thiabendazole	<i>TUB2</i>	<i>YFL037W</i>	Chanklan et al, 2008	18391444
Thiabendazole	<i>TUB3</i>	<i>YML124C</i>	Chanklan et al, 2008	18391444
Tolnaftate	<i>ERG1</i>	<i>YGR175C</i>	White et al, 1998	9564569
Tunicamycin	<i>ALG7</i>	<i>YBR243C</i>	Barnes et al, 1984	6096695
Wortmannin	<i>STT4</i>	<i>YLR305C</i>	Kaufer, et al 1983	9346907

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Supplementary Table 2. Drug synergy predictions made using synergistic genetic interactions between genes encoding drug targets.

Drug(s)	Target	Drug(s)	Target	Genetic Interaction Scores between Genes Encoding Targets [†]	Drug Pair tested	Reason if not tested [‡]
Myriocin	Lcb2	Cyclosporin A, Tacrolimus (FK506)	Cnb1	0.0365, -0.1859, 0	Myriocin - Tacrolimus	tested
Myriocin	Lcb2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, -0.3218, 0	Myriocin - Radicicol	tested
Myriocin	Lcb2	Quinine	Tat2	0, -0.2611, 0	Myriocin - Quinine	tested
Myriocin	Lcb1	Hygromycin	Hoc1	-0.1577, SG, SG	Myriocin - Hygromycin	tested
Lithium	Inm1	Cyclosporin A, Tacrolimus (FK506)	Cnb1	0, -0.0983	Lithium - Tacrolimus	tested
Lithium	Inm1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	0, SG, SG	Lithium - Radicicol	tested
Lithium	Inm1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, 0, SG, SG	Lithium - Radicicol	tested
Lithium	Met22	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, SL, SL	Lithium - Radicicol	tested
Lithium	Met22	Aureobasidin A	Aur1	-0.1134	Lithium - Aureobasidin A	tested
Latrunculin B	Act1	Cyclosporin A, Tacrolimus (FK506)	Cnb1	0.1050, -0.1181, 0, 0, 0, 0	Latrunculin B - Tacrolimus	tested
Latrunculin B	Act1	Dyclonine, Fenpropimorph, Haloperidol	Erg2	-0.0972, 0, 0, 0.0515, 0, 0.0657, 0, -0.1119, 0, 0, 0	Latrunculin B - Dyclonine, Latrunculin B - Haloperidol, Latrunculin B - Fenpropimorph	tested
Hygromycin	Hoc1	Latrunculin B	Act1	-0.2238, -0.0478, 0, 0, -0.1292, SG, SG	Hygromycin - Latrunculin B	tested

Cycloheximide	Rpl41A	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, SL, SL	Cycloheximide - Radicicol	tested
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	SG, SG	Benomyl - Radicicol	tested
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	SG, SG	Benomyl - Radicicol	tested
Benomyl, Carbendazim, Fenbendazole, Mebendazole	Tub1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	SG, SG	Benomyl - Radicicol	tested
Benomyl, Carbendazim, Fenbendazole, Mebendazole	Tub1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	SG, SG	Benomyl - Radicicol	tested
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub3	Pentamidine	Pnt1	-0.3242, 0, SL, SL	Benomyl - Pentamidine	tested
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub3	Latrunculin B	Act1	-0.2028, -0.0472, 0, 0, -0.0970, -0.0419, SG, SG	Benomyl - Latrunculin B	tested
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub3	Calyculin A	Glc7	0, SG, SG	Benomyl - Calyculin A	tested
Wortmannin	Stt4	Phenylaminopyrimidine, Staurosporine	Pkc1	SG, SG	Wortmannin - Staurosporine	tested
Wortmannin	Stt4	Aureobasidin A	Aur1	SL, SL	Wortmannin - Aureobasidin A	tested
Tunicamycin	Alg7	Latrunculin B	Act1	SL, SL	Tunicamycin - Latrunculin B	tested
Caffeine, Rapamycin	Tor1	Terbinafine, Tolnaftate	Erg1	SG, SG	Terbinafine-Rapamycin	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	Terbinafine, Tolnaftate	Erg1	SG, SG	Terbinafine-Radicicol	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Terbinafine, Tolnaftate	Erg1	SG, SG	Terbinafine-Radicicol	tested

Phenylaminopyrimidine, Staurosporine	Pkc1	Cyclosporin A, Tacrolimus (FK506)	Cnb1	-0.3690, 0, SG, SG	Staurosporine - Tacrolimus	tested
Phenylaminopyrimidine, Staurosporine	Pkc1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	-0.0620, -0.0686, -0.1156, 0, 0	Staurosporine - Radicicol	tested
Phenylaminopyrimidine, Staurosporine	Pkc1	Lithium	Met22	-0.1208, 0, SG, SG	Staurosporine - Lithium	tested
Phenylaminopyrimidine, Staurosporine	Pkc1	Hygromycin	Hoc1	0.0867, 0, SG, SG	Staurosporine - Hygromycin	tested
Phenylaminopyrimidine, Staurosporine	Pkc1	Dyclonine, Fenpropimorph, Haloperidol	Erg2	0, 0, 0, -0.1300, -0.0944	Staurosporine - Dyclonine, Staurosporine - Haloperidol, Staurosporine - Fenpropimorph	tested
Caffeine, Rapamycin	Tor1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	0, SG, SG	Rapamycin - Radicicol	tested
Caffeine, Rapamycin	Tor1	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, 0, SG, SG	Rapamycin - Radicicol	tested
Mamsa, Rapamycin	Tor2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	0, 0, 0, SG, SG	Rapamycin - Radicicol	tested
Mamsa, Rapamycin	Tor2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, 0, 0, SG, SG	Rapamycin - Radicicol	tested
Mamsa, Rapamycin	Tor2	Lithium	Inm1	-0.0932, 0, 0	Rapamycin - Lithium	tested
Caffeine, Rapamycin	Tor1	Latrunculin B	Act1	0, -0.0801, -0.0535, 0, 0, 0	Rapamycin - Latrunculin B	tested
Mamsa, Rapamycin	Tor2	Hygromycin	Hoc1	0, -0.0829, 0	Rapamycin - Hygromycin	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	Latrunculin B	Act1	-0.1247, 0, 0, 0, 0, 0, SG, SG, SG, SG	Radicicol - Latrunculin B	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Latrunculin B	Act1	0, -0.0467, 0, 0, 0.1094, 0, SG, SG	Radicicol - Latrunculin B	tested

Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Hygromycin	Hoc1	0, 0, SL, SL	Radicicol - Hygromycin	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	Clozapine	Cox17	SG, SG	Radicicol - Clozapine	tested
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Clozapine	Cox17	SG, SG	Radicicol - Clozapine	tested
Quinine	Tat2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	SG, SG	Quinine - Radicicol	tested
Quinine	Tat2	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	0, SG, SG	Quinine - Radicicol	tested
Amphotericin B	Erg28	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	SL, SL	none	at least one drug targets ergosterol metabolism
Amphotericin B	Erg28	Fenpropimorph	Erg24	SL, SL	none	at least one drug targets ergosterol metabolism
Amsacrine, Doxorubicin, Idarubicin	Top2	Camptothecin	Top1	SL, SG, SL, SG	none	Camptothecin does not mimic deletion of Top1
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	-0.4932, SL, SG, SG, SL, SG, SG	none	predicted drug pair involves the same drug(s)
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	Dyclonine, Fenpropimorph, Haloperidol	Erg2	SG, SG	none	at least one drug targets ergosterol metabolism
Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	Dyclonine, Fenpropimorph, Haloperidol	Erg2	0, SG, SG	none	at least one drug targets ergosterol metabolism
Atorvastatin, Compactin, Lovastatin	Hmg2	Atorvastatin, Cervastatin, Compactin, Lovastatin	Hmg1	-0.8069, SL, SG, SG, SL, SG, SG	none	predicted drug pair involves the same drug(s)
Benomyl, Carbendazim, Colchicine, Fenbendazole, Mebendazole, Nocodazole, Thiabendazole	Tub3	Benomyl, Carbendazim, Fenbendazole, Mebendazole	Tub1	SL, SL	none	predicted drug pair involves the same drug(s)

Caffeine, Rapamycin	Tor1	Hydroxyurea	Rnr1	SG, SG	none	Hydroxyurea did not inhibit cell growth
Calyculin A	Glc7	Caspofungin	Fks1	-0.1227, SG, SG	none	Caspofungin was not obtained
Camptothecin	Top1	Calyculin A	Glc7	-0.1179	none	Camptothecin does not mimic deletion of Top1
Camptothecin	Top1	Caspofungin	Fks1	-0.0559, 0, SL, SL	none	Camptothecin does not mimic deletion of Top1
Camptothecin	Top1	Sirtinol, Splitomicin	Sir2	SG, SG	none	Camptothecin does not mimic deletion of Top1
Caspofungin	Fks1	Cyclosporin A, Tacrolimus (FK506)	Cnb1	-0.0782, SL, SL	none	Caspofungin was not obtained
Caspofungin	Fks1	Latrunculin B	Act1	0, 0, 0, -0.1290, -0.0914, 0.0566, SG, SG	none	Caspofungin was not obtained
Caspofungin	Fks1	Nocodazole	Exo84	-0.1919	none	Nocodazole did not inhibit cell growth
Cyclosporin A, Tacrolimus (FK506)	Cnb1	Nikkomycin X/Z, Polyoxin D	Chs2	SL, SL	none	Nikkomycin X/Z or Polyoxin D did not inhibit cell growth
Fenpropimorph	Erg24	Amphotericin B	Erg28	SL,SL	none	at least one drug targets ergosterol metabolism
Fenpropimorph	Erg24	Dyclonine, Fenpropimorph, Haloperidol	Erg2	SL, SL	none	at least one drug targets ergosterol metabolism
Guanidine hydrochloride	Hsp104	Nocodazole	Exo84	-0.1562	none	Nocodazole did not inhibit cell growth

Hydroxyurea	Rnr4	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsc82	SG, SG	none	Hydroxyurea did not inhibit cell growth
Hydroxyurea	Rnr4	Ansamycin, Geldanamycin, Prednisolone, Radicicol	Hsp82	SG, SG	none	Hydroxyurea did not inhibit cell growth
Hygromycin	Hoc1	Caspofungin	Fks1	-0.1356, 0, SG, SG	none	Caspofungin was not obtained
Mamsa, Rapamycin	Tor2	Caffeine, Rapamycin	Tor1	-0.6085, -0.4658, -0.1682, SG, SG, SG, SG	none	predicted drug pair involves the same drug(s)
Omeprazole	Pma1	Hygromycin	Hoc1	-0.1204, SG, SG	none	Omeprazole did not inhibit cell growth
Phenylaminopyrimidine, Staurosporine	Pkc1	Atorvastatin, Cervastatin, Compactin, Lovastatin	Hmg1	-0.1601, 0.0396, 0, 0, 0	none	Compactin & Lovastatin did not inhibit cell growth
Phenylaminopyrimidine, Staurosporine	Pkc1	Caspofungin	Fks1	-0.4344, 0, SL, SG, SL, SG	none	Caspofungin was not obtained
Sirtinol, Splitomicin	Sir2	Latrunculin B	Act1	SG, SG	none	Sirtinol activates Sir2
Wortmannin	Stt4	Caspofungin	Fks1	SL, SL	none	Caspofungin was not obtained

† Genetic interactions learned from BioGrid are given as SL: Synthetic Lethality, SG: Synthetic Growth Defect / Negative Genetic. Genetic Interactions learned from Costanzo et al. and Baryshnikova et al. are given as scores described in these works, where a score < -0.08 and $p < 0.05$ is considered as a negative genetic interaction.

‡ Testing of some drug pairs that included an ergosterol pathway targeting drug were omitted since ergosterol pathway targeting drugs are predicted to be synergistic according to the bioavailability model.

Supplementary Figure 1. For each pairwise drug interaction experiment, drug pairs were combined in 8 x 8 matrices where the concentration of one drug was linearly increased along each axis. On the left, growth rates for each 8 x 8 matrix is shown (white corresponds to high growth and black corresponds to no growth. Color bar is identical to Figure 2.). Also shown are sample isoboles (white solid lines), largest isobole used for drug interaction scoring (yellow dots), and drug interaction scores. On the right, raw data plots are shown, where the x axis of each cell corresponds to time (0 to 24 hours), and the y axis corresponds to OD₅₉₅ measurements (0 to 1). For drug name abbreviations, see Table 1.

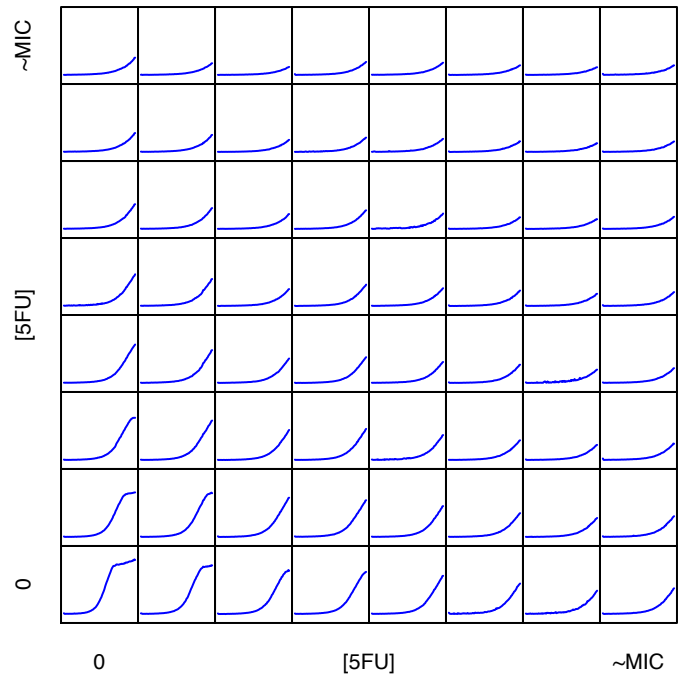
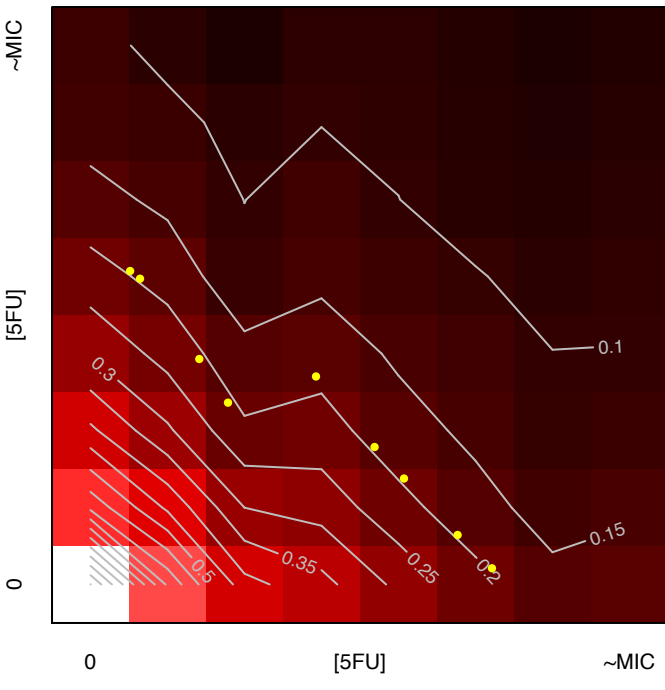
Index:

i.	5FU-5FU	xxiii.	Ben-Ben	xlv.	Bro-Bro	lxvii.	Cal-Lat
ii.	5FU-Ben	xxiv.	Ben-Bro	xlvi.	Bro-Cal	lxviii.	Cal-Pen
iii.	5FU-Lat	xxv.	Ben-C3P	xlvii.	Bro-Dyc	lxix.	Cal-Rap
iv.	5FU-Pen	xxvi.	Ben-Cal	xlviii.	Bro-Fen	lxx.	Cal-Sta
v.	5FU-Sta	xxvii.	Ben-Chl	xlix.	Bro-Hal	lxxi.	Cal-Tac
vi.	5FU-Tac	xxviii.	Ben-Cis	l.	Bro-Lat	lxxii.	Cal-Ter
vii.	5FU-Ter	xxix.	Ben-Cyc	li.	Bro-Pen	lxxiii.	Cal-Tun
viii.	AbA-Lit	xxx.	Ben-Dyc	lii.	Bro-Rap	lxxiv.	Can-Can
ix.	AbA-Wor	xxxi.	Ben-Fen	liii.	Bro-Sta	lxxv.	Can-Lat
x.	AmB-AmB	xxxii.	Ben-Hal	liv.	Bro-Tac	lxxvi.	Can-Pen
xi.	AmB-Ben	xxxiii.	Ben-Lat	lv.	Bro-Ter	lxxvii.	Can-Sta
xii.	AmB-Pen	xxxiv.	Ben-Met	lvi.	Bro-Tun	lxxviii.	Can-Tac
xiii.	AmB-Sta	xxxv.	Ben-MMS	lvii.	C3P-C3P	lxxix.	Can-Ter
xiv.	AmB-Tac	xxxvi.	Ben-Myr	lviii.	C3P-Lat	lxxx.	Chl-Chl
xv.	AmB-Ter	xxxvii.	Ben-Pen	lix.	C3P-Pen	lxxxi.	Chl-Lat
xvi.	Ani-Ani	xxxviii.	Ben-Qmy	lx.	C3P-Sta	lxxxii.	Chl-Pen
xvii.	Ani-Ben	xxxix.	Ben-Rad	lxi.	C3P-Tac	lxxxiii.	Chl-Sta
xviii.	Ani-Lat	xl.	Ben-Rap	lxii.	C3P-Ter	lxxxiv.	Chl-Tac
xix.	Ani-Pen	xli.	Ben-Sta	lxiii.	Cal-Cal	lxxxv.	Chl-Ter
xx.	Ani-Sta	xlii.	Ben-Tac	lxiv.	Cal-Dyc	lxxxvi.	Cis-Cis
xxi.	Ani-Tac	xliii.	Ben-Ter	lxv.	Cal-Fen	lxxxvii.	Cis-Lat
xxii.	Ani-Ter	xliv.	Ben-Tun	lxvi.	Cal-Hal	lxxxviii.	Cis-Sta

lxxxix.	Cis-Tac	cxvii.	Fen-Tun	cxlv.	Lit-Rap	clxxxiii.	Qmy-Qmy
xc.	Cis-Ter	cxviii.	Hal-Hal	cxlvi.	Lit-Sta	clxxxiv.	Qmy-Sta
xcii.	Cyc-Cyc	cxix.	Hal-Lat	cxlvii.	Lit-Tac	clxxxv.	Qmy-Tac
xciii.	Cyc-Lat	cxx.	Hal-Pen	cxlviii.	Met-Met	clxxxvi.	Qmy-Ter
xciv.	Cyc-Pen	cxxi.	Hal-Rap	cxlix.	Met-Pen	clxxxvii.	Rad-Rap
xcv.	Cyc-Rad	cxxii.	Hal-Sta	cl.	Met-Sta	clxxxviii.	Rad-Sta
xcvi.	Cyc-Sta	cxxiii.	Hal-Tac	cli.	Met-Tac	clxxxix.	Rad-Tac
xcvii.	Cyc-Tac	cxxiv.	Hal-Ter	clii.	Met-Ter	clxxx.	Rad-Ter
xcviii.	Cyc-Ter	cxxv.	Hal-Tun	cliii.	MMS-MMS	clxxxxi.	Rap-Rap
xcix.	Dyc-Dyc	cxxvi.	Hyg-Lat	cliv.	MMS-Pen	clxxxii.	Rap-Sta
c.	Dyc-Fen	cxxvii.	Hyg-Myr	clv.	MMS-Sta	clxxxiii.	Rap-Tac
ci.	Dyc-Hal	cxxviii.	Hyg-Rad	clvi.	MMS-Tac	clxxxiv.	Rap-Ter
cii.	Dyc-Lat	cxxix.	Hyg-Rap	clvii.	MMS-Ter	clxxxv.	Rap-Tun
ciii.	Dyc-Pen	cxix.	Hyg-Sta	clviii.	Myr-Myr	clxxxvi.	Sta-Sta
civ.	Dyc-Rap	cxix.	Lat-Lat	clix.	Myr-Pen	clxxxvii.	Sta-Tac
cv.	Dyc-Sta	cxixii.	Lat-Met	clx.	Myr-Qnn	clxxxviii.	Sta-Tam
cvi.	Dyc-Tac	cxixiii.	Lat-MMS	clxi.	Myr-Rad	clxxxix.	Sta-Ter
cvii.	Dyc-Ter	cxixiv.	Lat-Myr	clxii.	Myr-Sta	cxc.	Sta-Tun
cviii.	Dyc-Tun	cxixv.	Lat-Pen	clxiii.	Myr-Tac	cxc.	Sta-Wor
cix.	Fen-Fen	cxixvi.	Lat-Qmy	clxiv.	Myr-Ter	cxcii.	Tac-Tac
cx.	Fen-Hal	cxixvii.	Lat-Rad	clxv.	Pen-Qmy	cxciii.	Tac-Tam
cxii.	Fen-Lat	cxixviii.	Lat-Rap	clxvi.	Pen-Rad	cxciv.	Tac-Ter
cxiii.	Fen-Pen	cxixix.	Lat-Sta	clxvii.	Pen-Rap	cxcv.	Tac-Tun
cxiv.	Fen-Rap	cl.	Lat-Tac	clxviii.	Pen-Sta	cxcvi.	Tam-Tam
cxv.	Fen-Sta	cl.	Lat-Tam	clxix.	Pen-Tac	cxcvii.	Tam-Ter
cxvi.	Fen-Tac	clii.	Lat-Ter	clxx.	Pen-Ter	cxcviii.	Ter-Ter
cxvii.	Fen-Ter	cliii.	Lat-Tun	clxxi.	Pen-Tun	cxcix.	Ter-Tun
cxviii.	Fen-Tun	clxiv.	Lit-Rad	clxxii.	Qnn-Rad	cc.	Tun-Tun

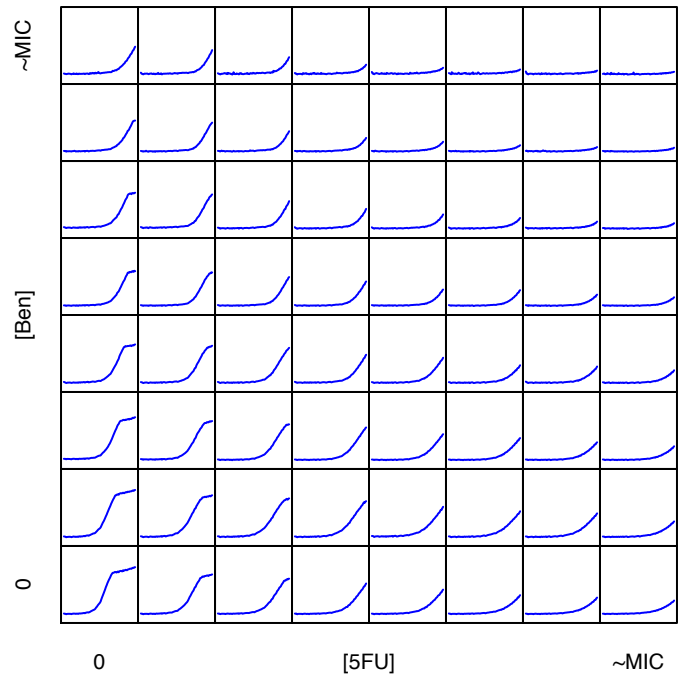
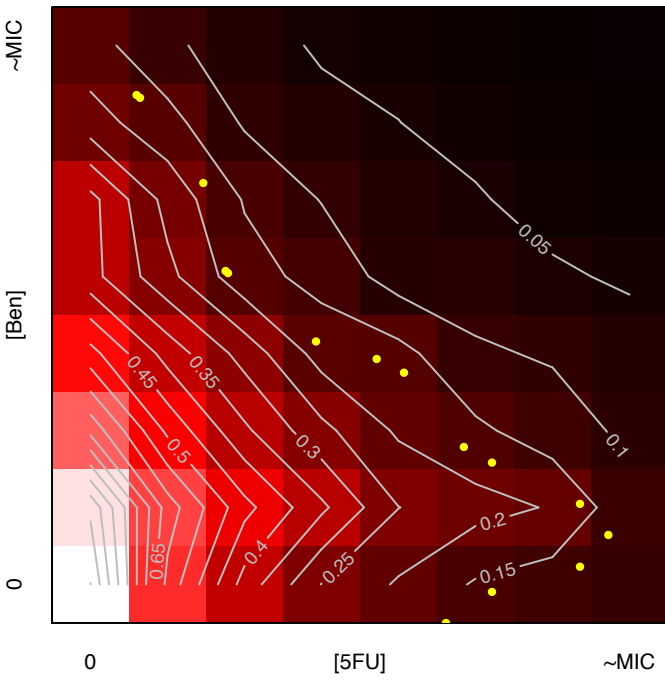
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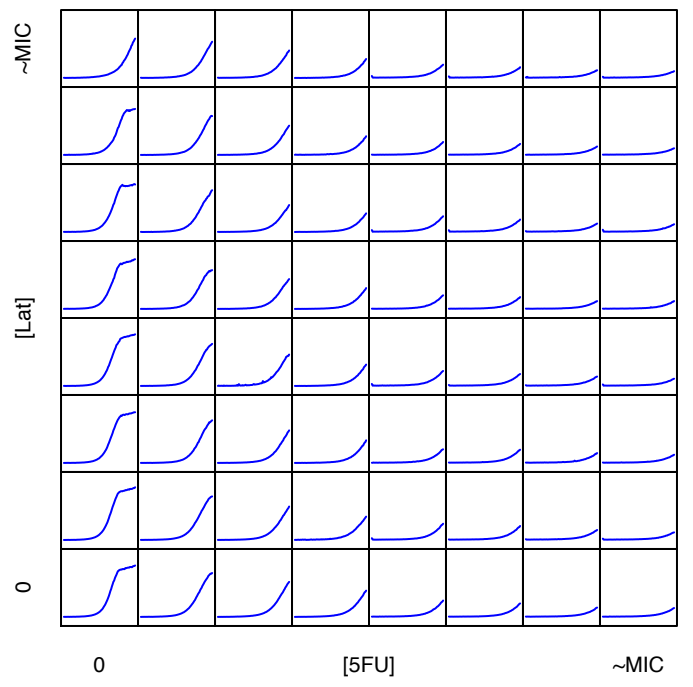
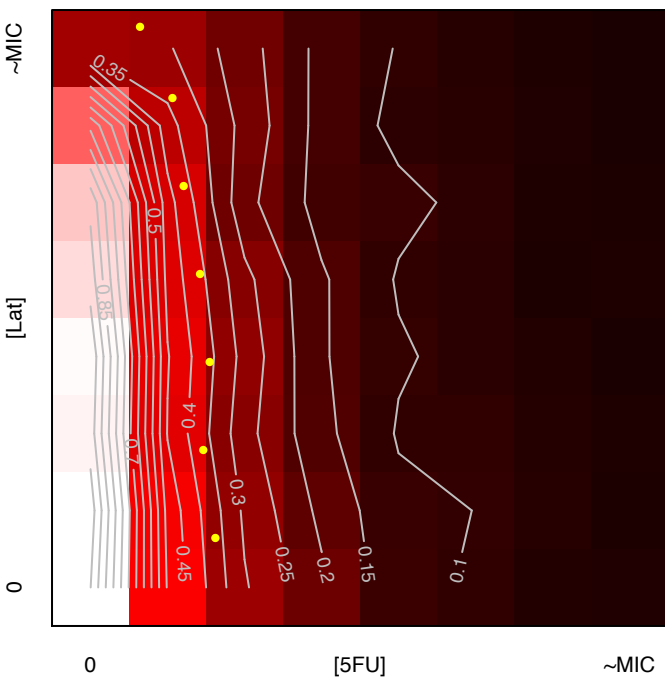
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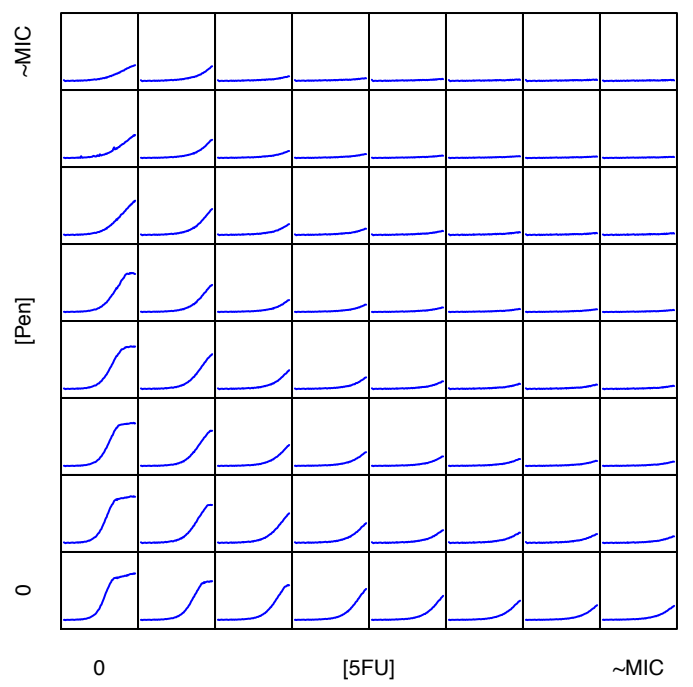
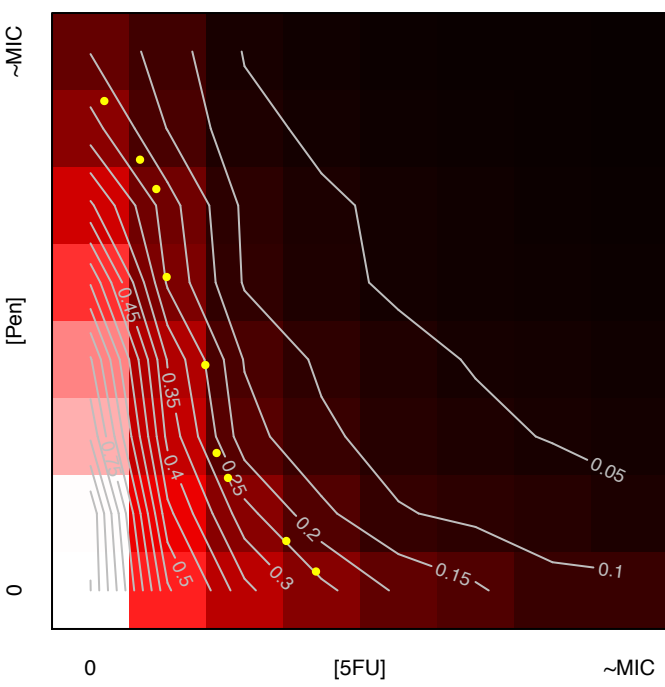
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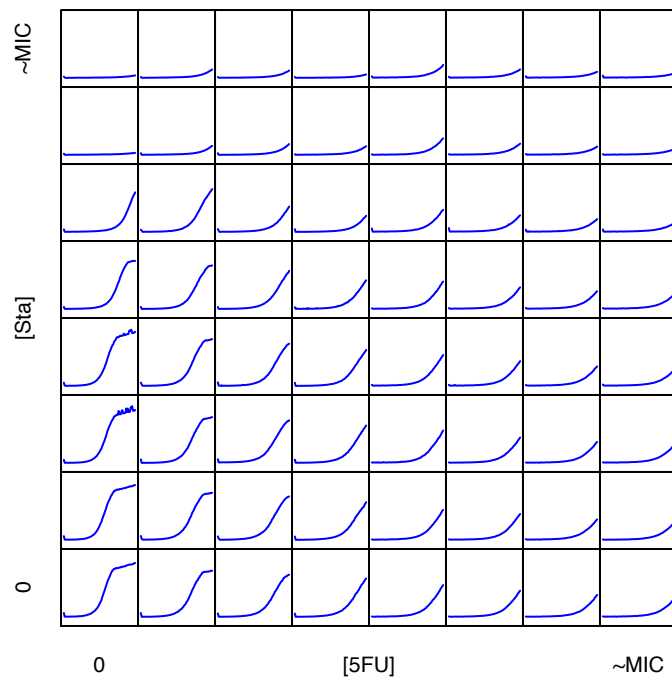
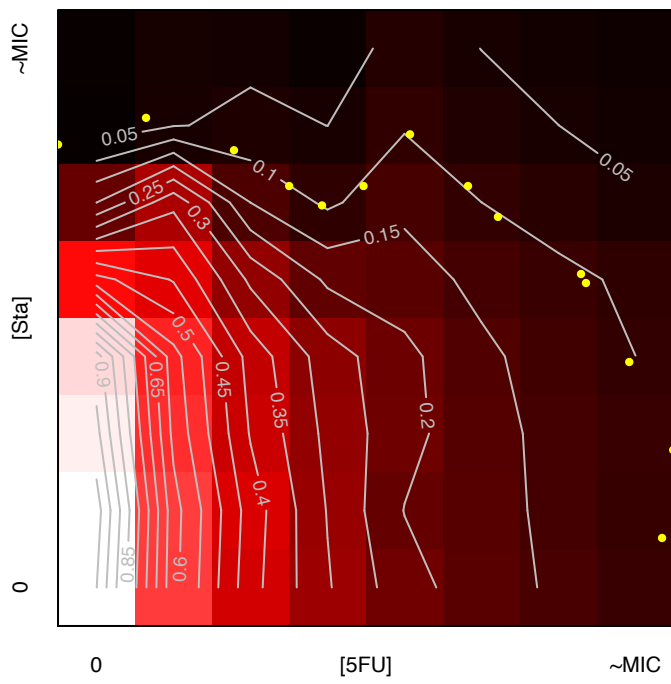
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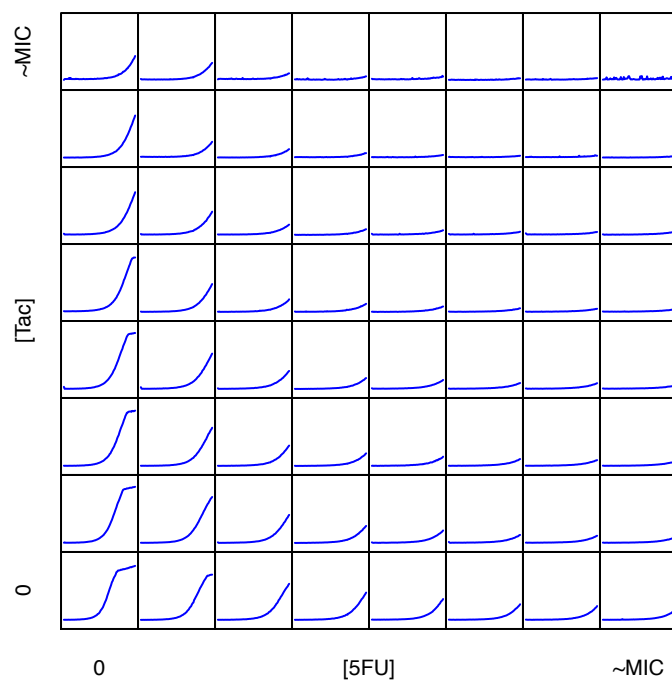
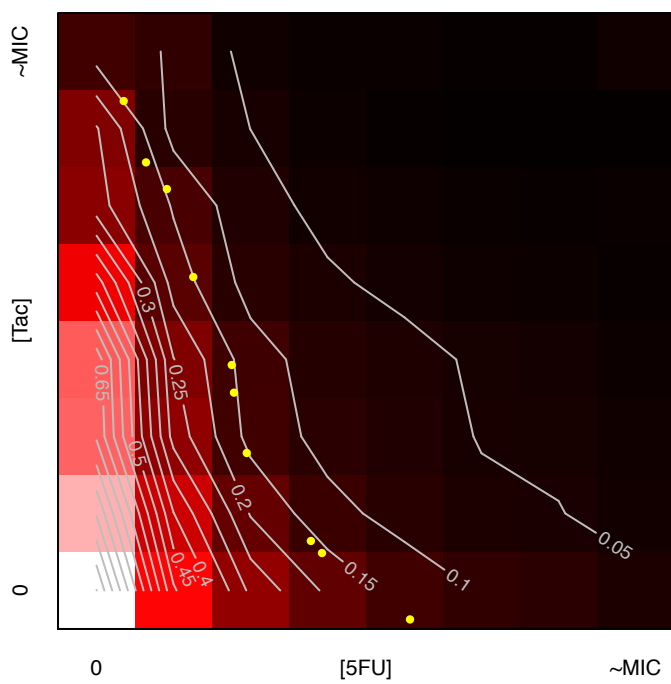
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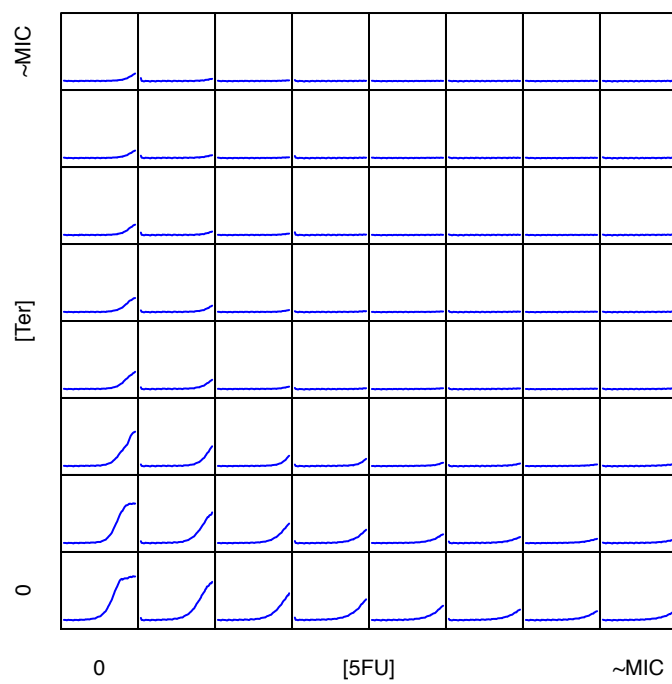
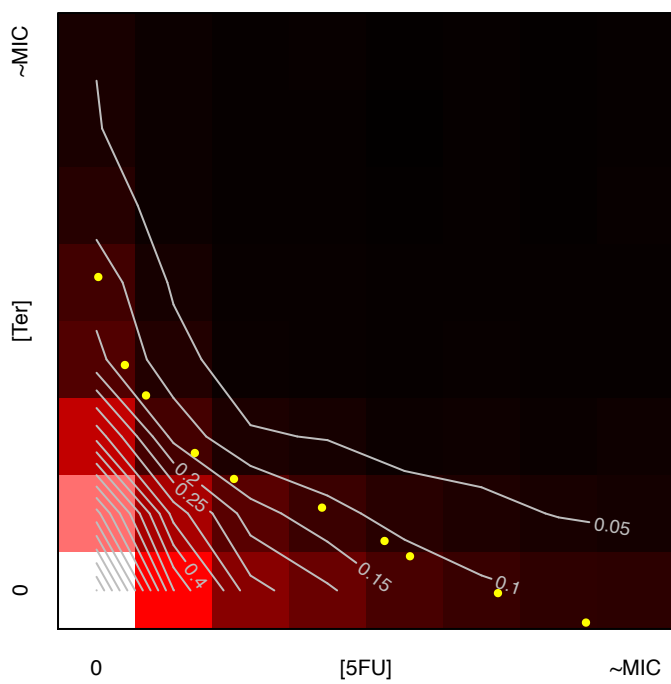
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vi



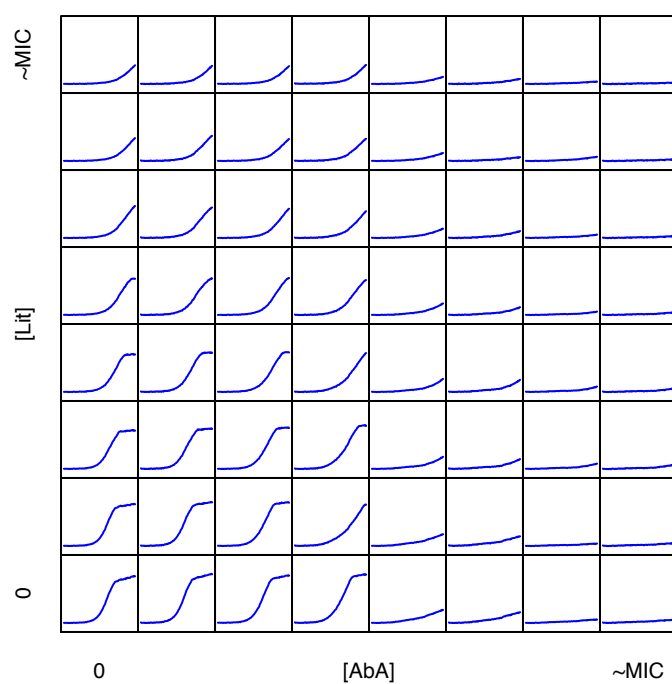
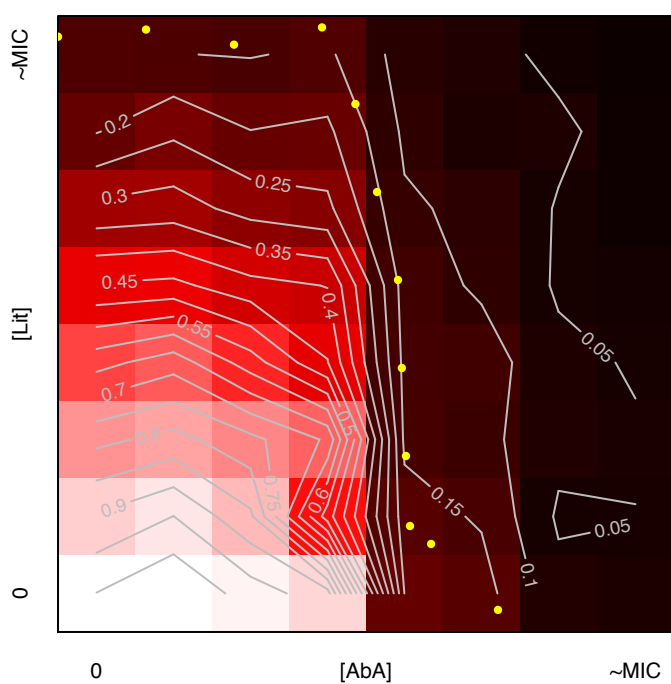
$\alpha = -1.502175$

vii



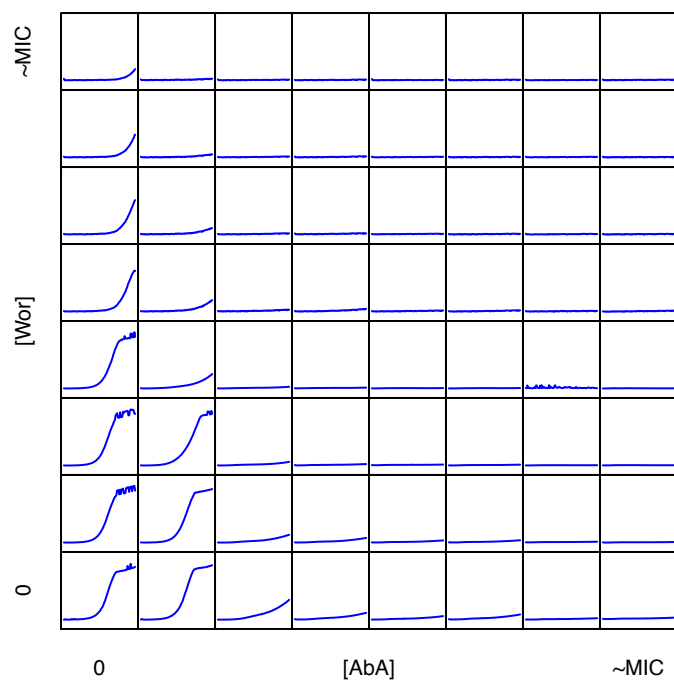
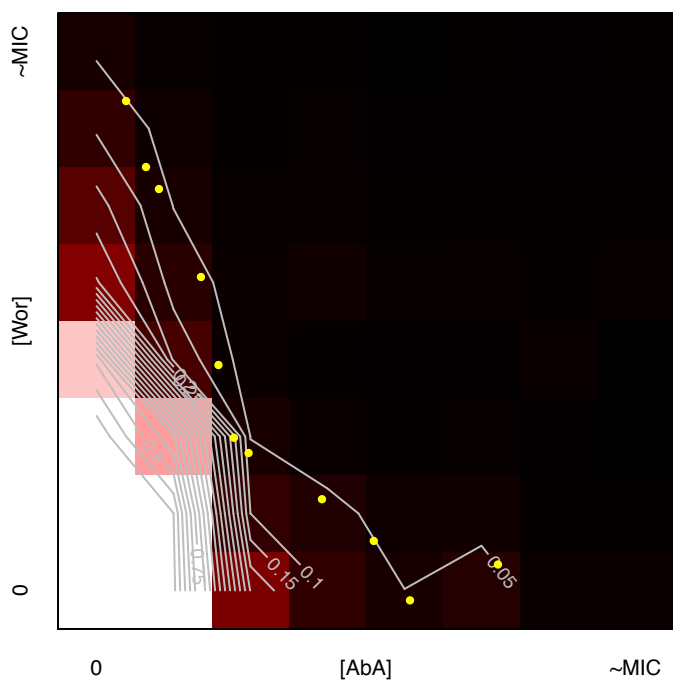
$\alpha = 1.277640$

viii



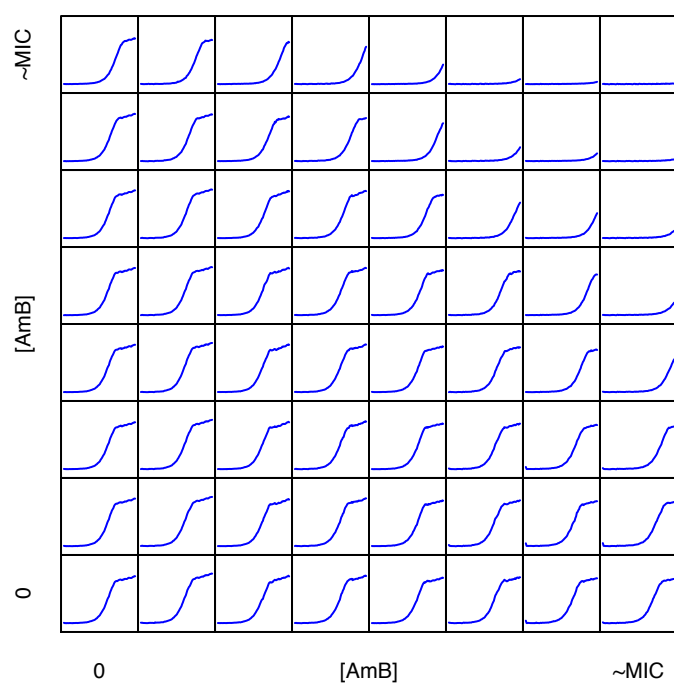
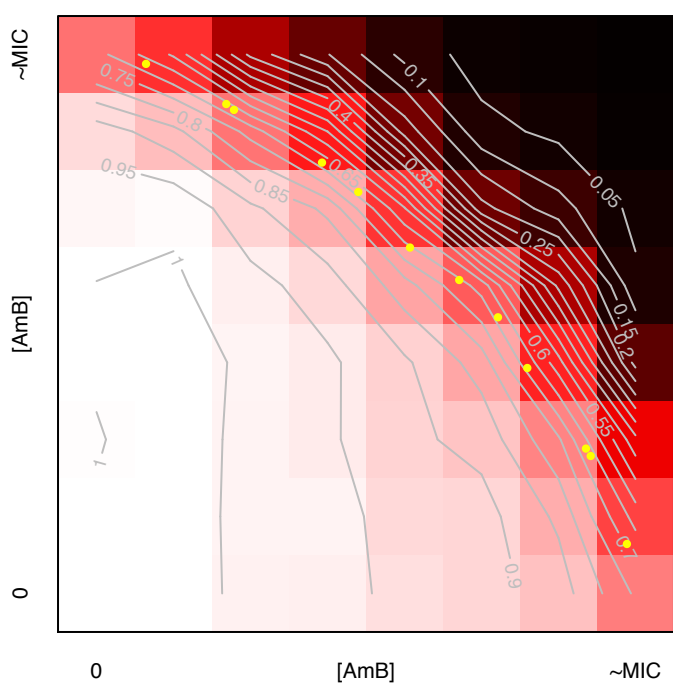
$\alpha = -1.030177$

ix



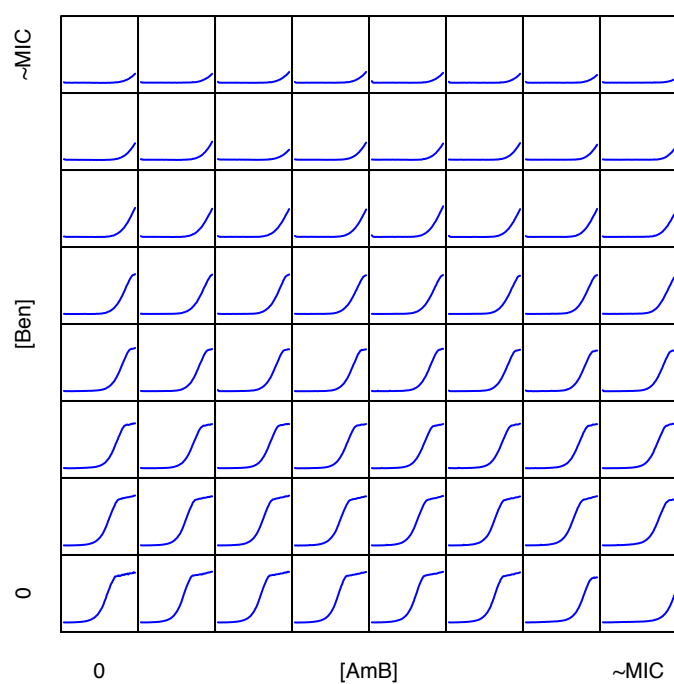
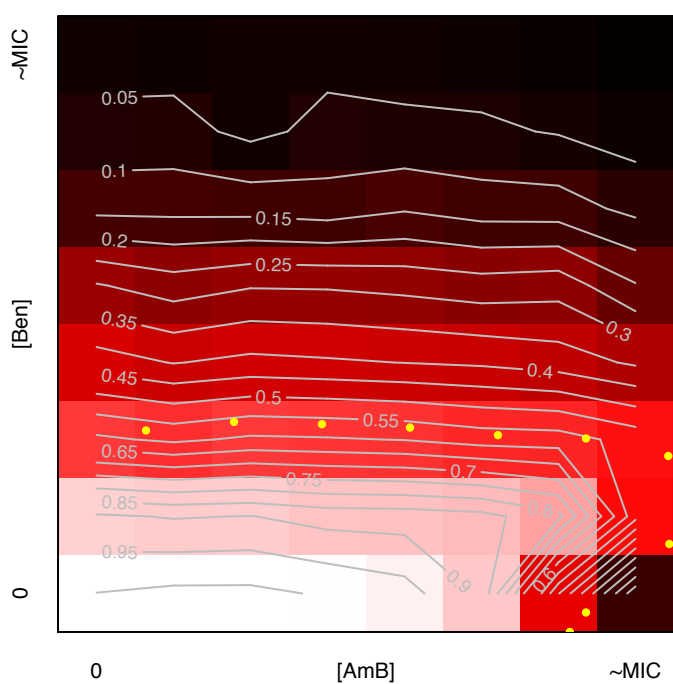
$\alpha = 0.9248558$

x



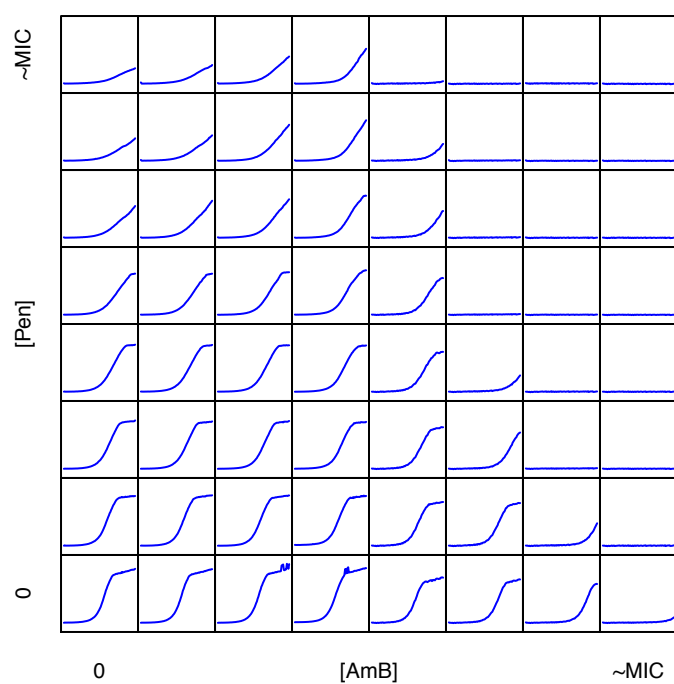
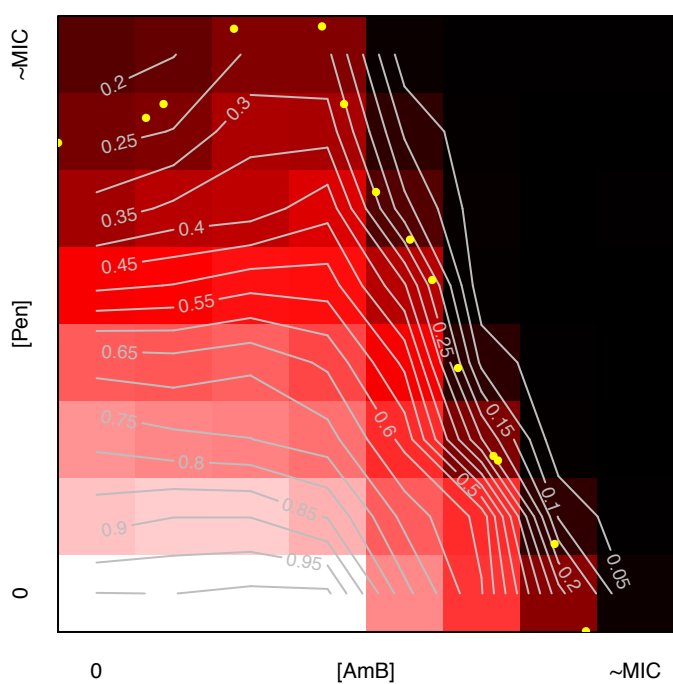
$\alpha = 3.532009$

xi



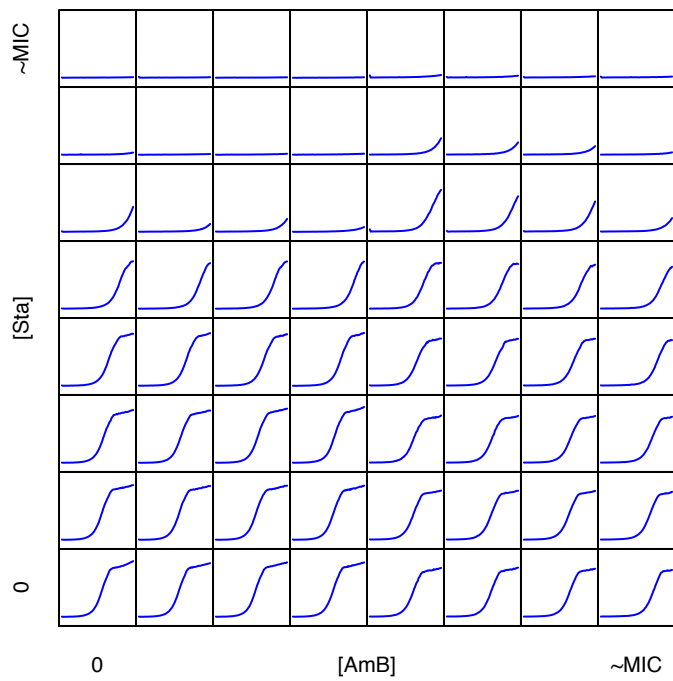
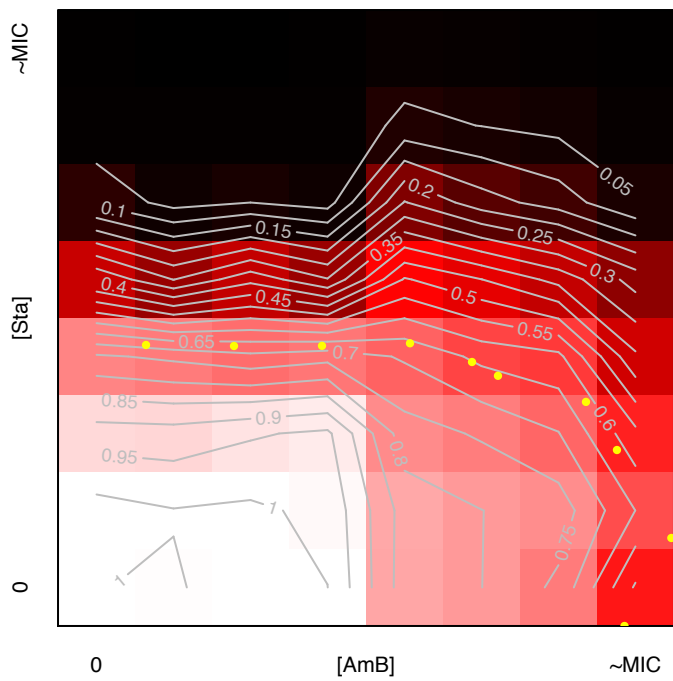
$\alpha = 0.9249675$

xii



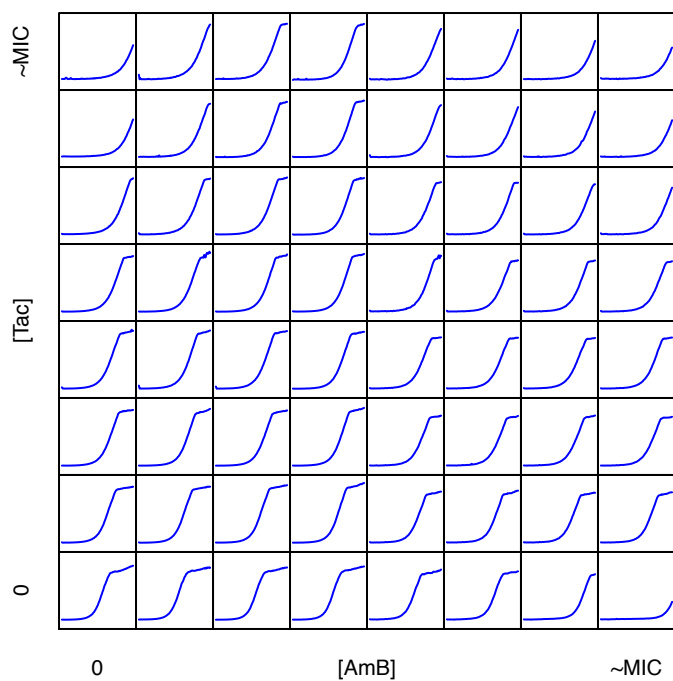
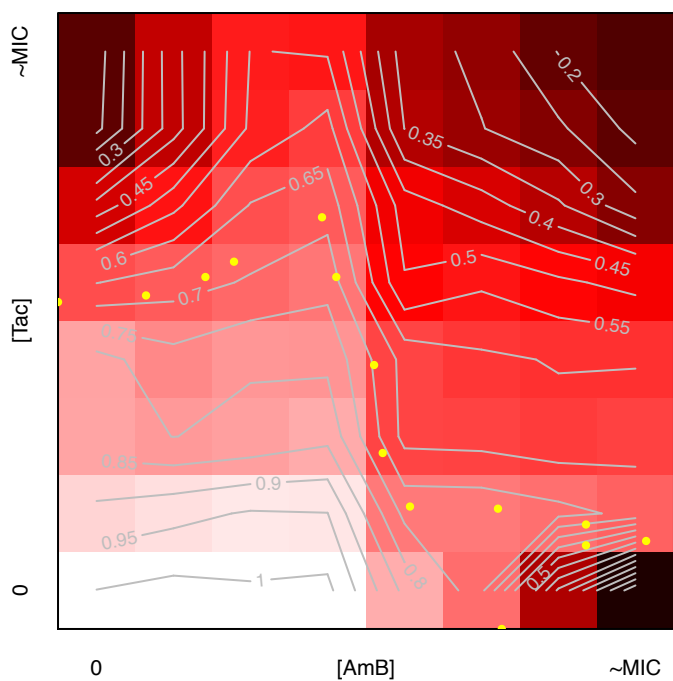
$\alpha = 2.923044$

xiii



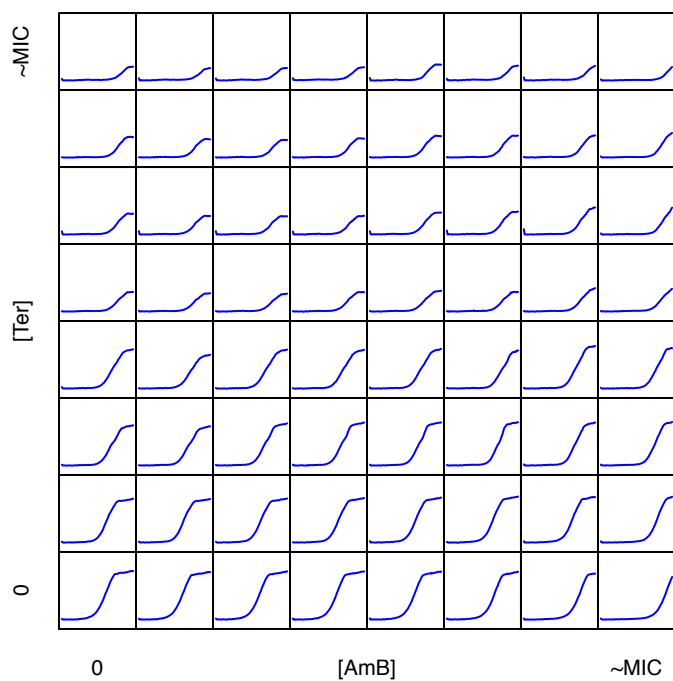
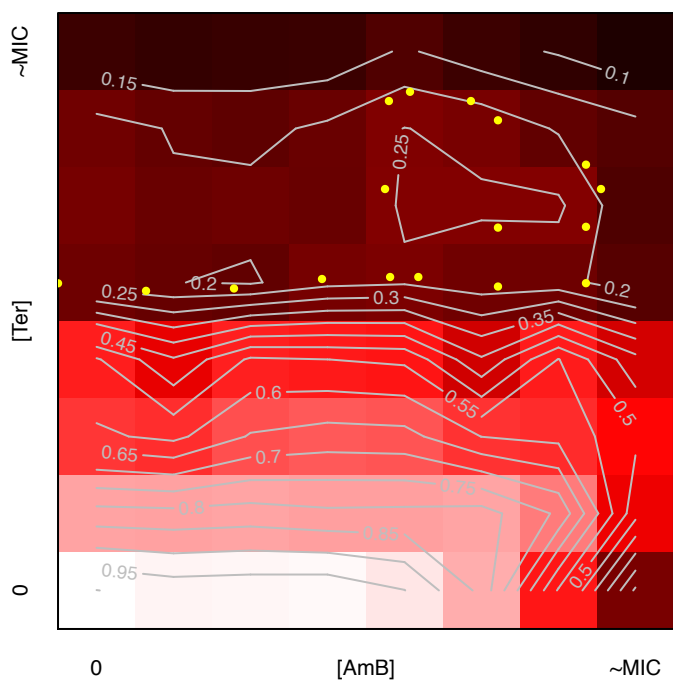
$\alpha = 0.7041237$

xiv



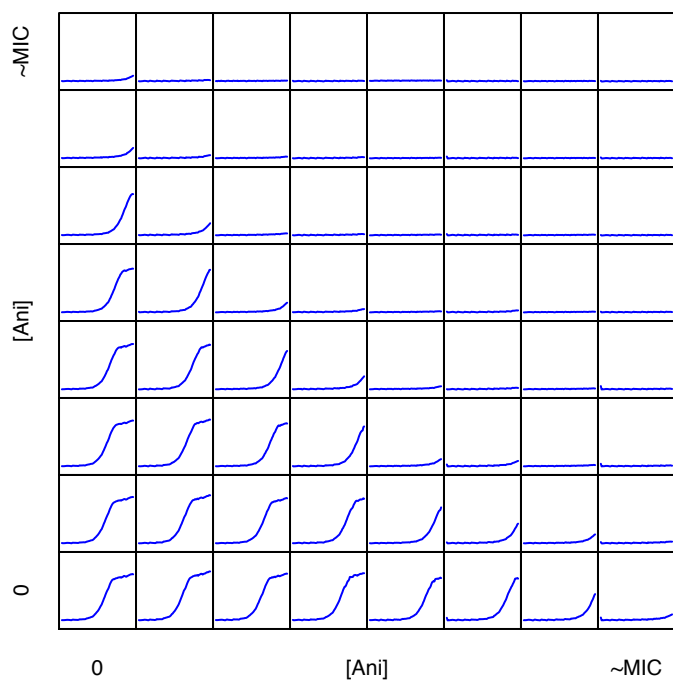
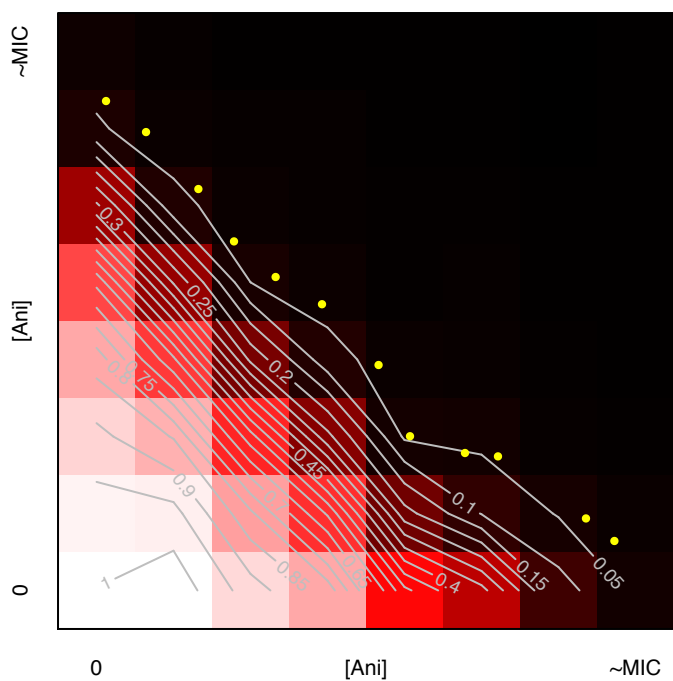
$\alpha = 0.2782055$

xv

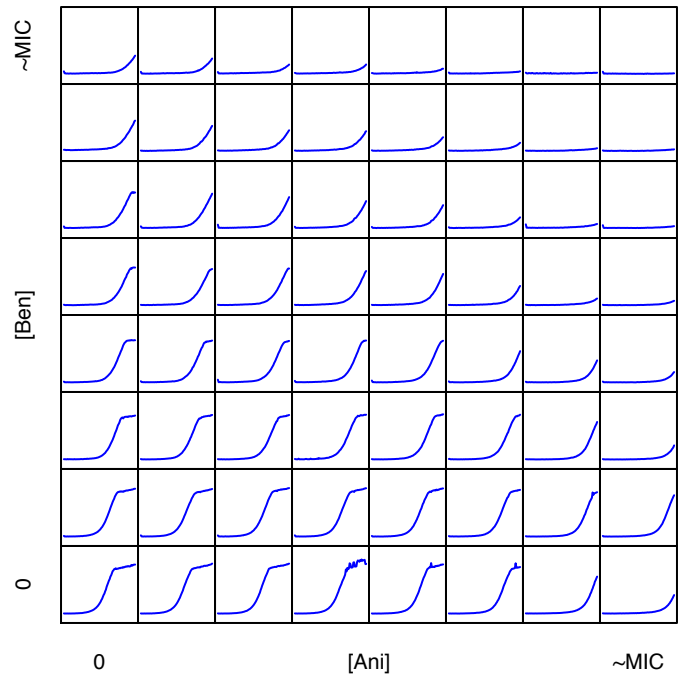
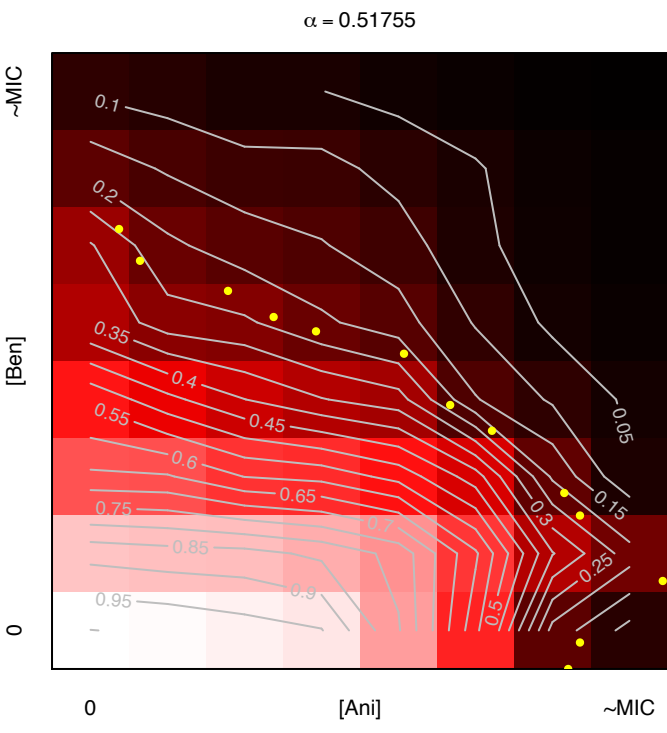


$\alpha = -0.1286633$

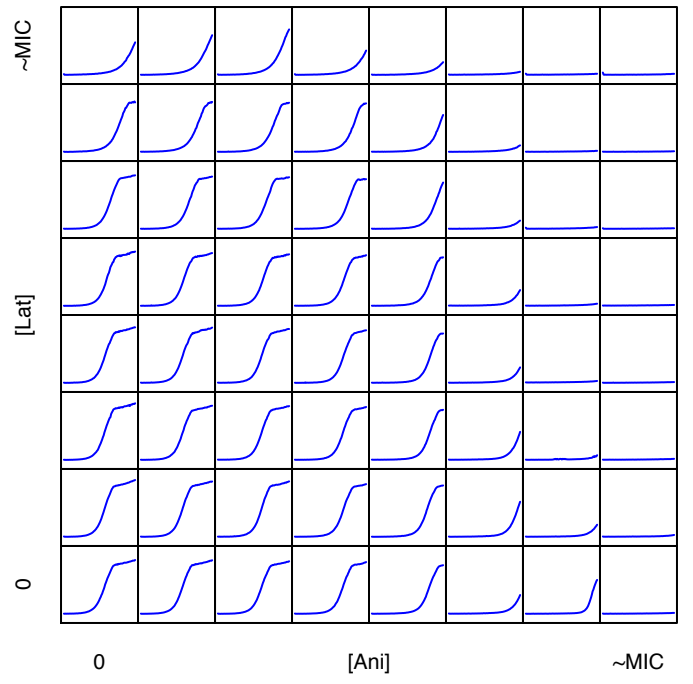
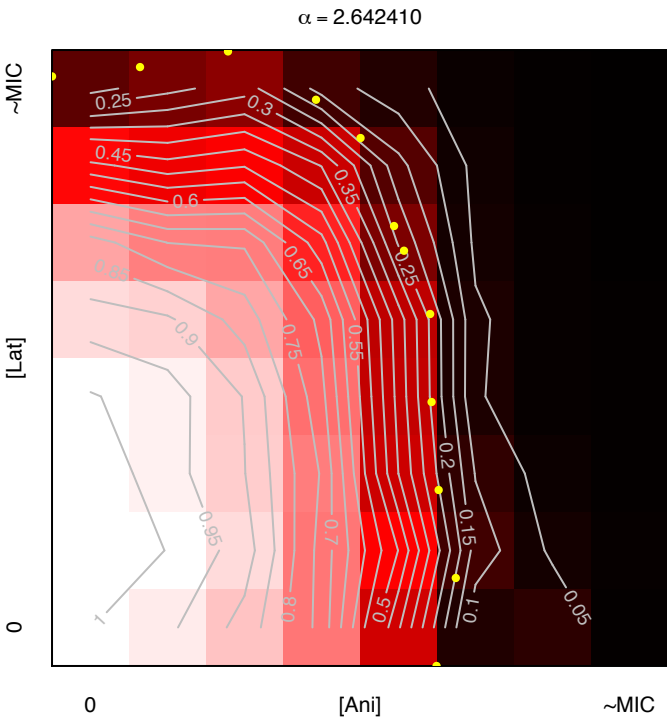
xvi



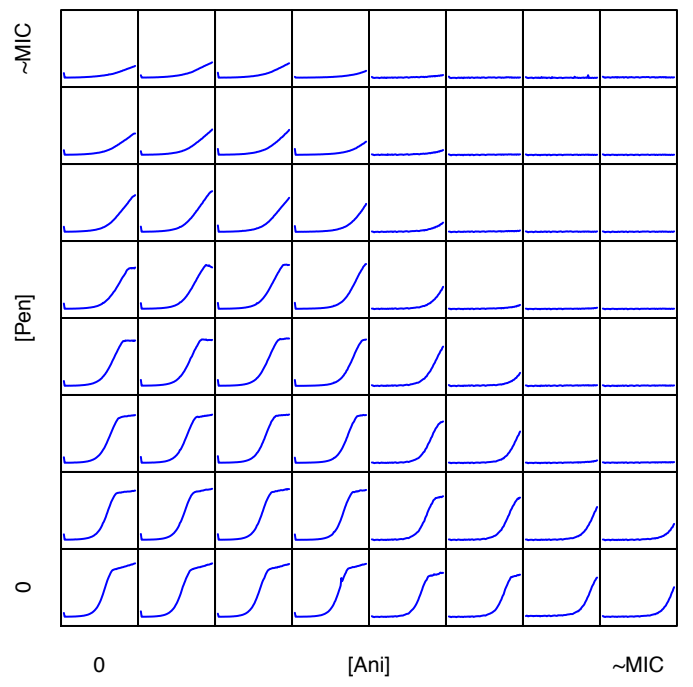
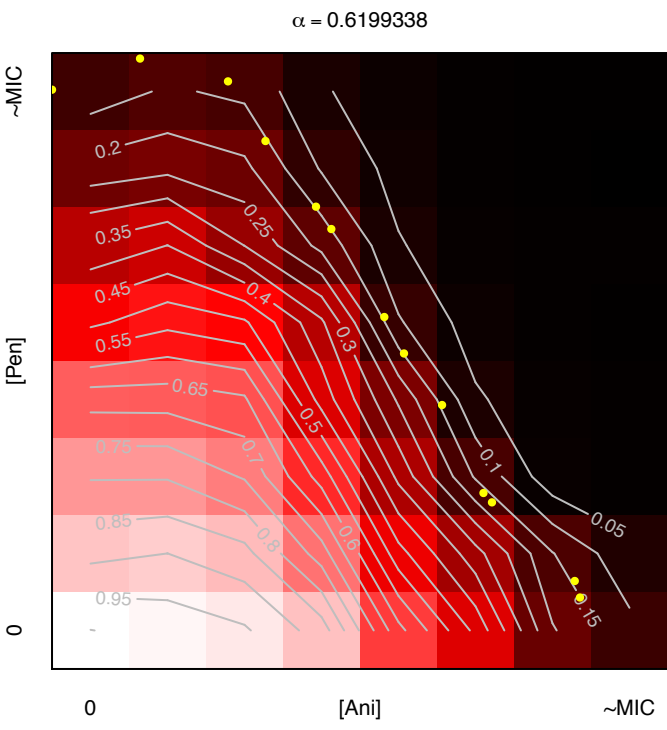
xvii



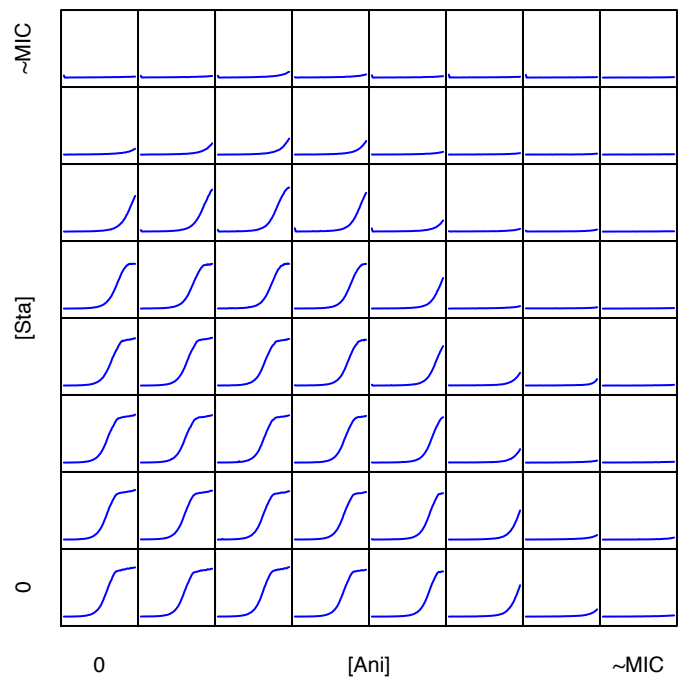
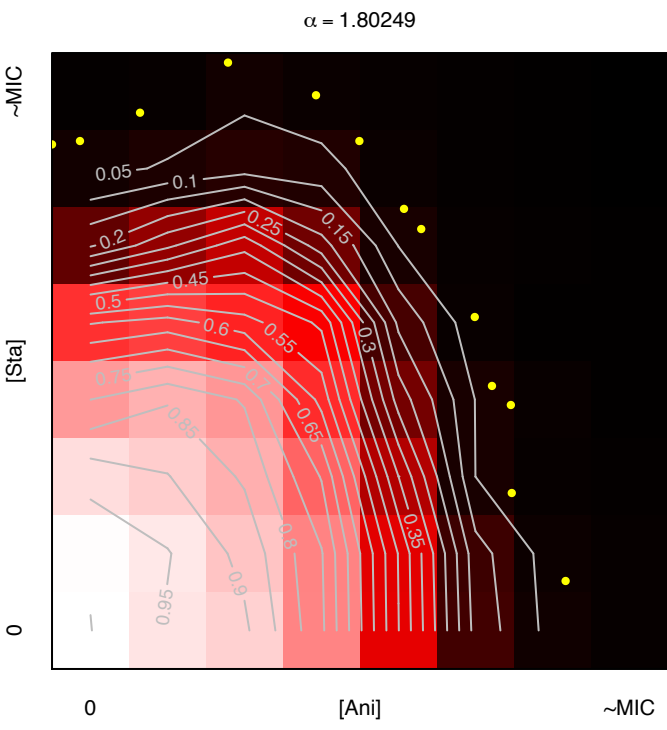
xviii



xix

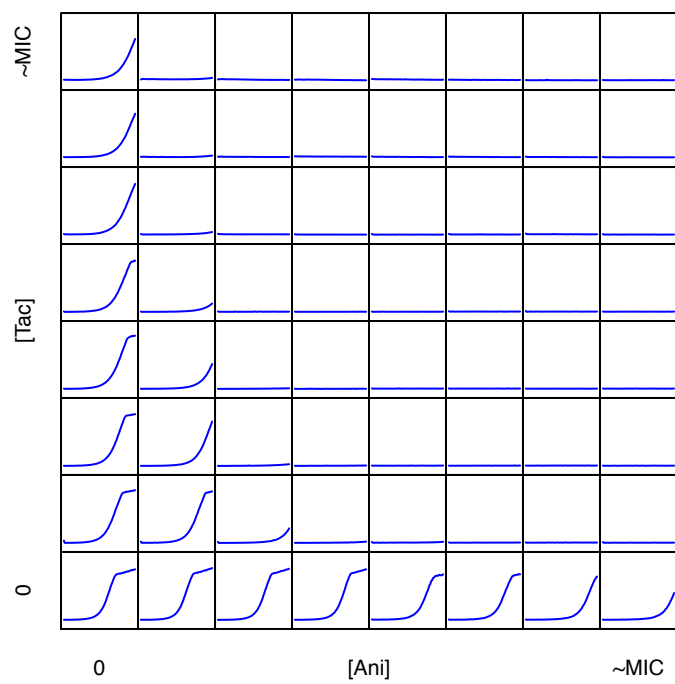
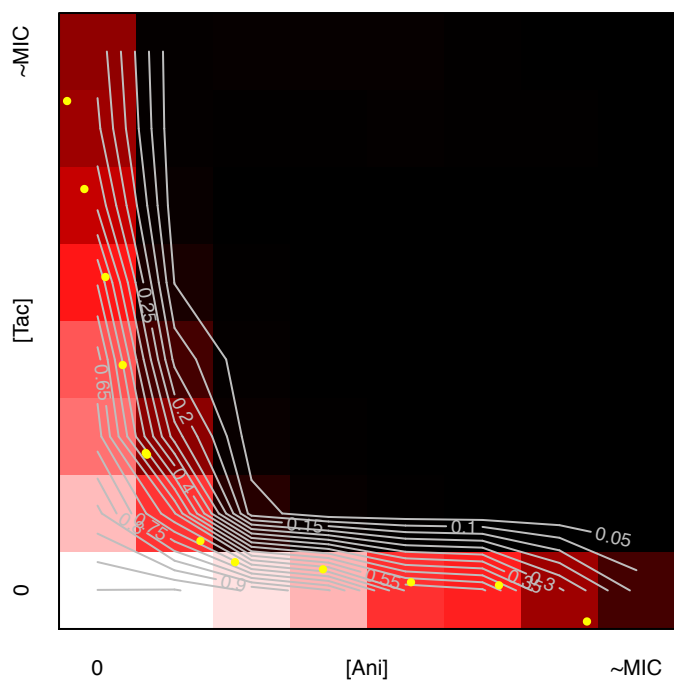


xx



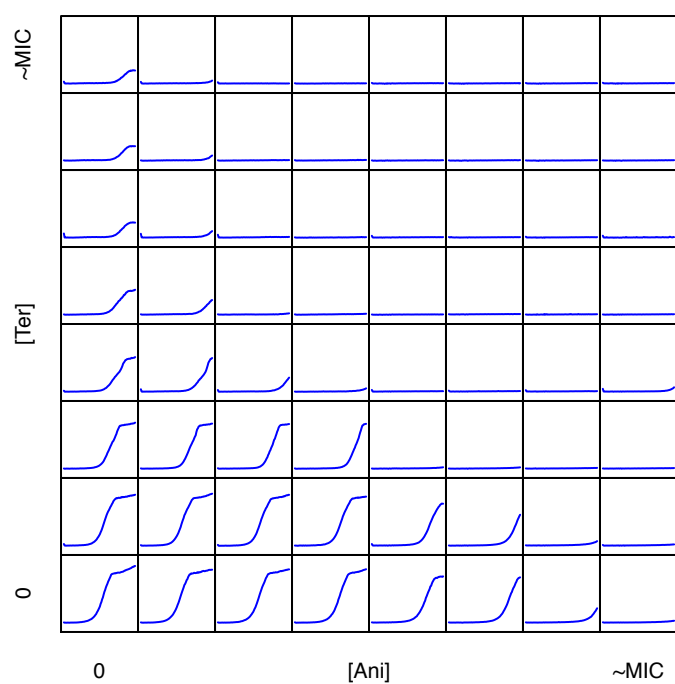
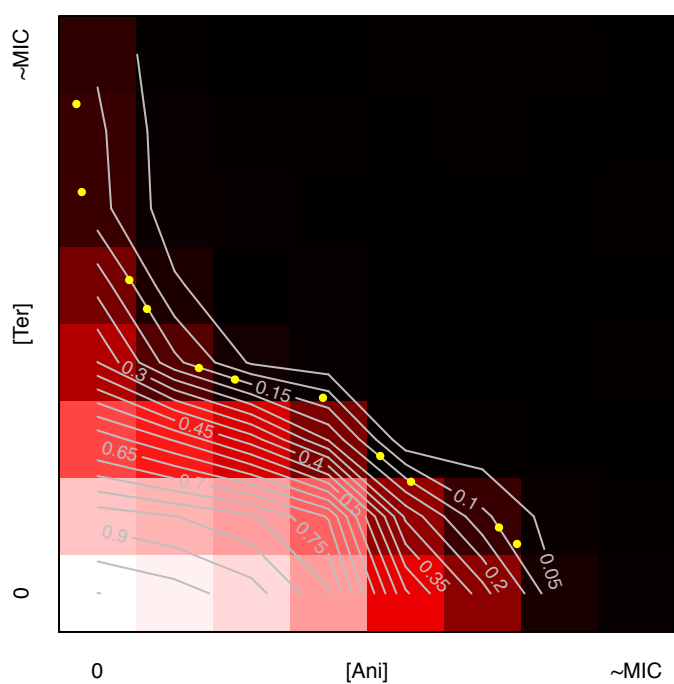
$\alpha = -2.293919$

xxi



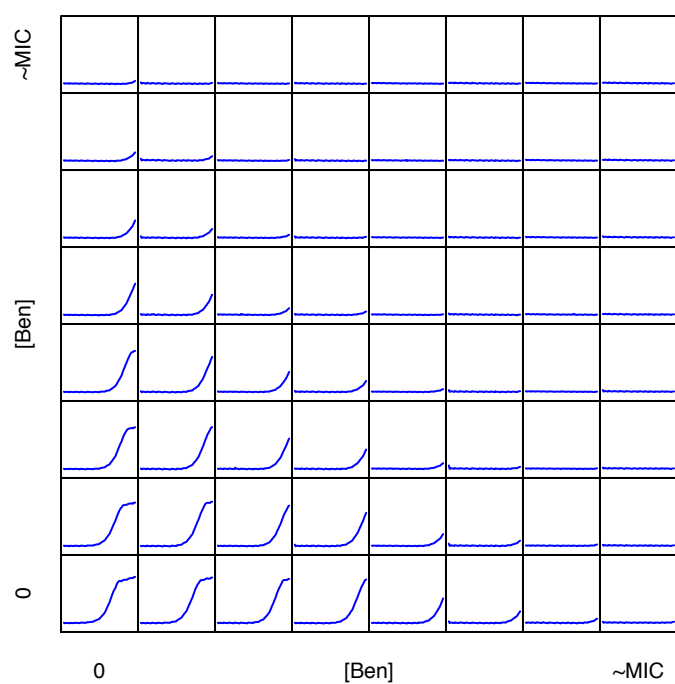
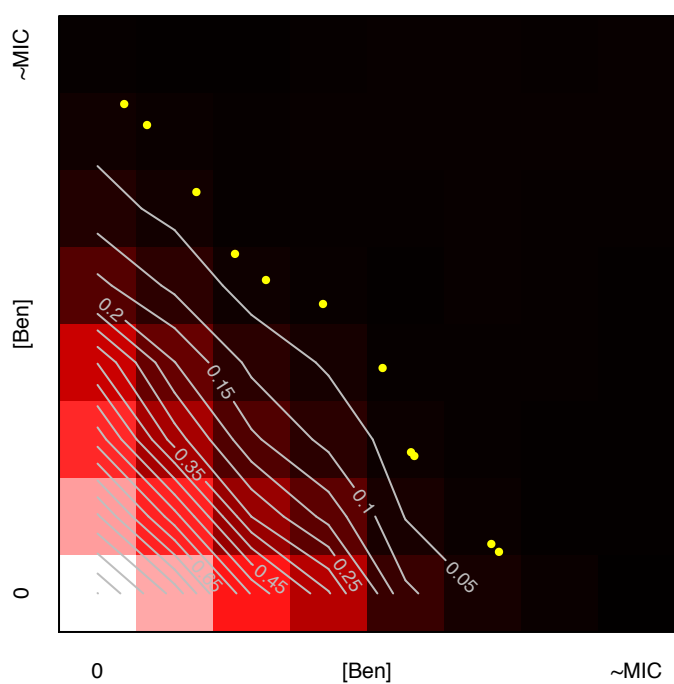
$\alpha = -1.012863$

xxii



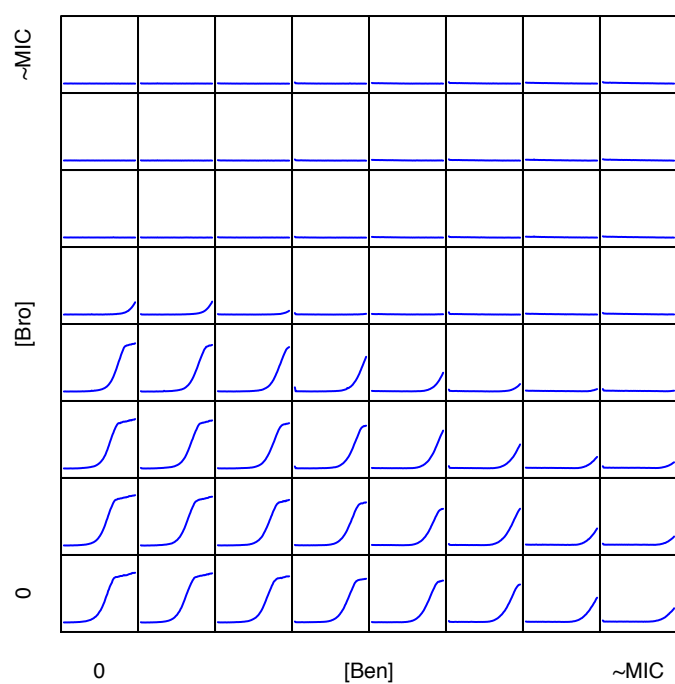
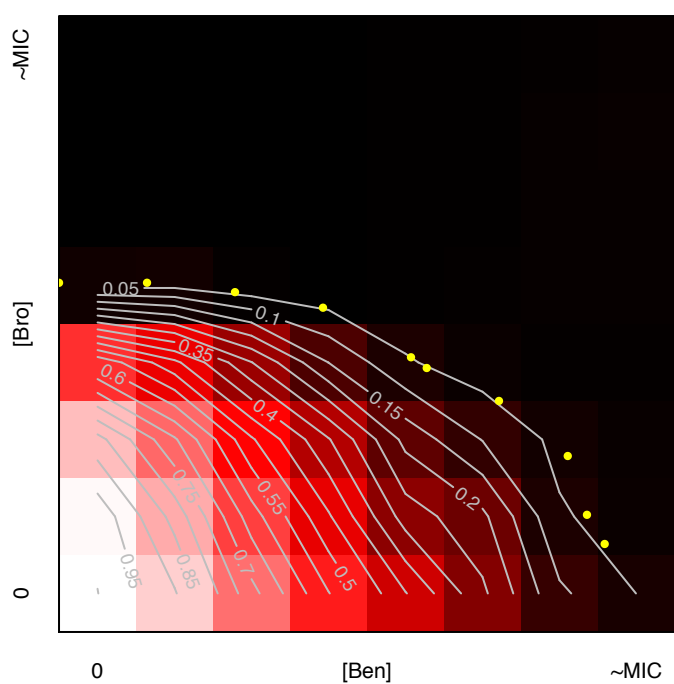
$\alpha = 0.07316906$

xxiii



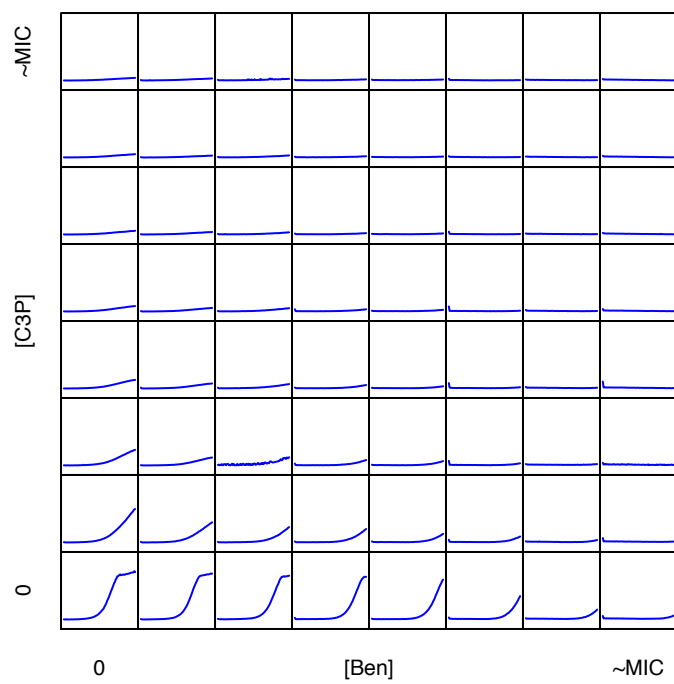
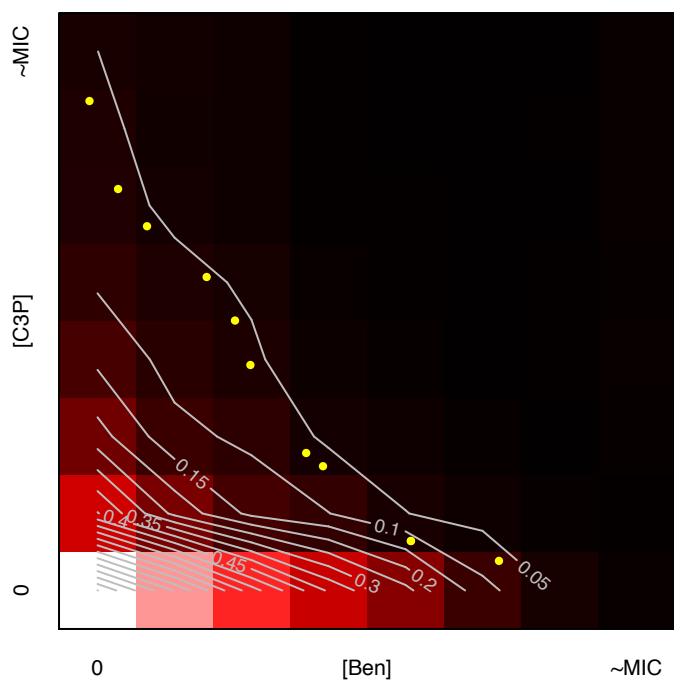
$\alpha = 1.563210$

xxiv



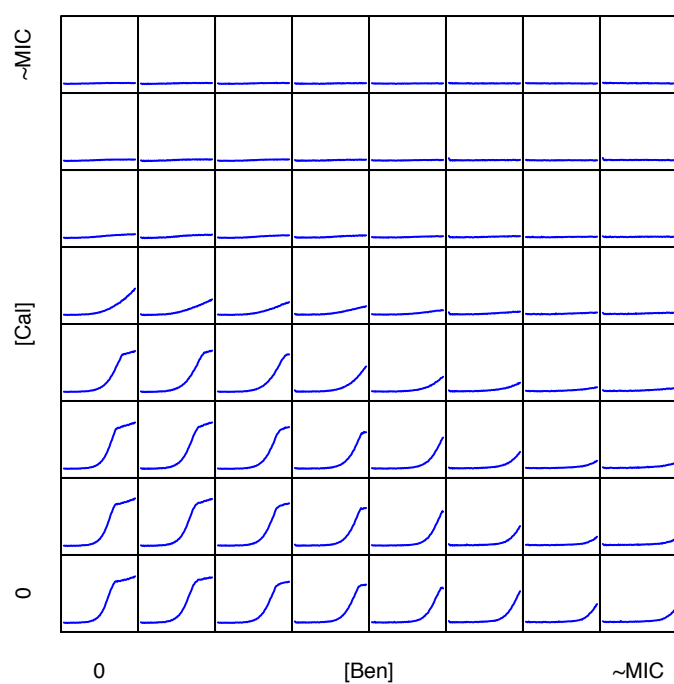
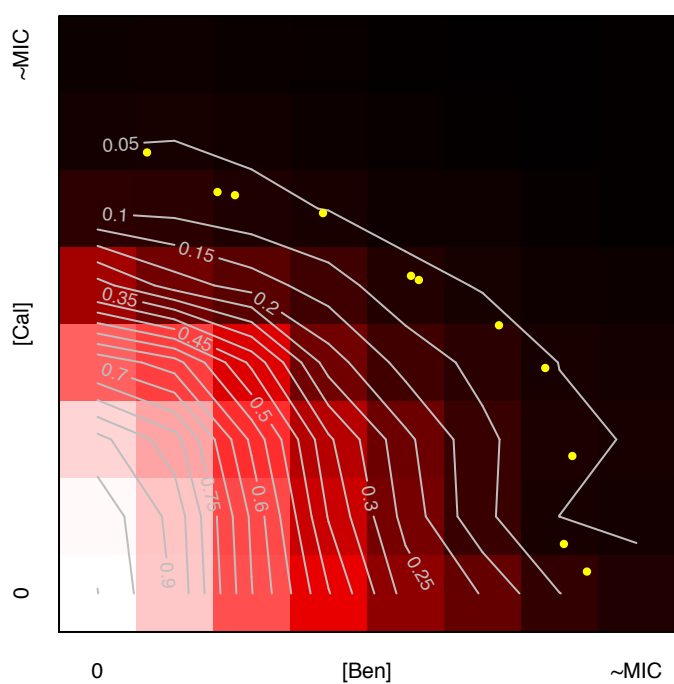
$\alpha = -1.020329$

XXV



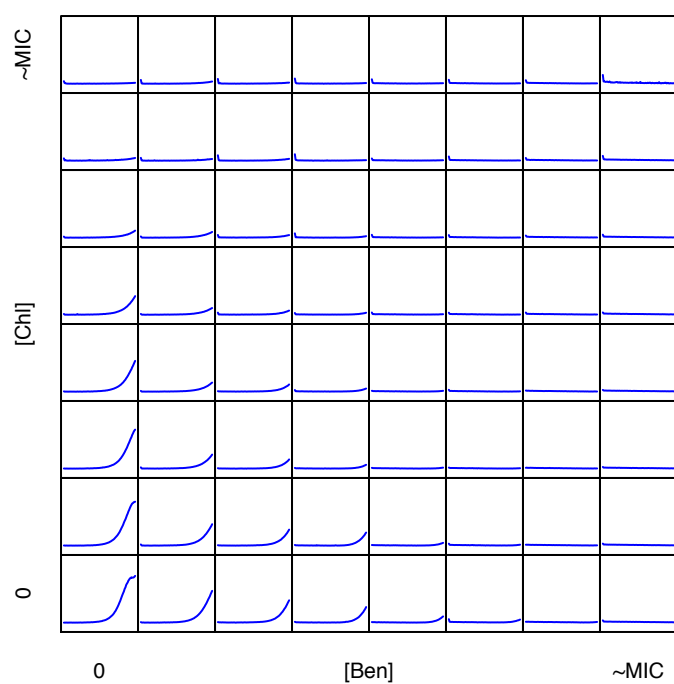
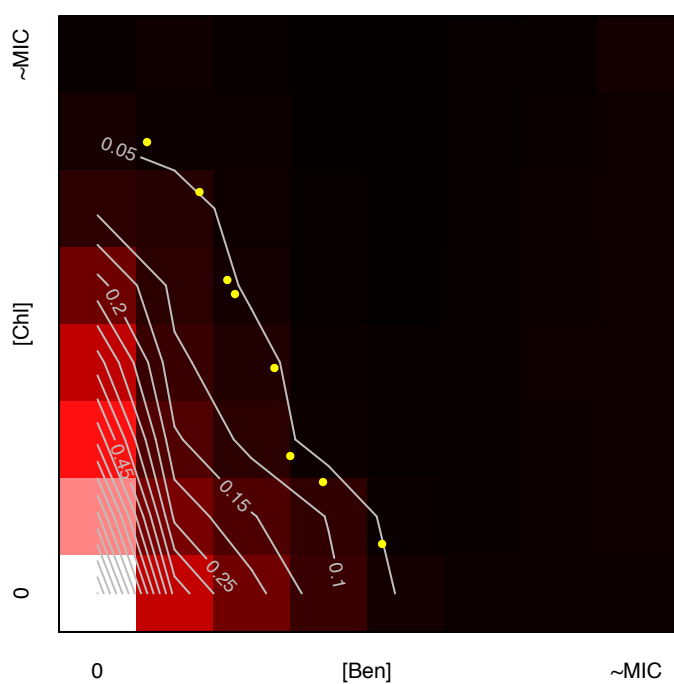
$\alpha = 1.337176$

XXVI



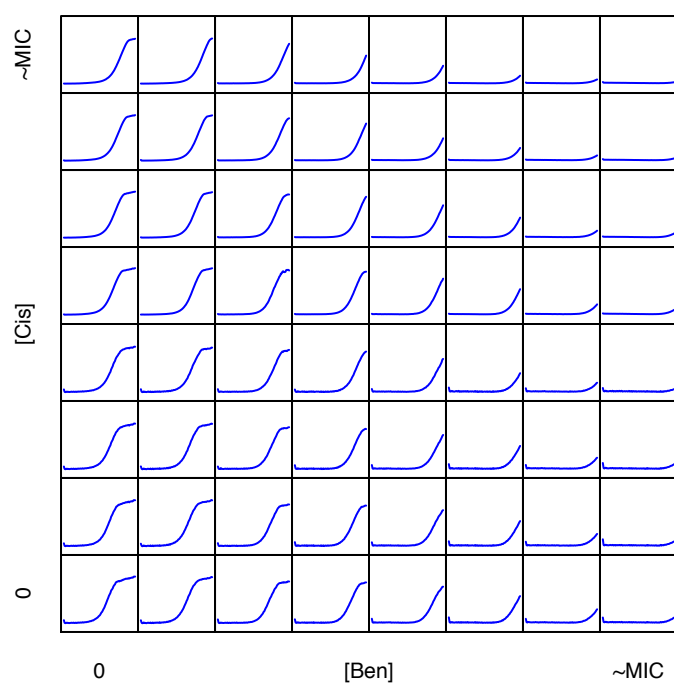
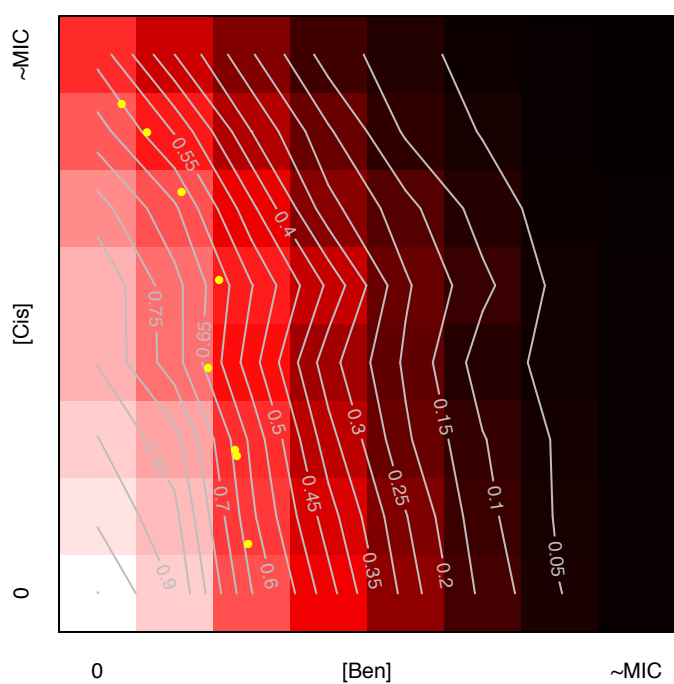
$\alpha = 0.6526255$

XXVII



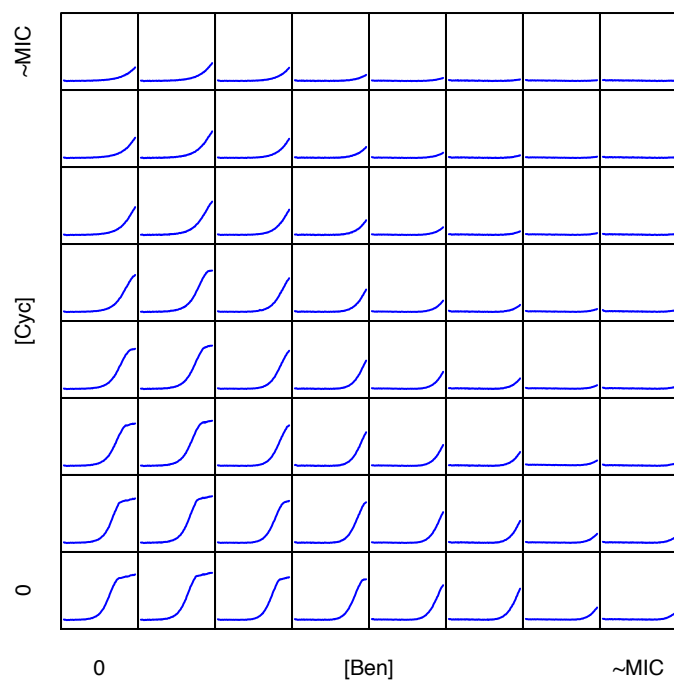
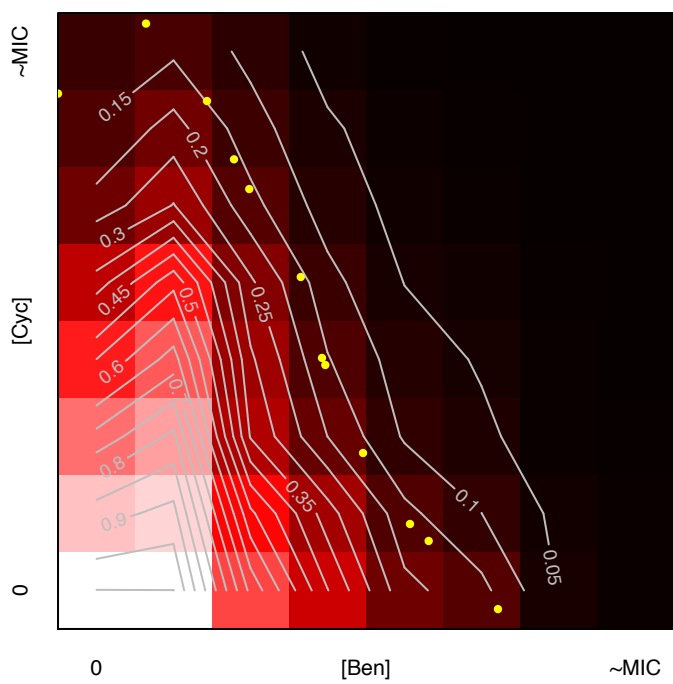
$\alpha = 0.8604572$

XXVIII



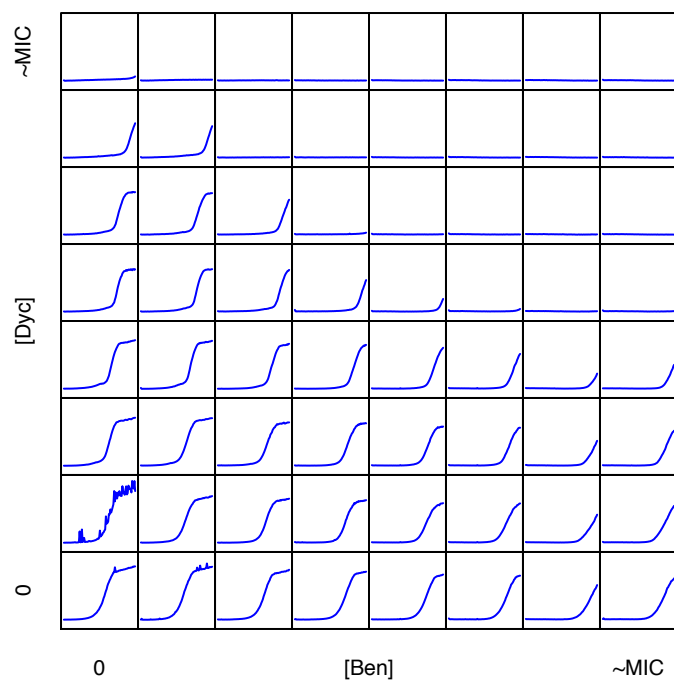
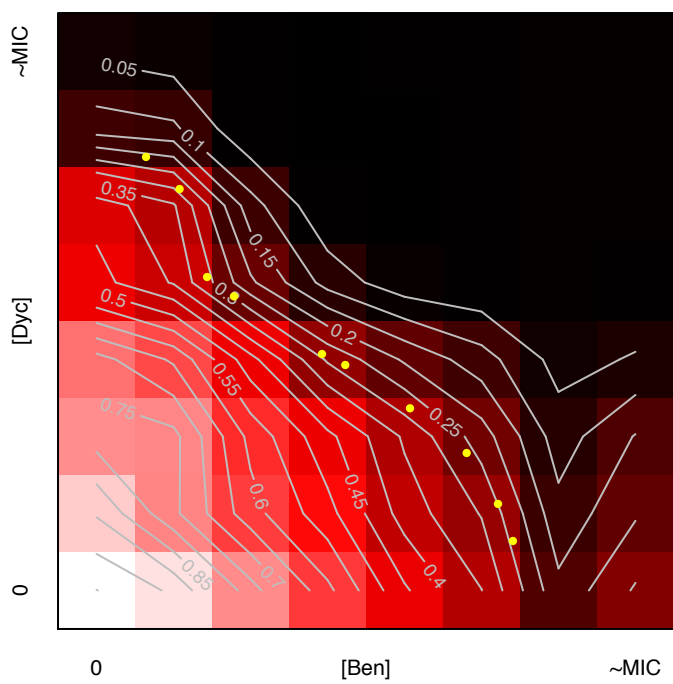
$\alpha = 0.2228909$

xxix



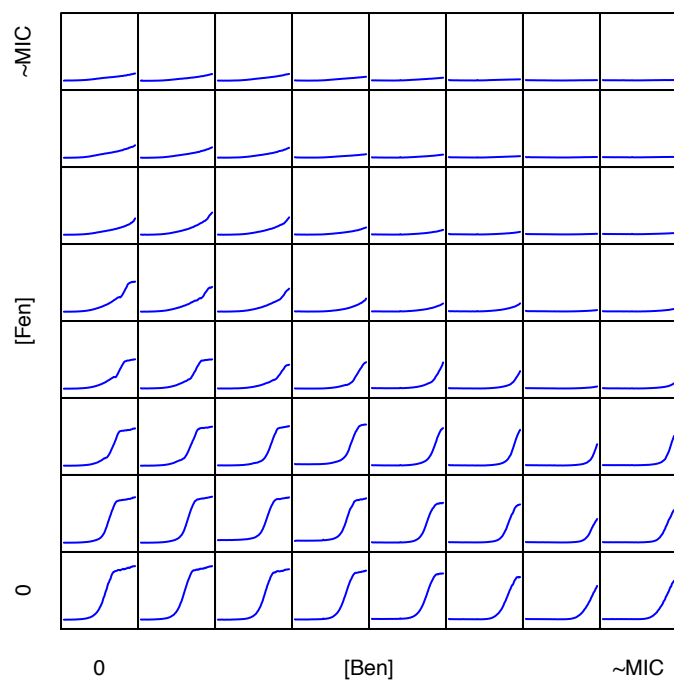
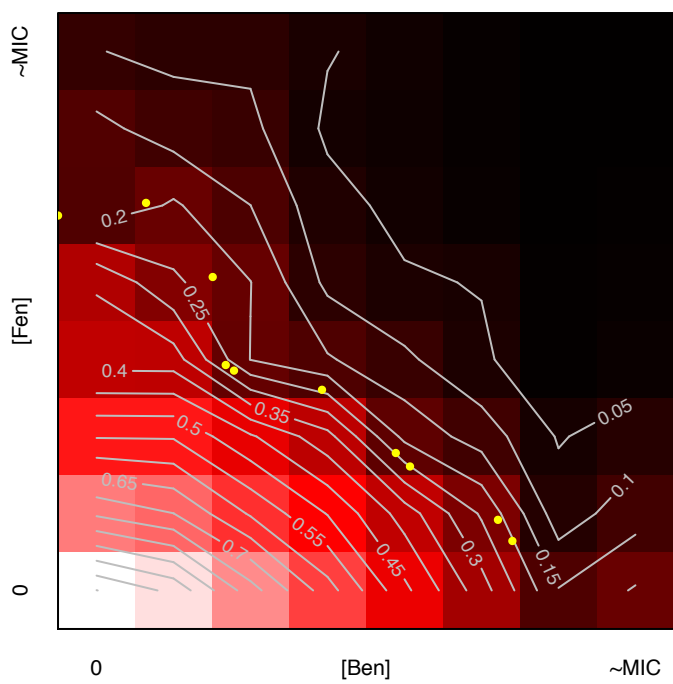
$\alpha = 0.9857071$

xxx



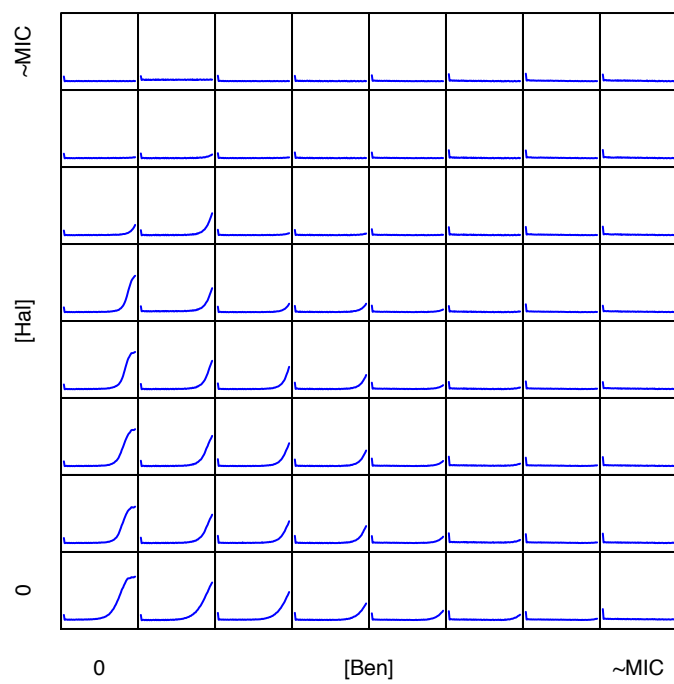
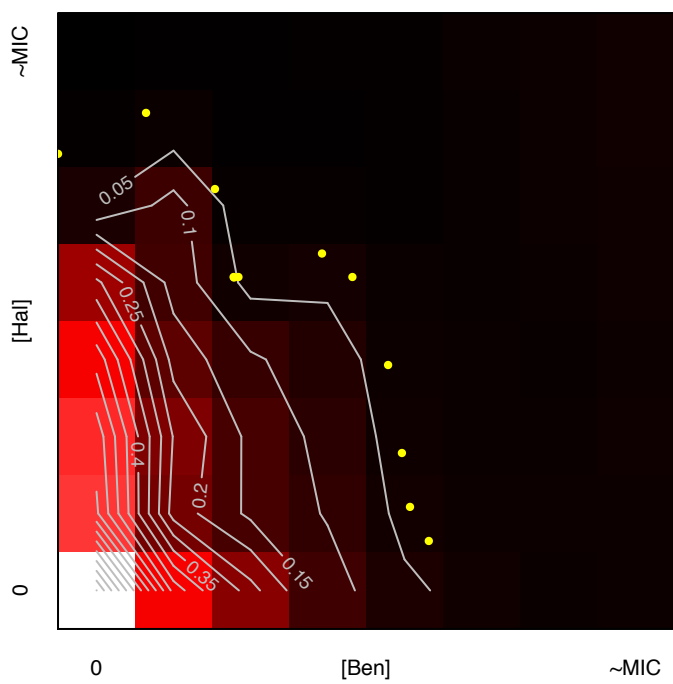
$\alpha = 0.4106914$

xxxii



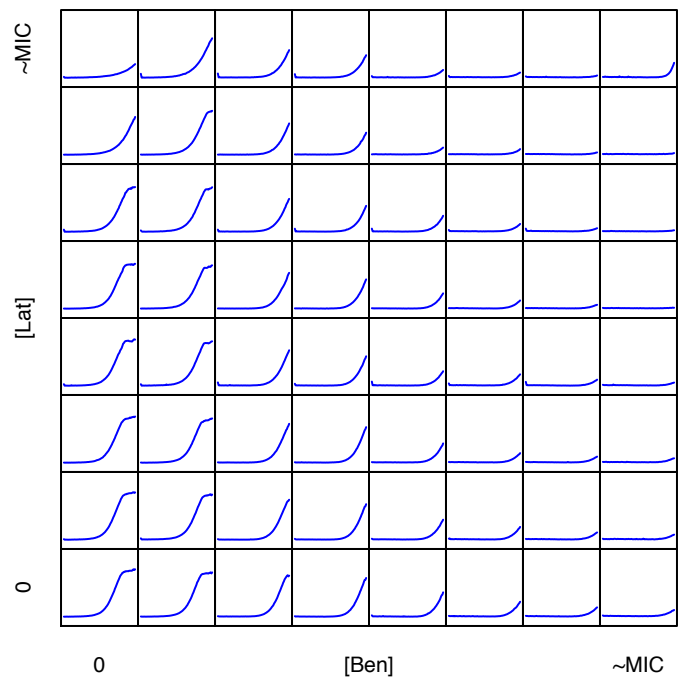
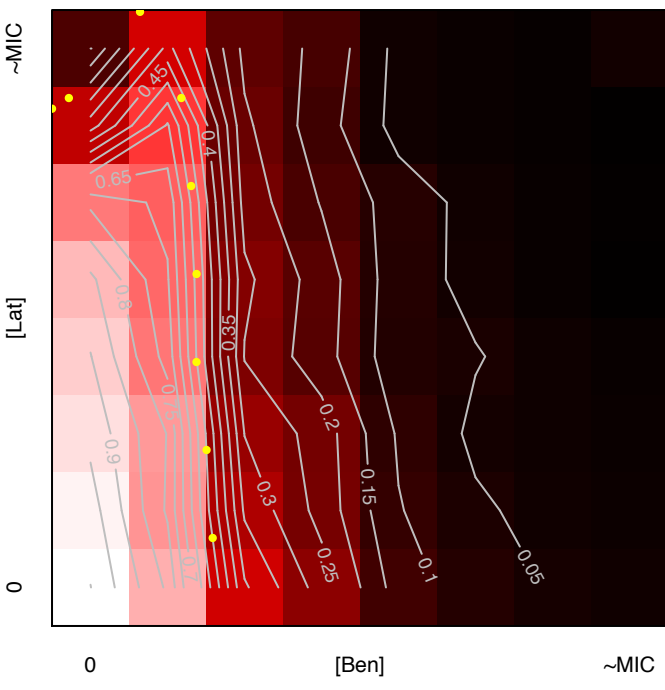
$\alpha = 0.5347631$

xxxiii



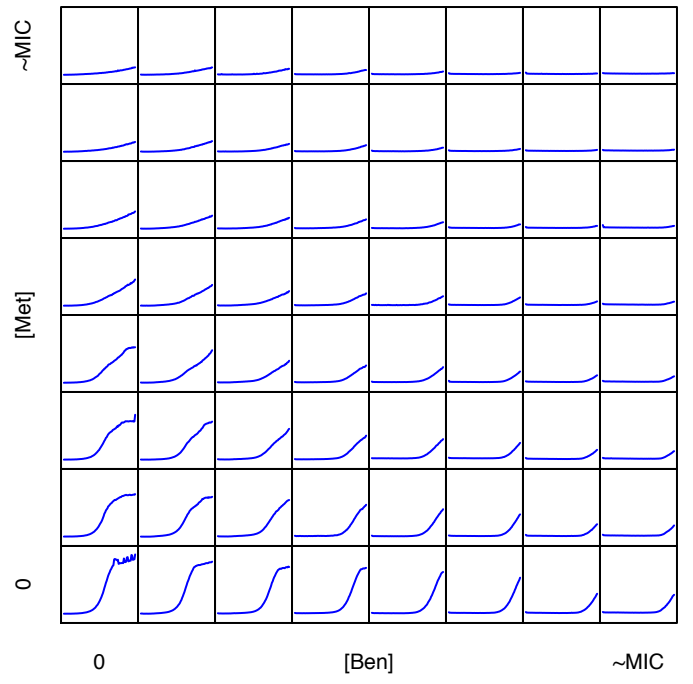
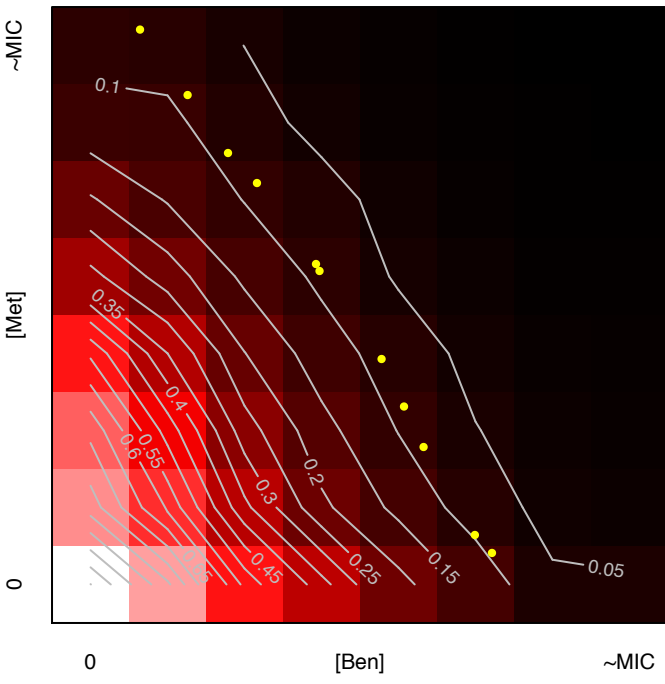
$\alpha = 1.325677$

xxxiii



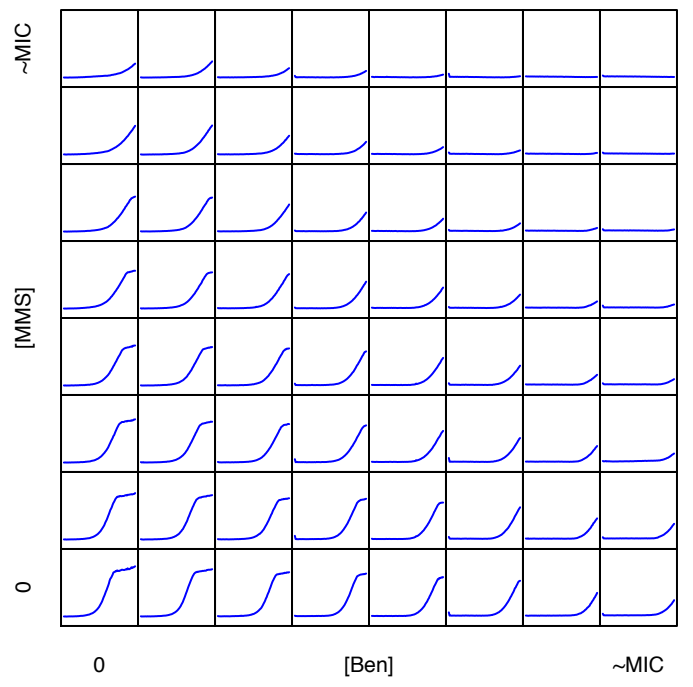
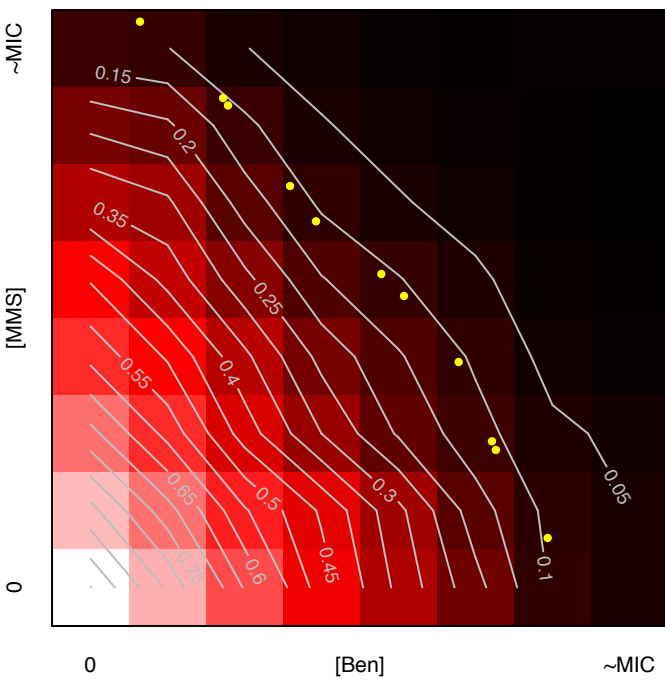
$\alpha = 0.4210233$

xxxiv



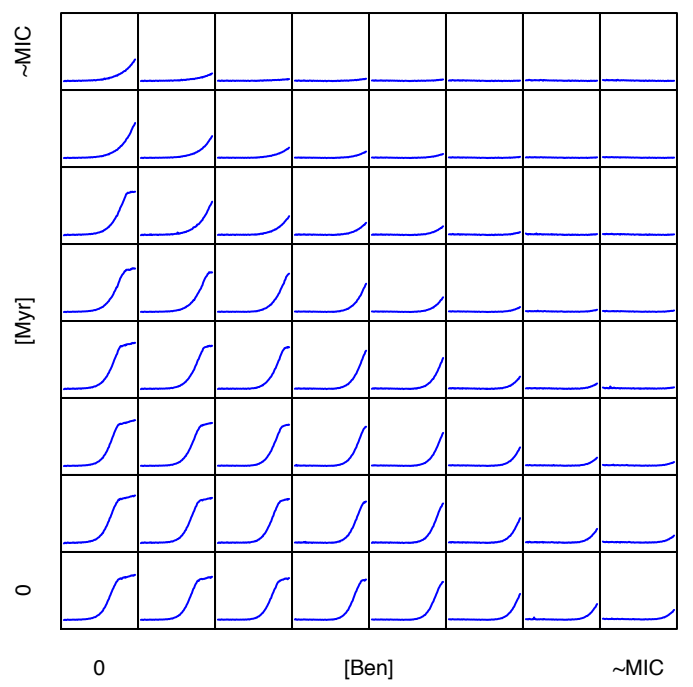
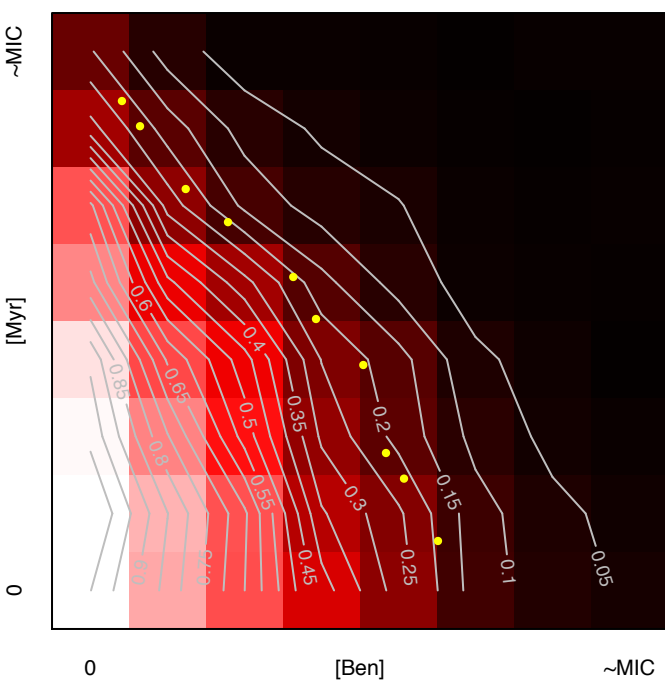
$\alpha = 0.9515345$

xxxv



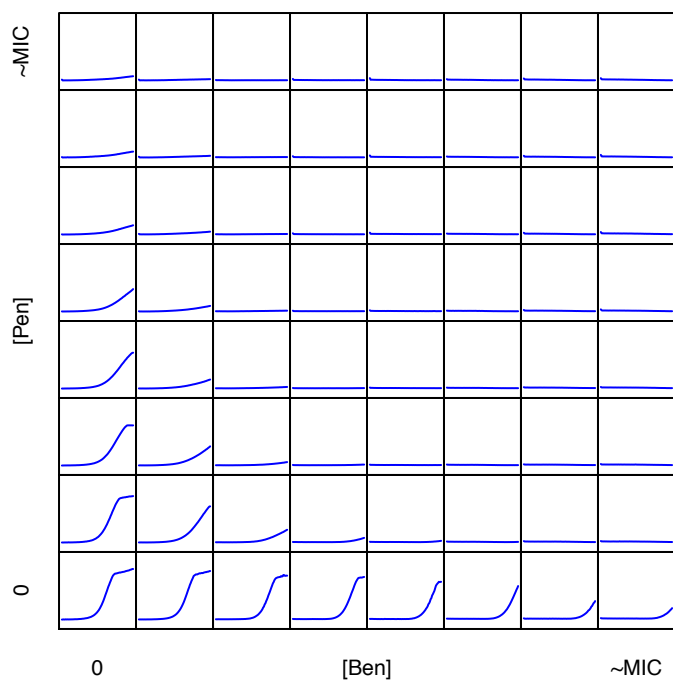
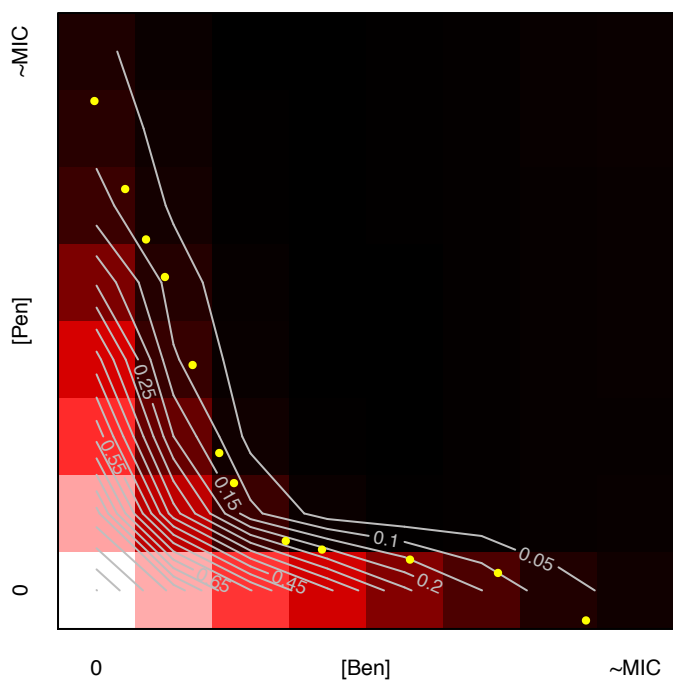
$\alpha = 0.7317014$

xxxvi



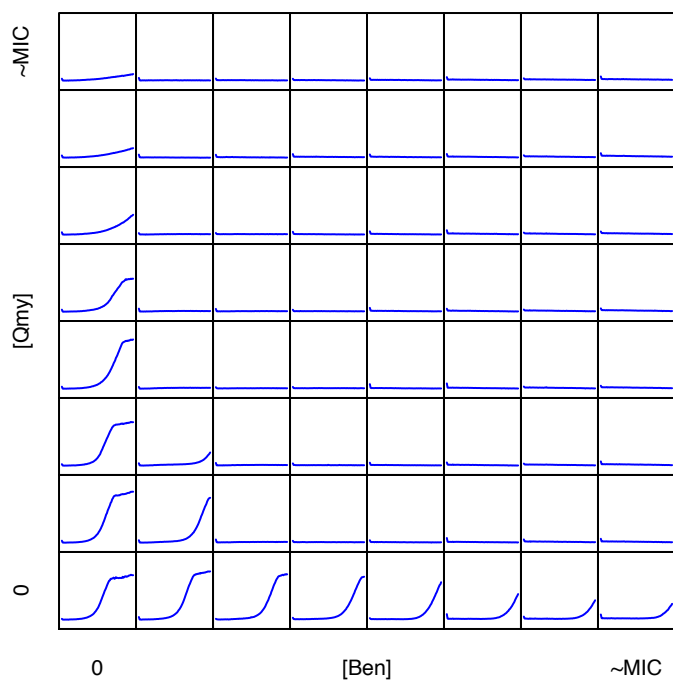
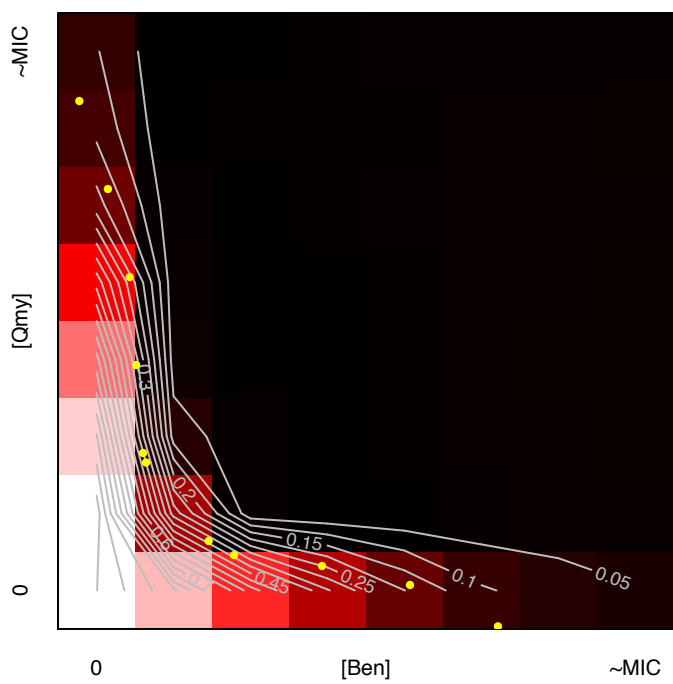
$\alpha = -1.273177$

xxxvii



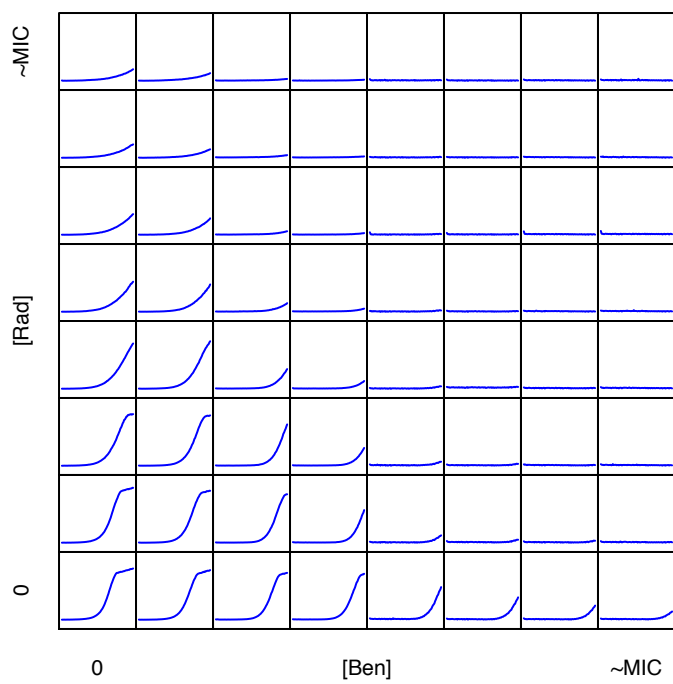
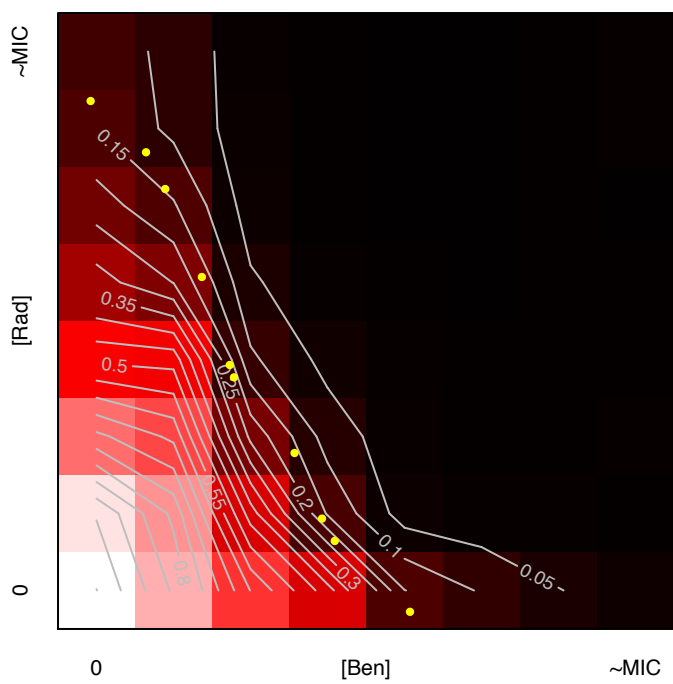
$\alpha = -1.810468$

xxxviii



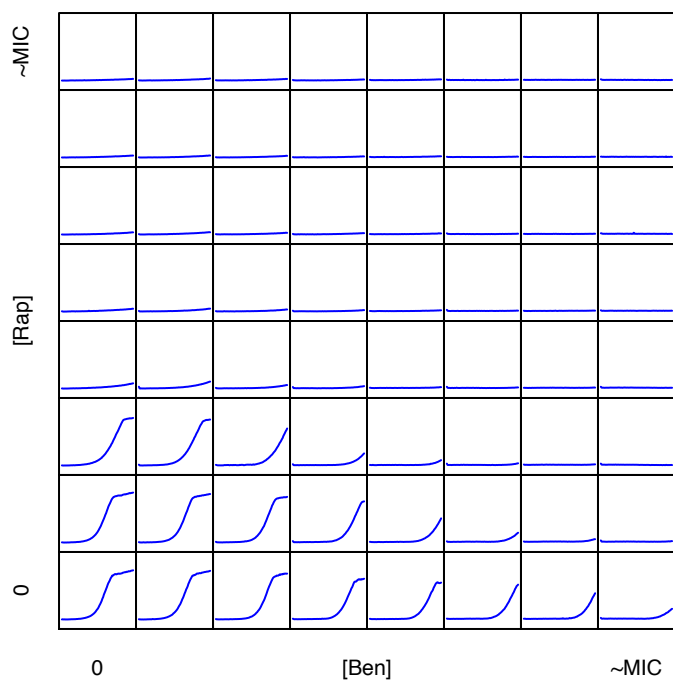
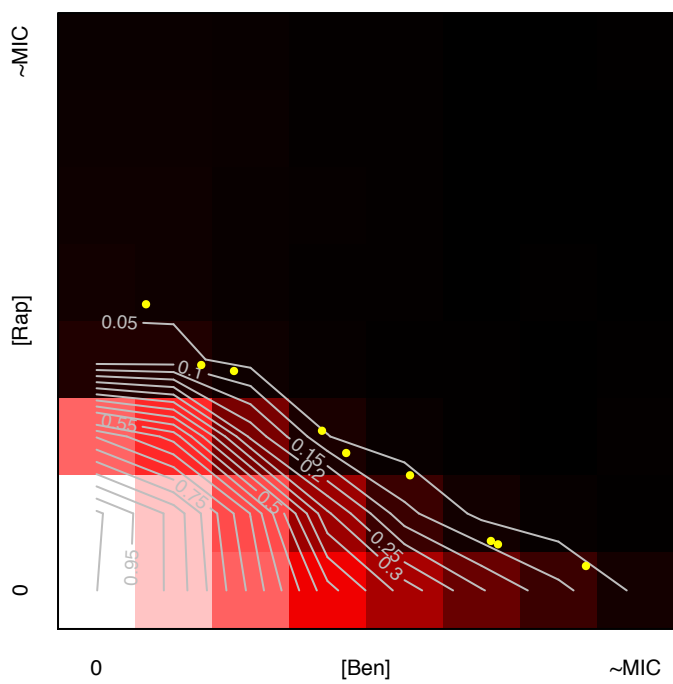
$\alpha = -0.5567437$

xxxix



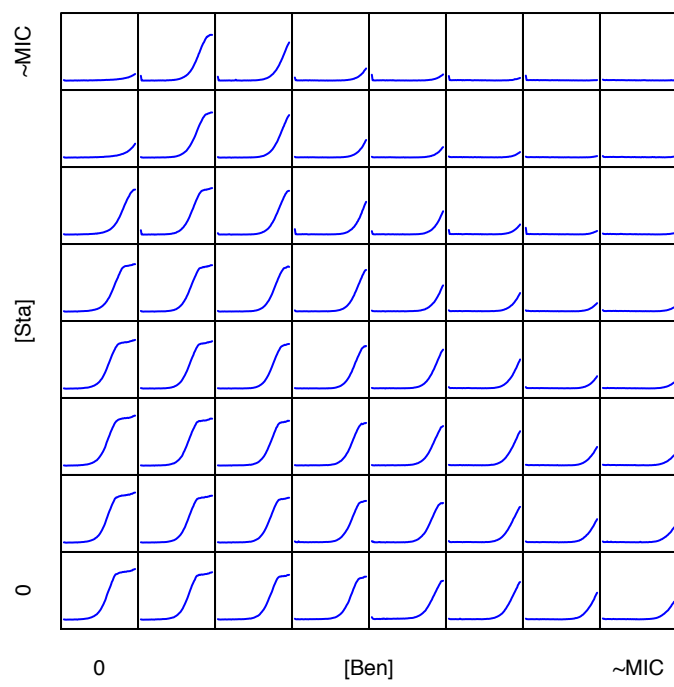
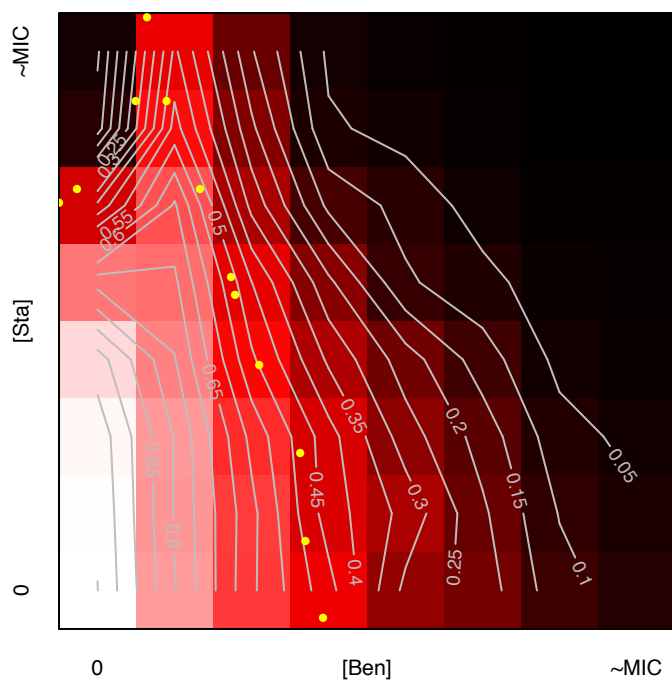
$\alpha = 0.1040503$

xl



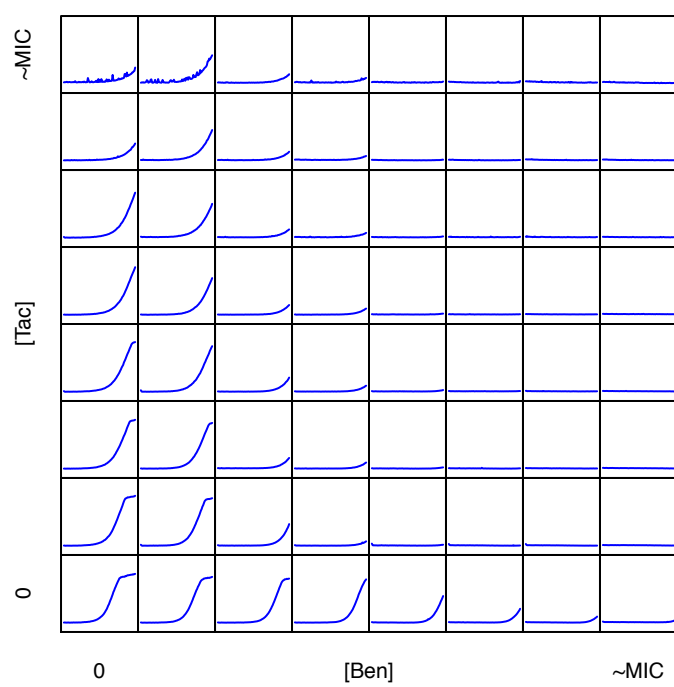
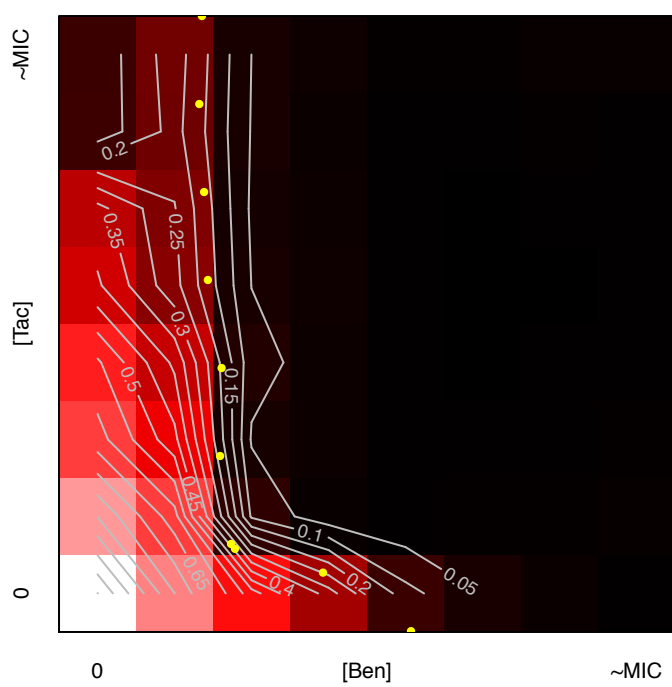
$\alpha = 0.874797$

xli



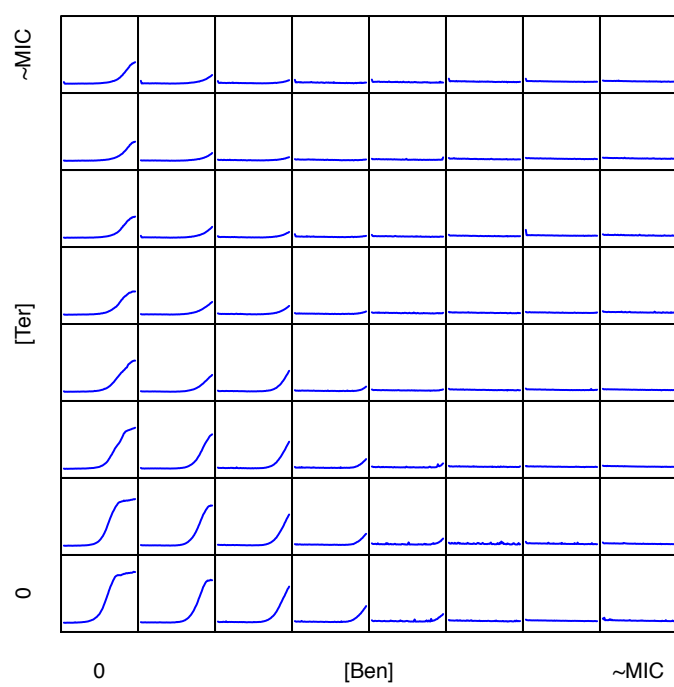
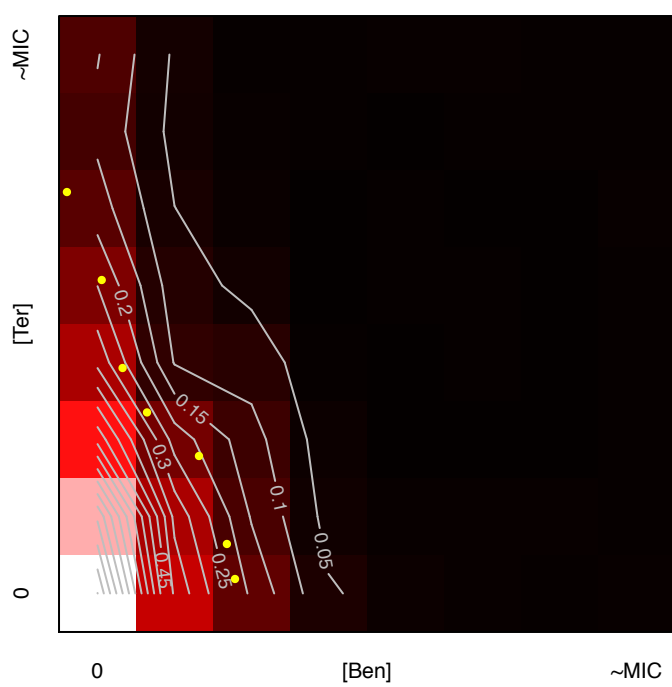
$\alpha = -2.867011$

xlii



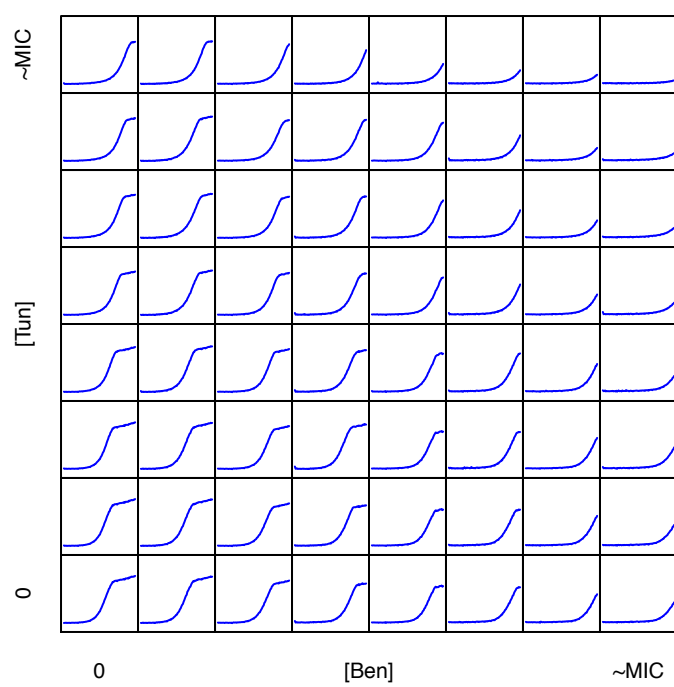
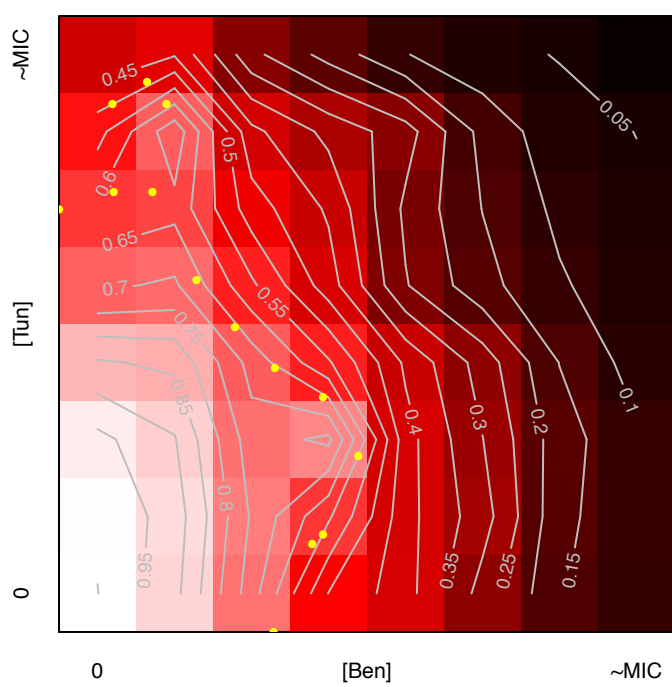
$\alpha = -0.1312014$

xliii



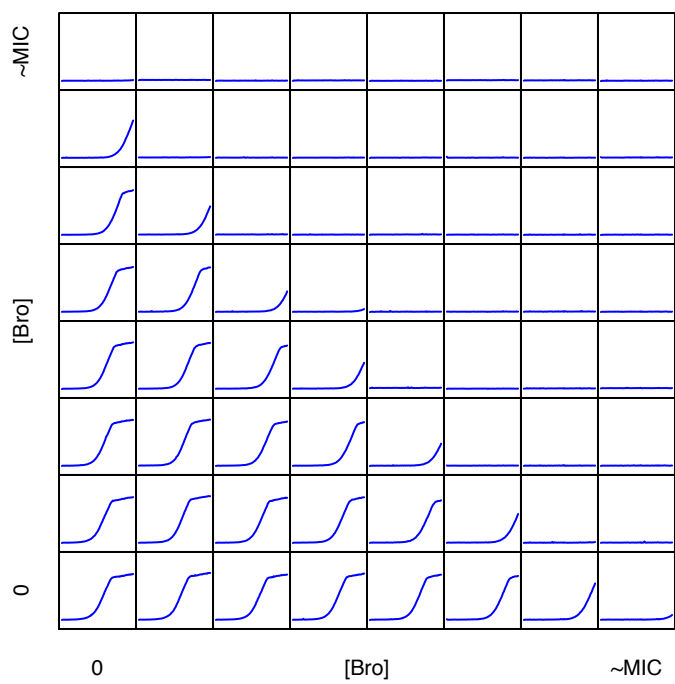
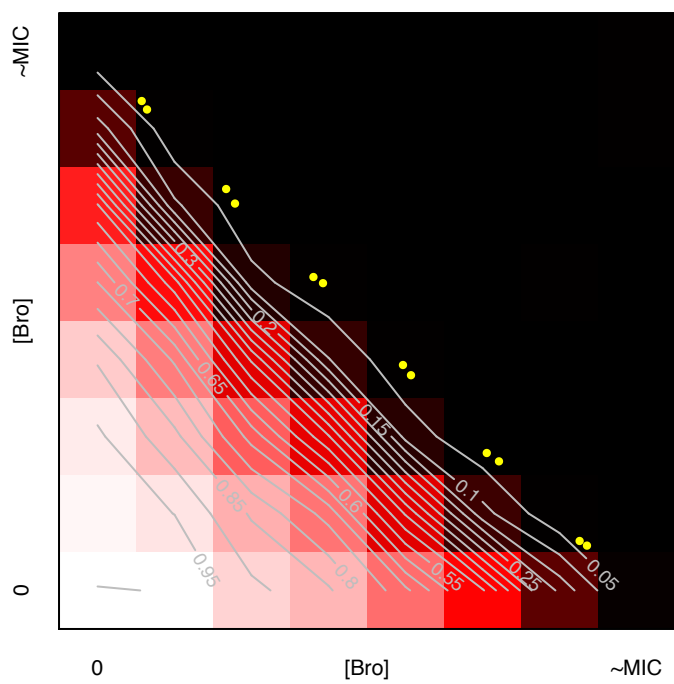
$\alpha = 0.5837991$

xliv



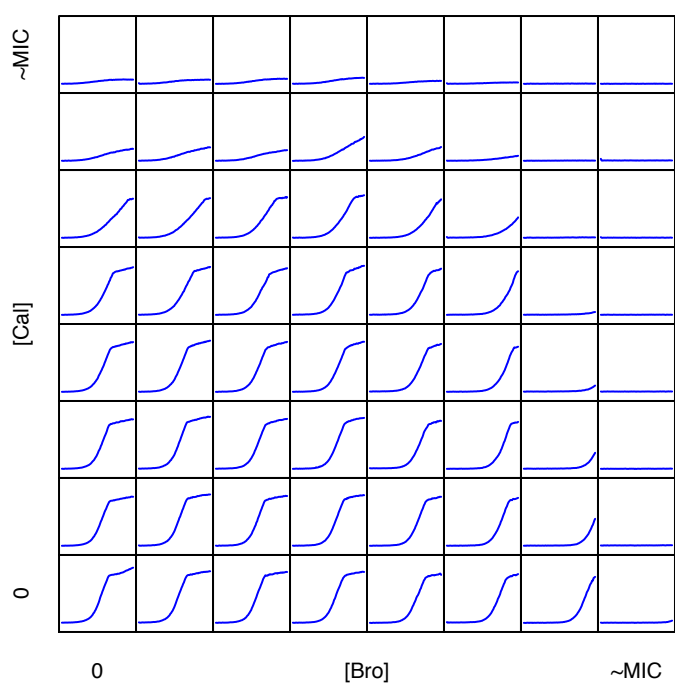
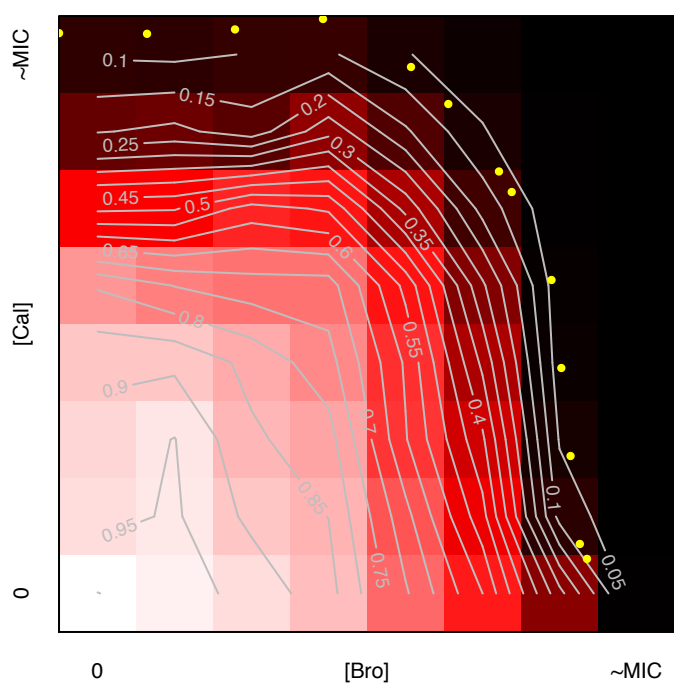
$\alpha = -0.07467064$

xliv



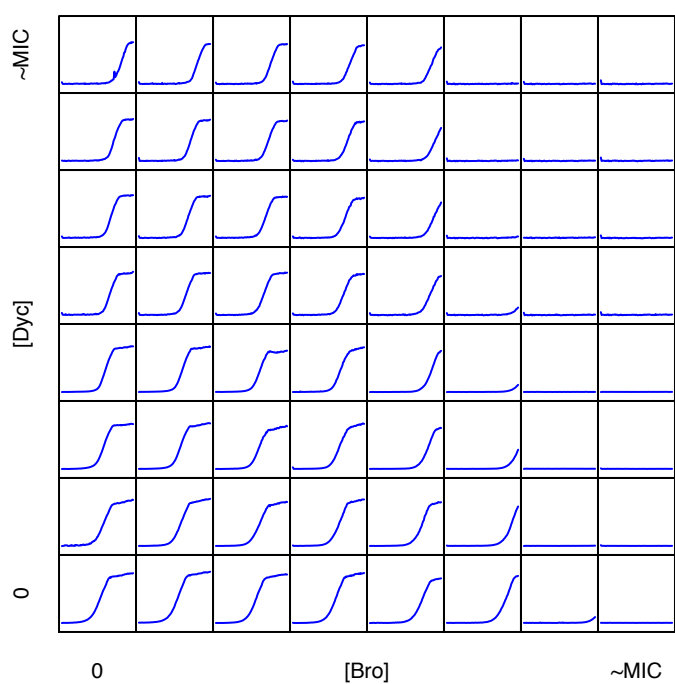
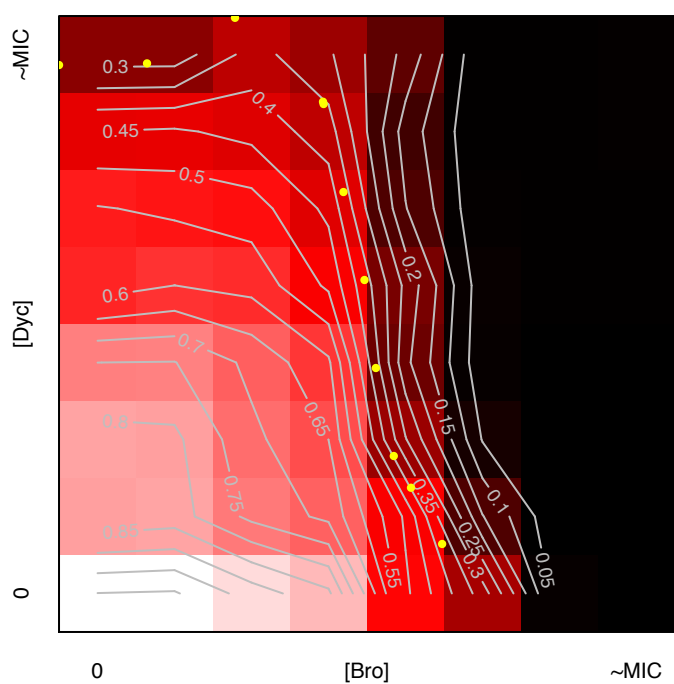
$\alpha = 2.031846$

xlvi



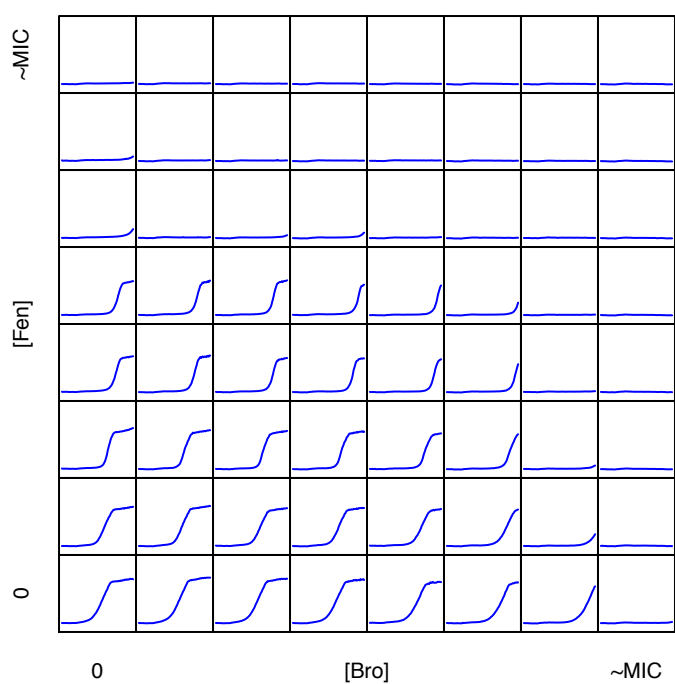
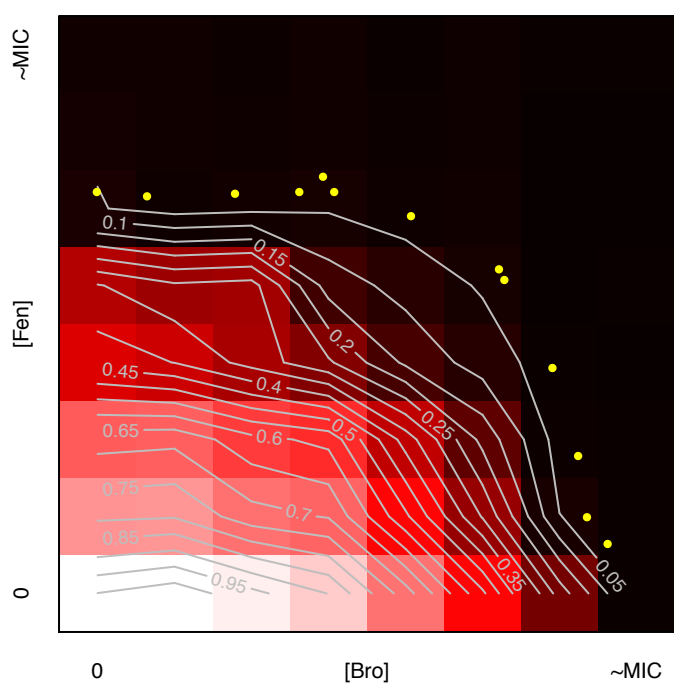
$\alpha = 1.199475$

xlvii

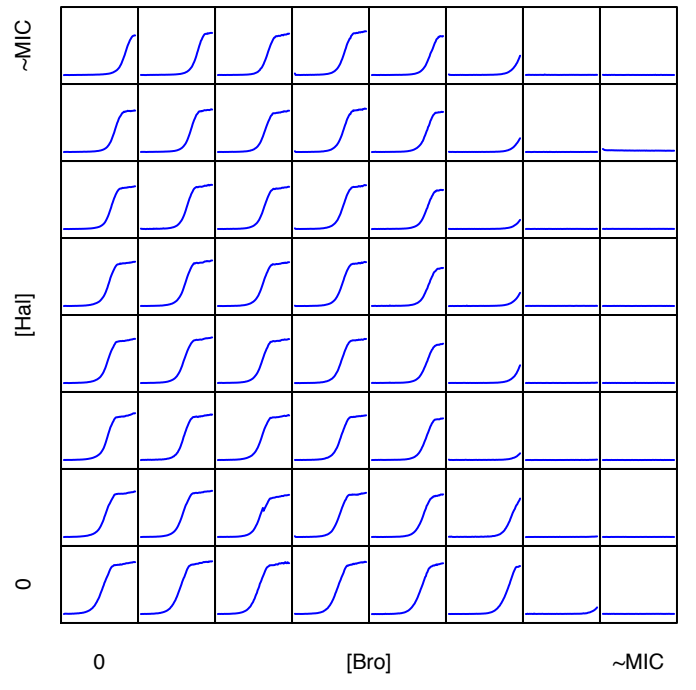
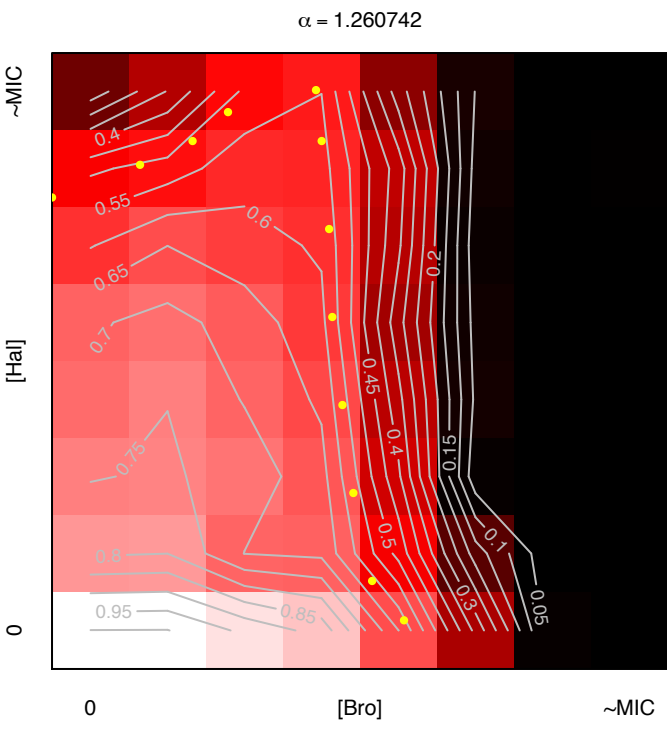


$\alpha = 1.337832$

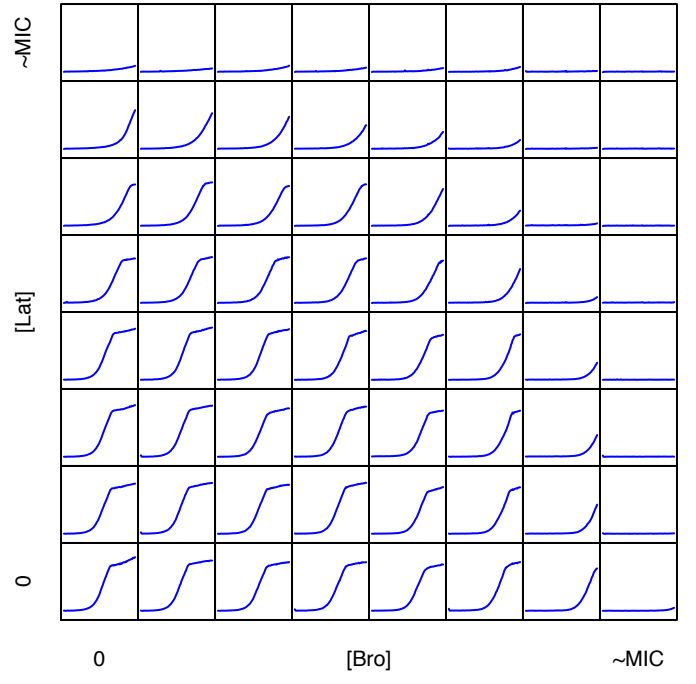
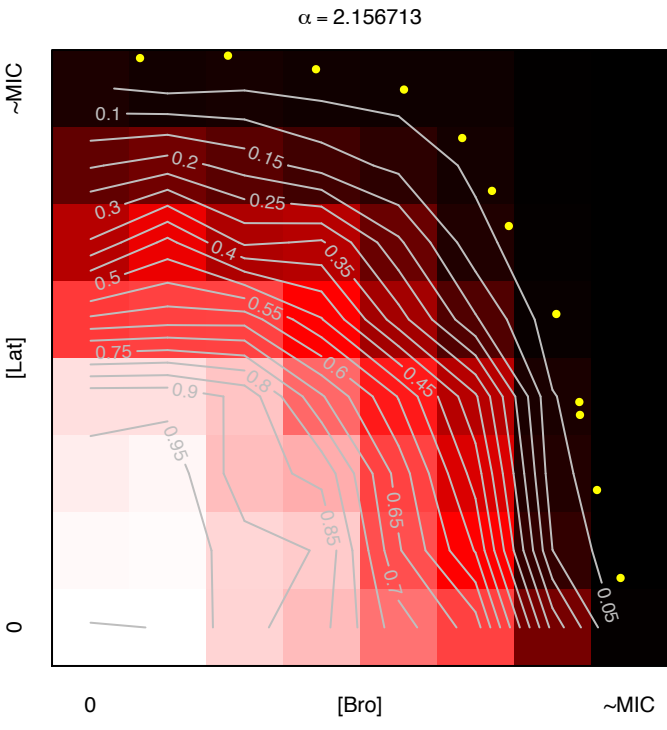
xlviii



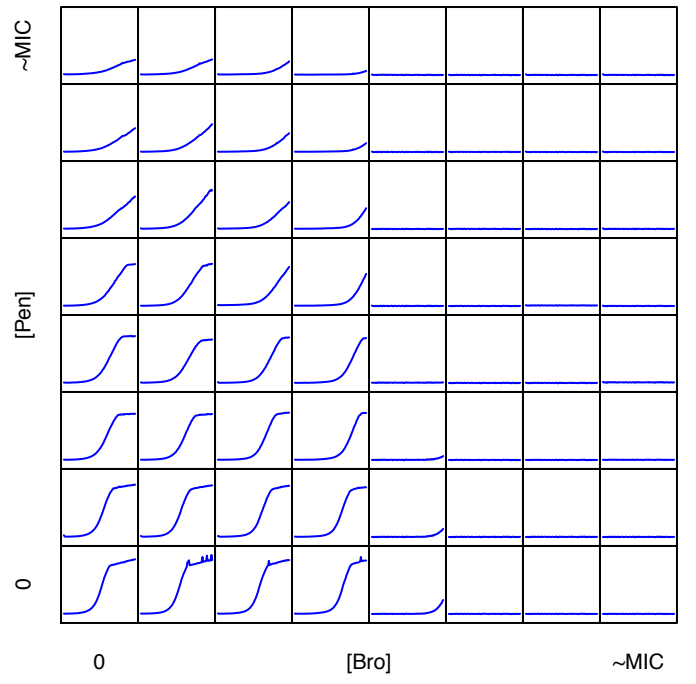
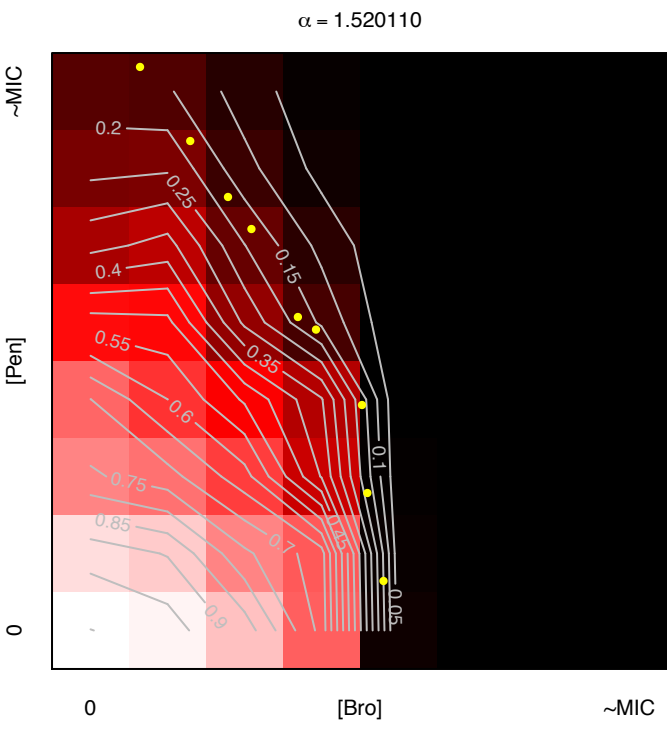
xlix



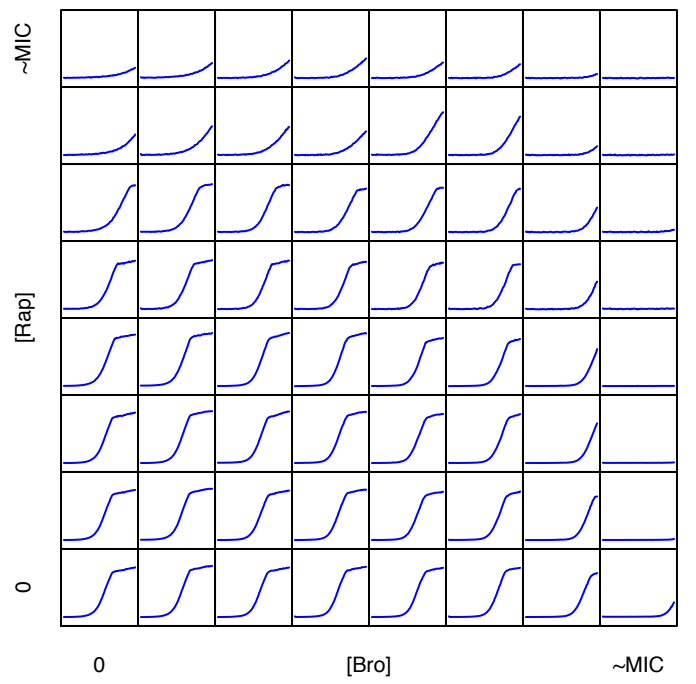
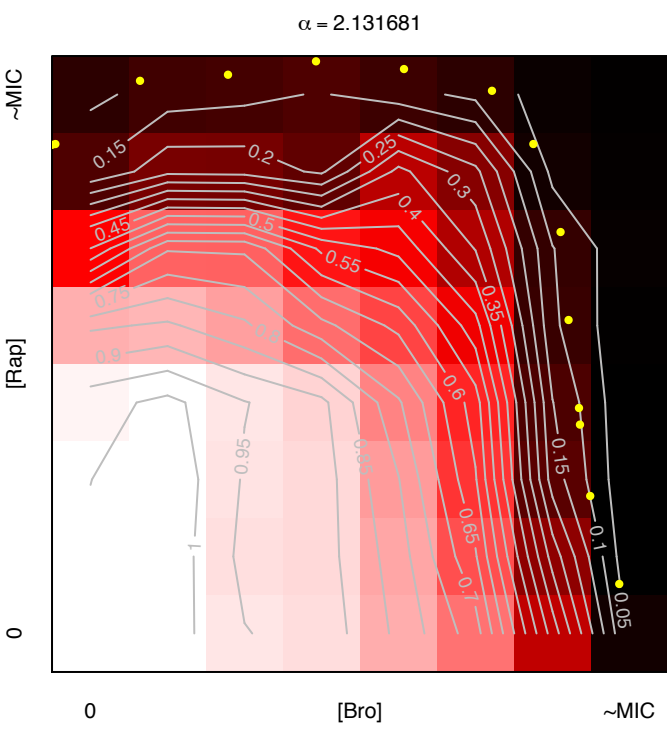
l



li

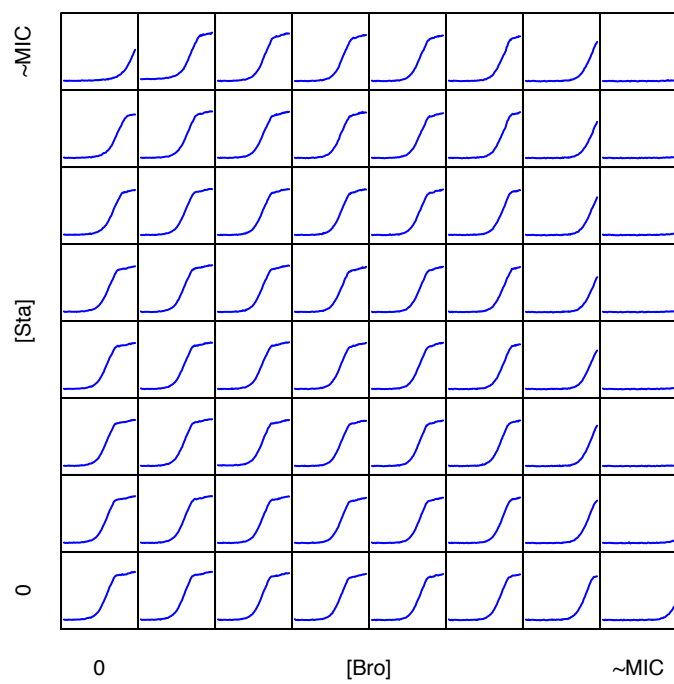
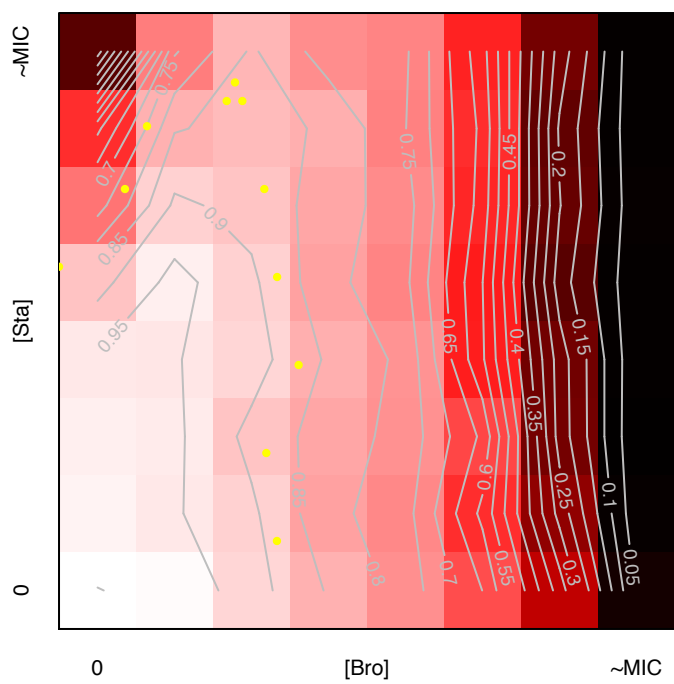


lii



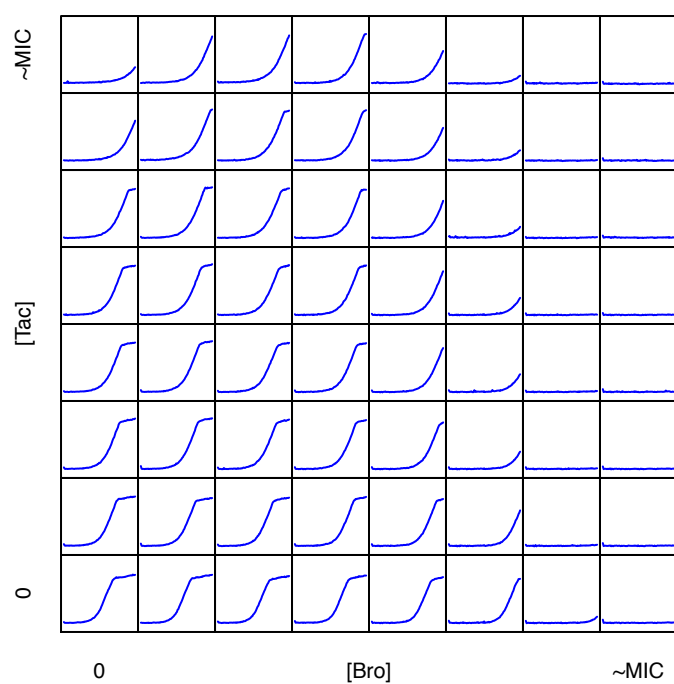
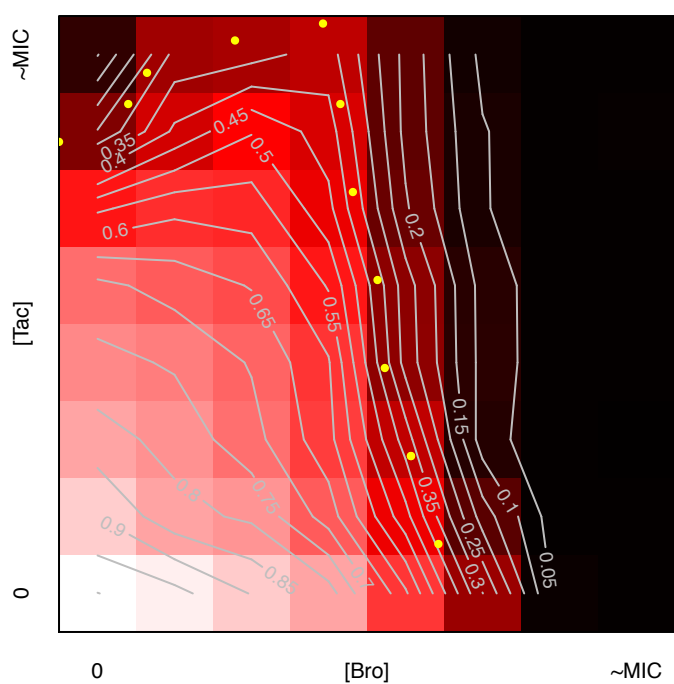
$\alpha = 2.827511$

liii



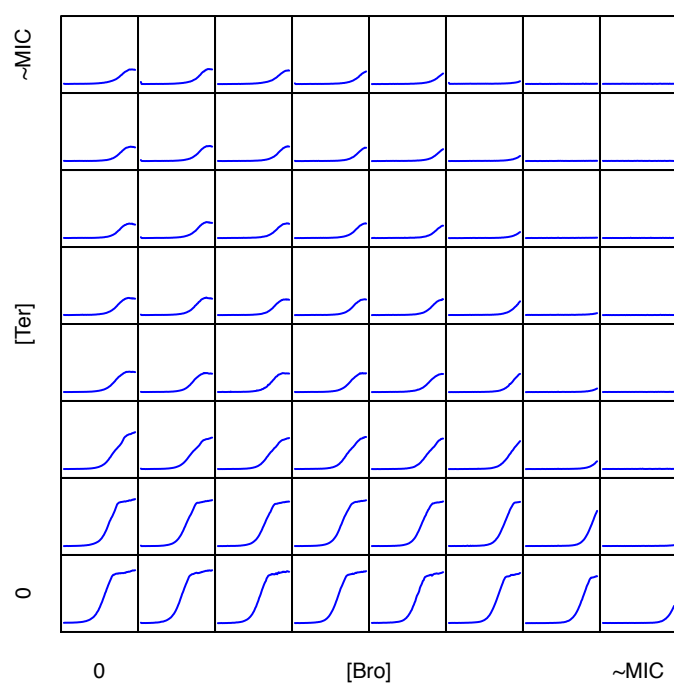
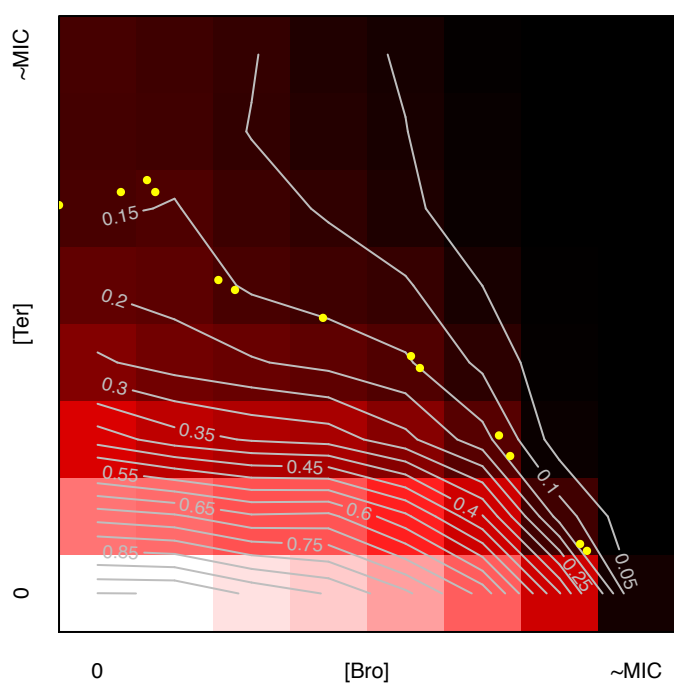
$\alpha = 1.048695$

liv



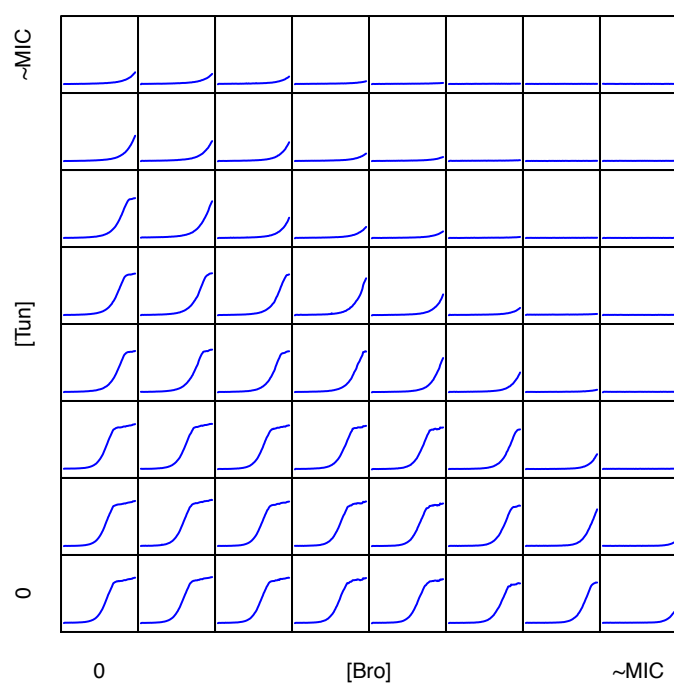
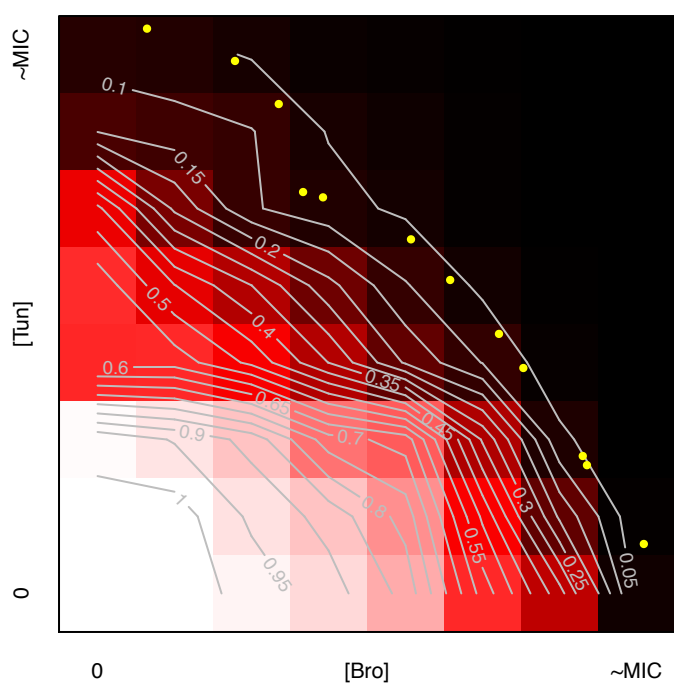
$\alpha = 0.7323619$

lv



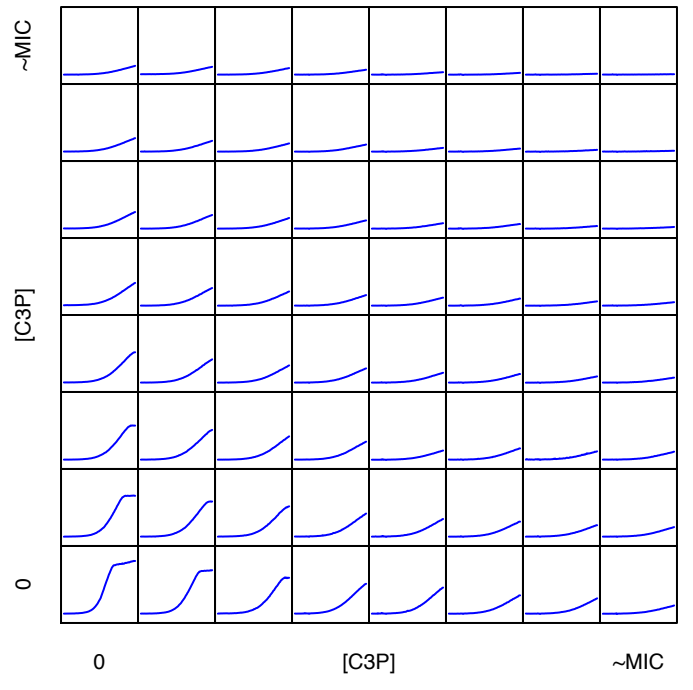
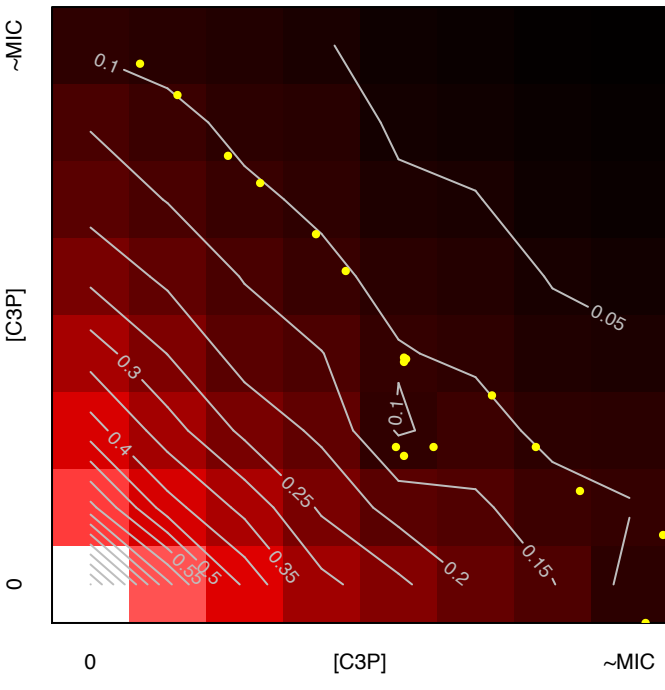
$\alpha = 0.898813$

lvi



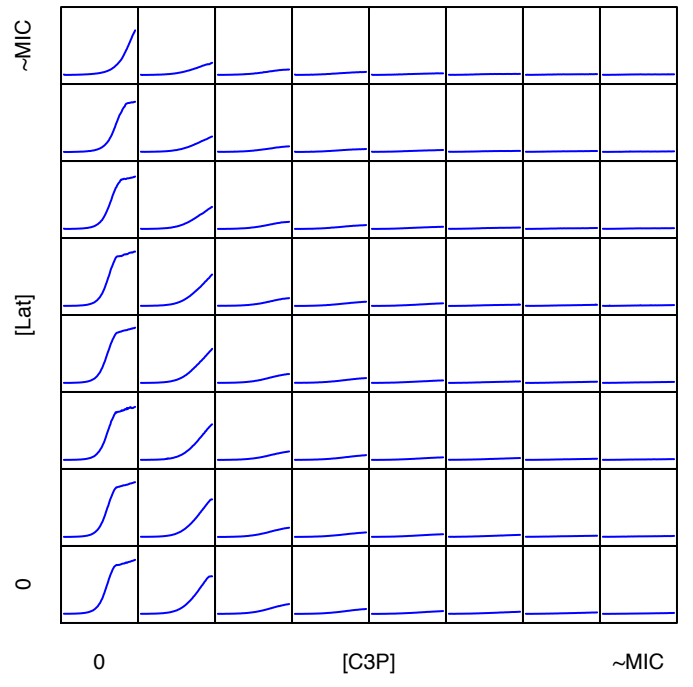
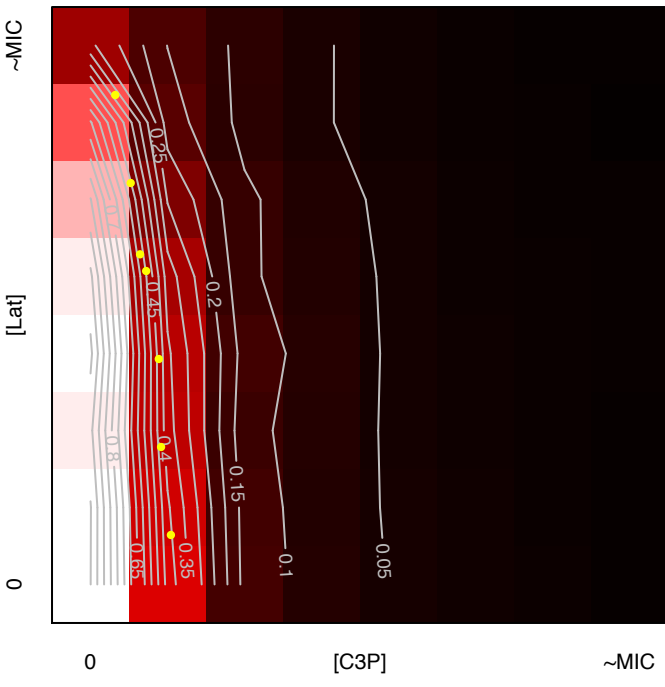
$\alpha = 0.3394801$

Ivii



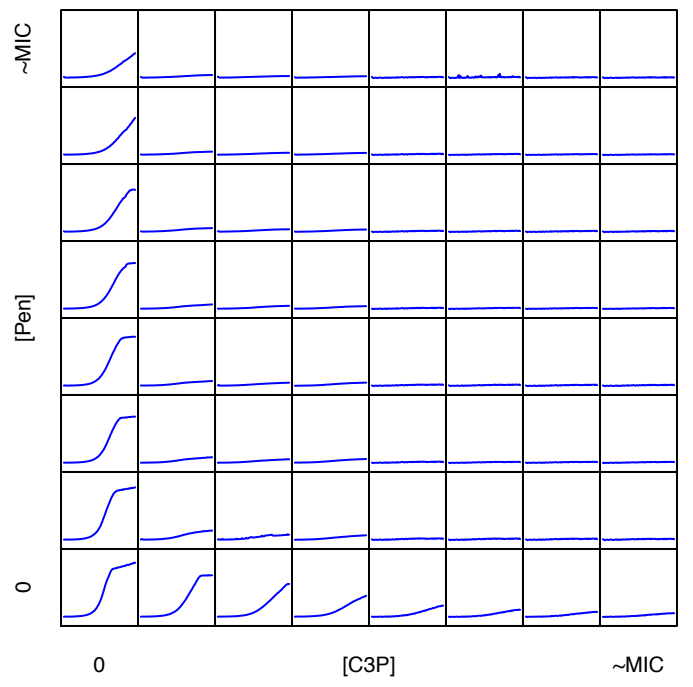
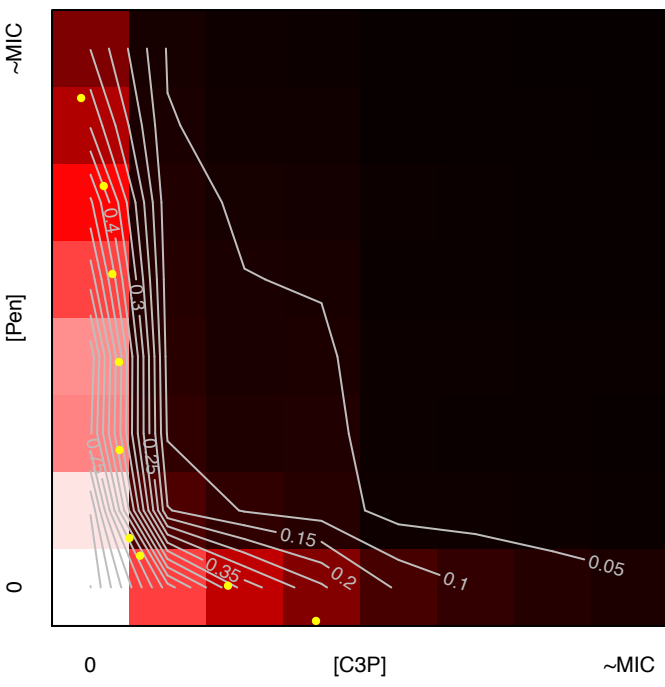
$\alpha = 1.432362$

Iviii



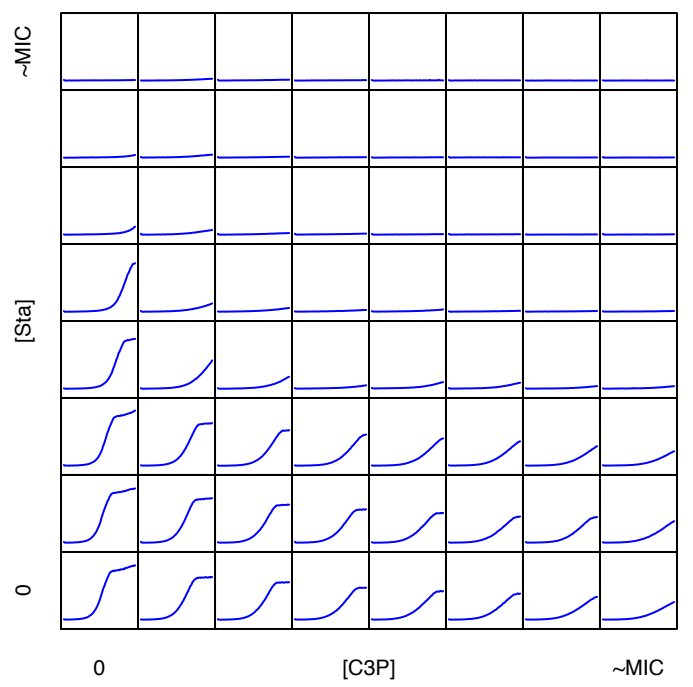
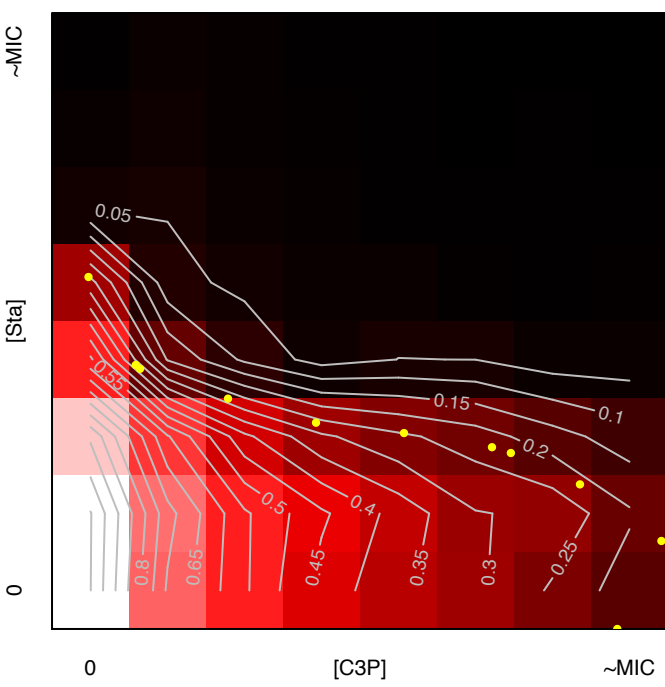
$\alpha = -1.410654$

lix

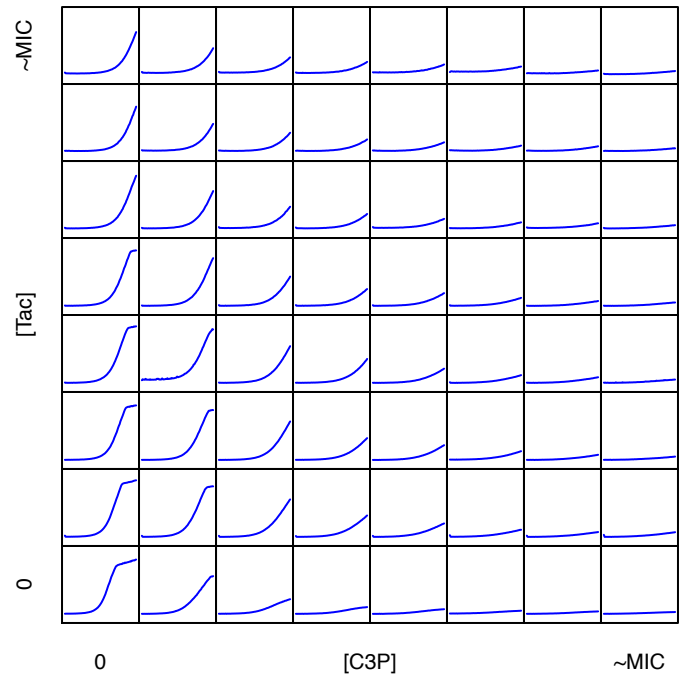
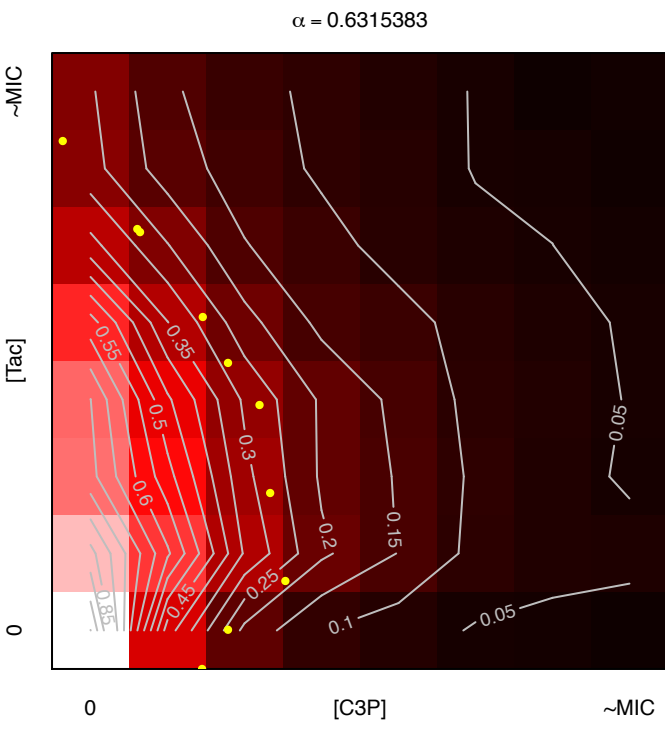


$\alpha = -0.1227124$

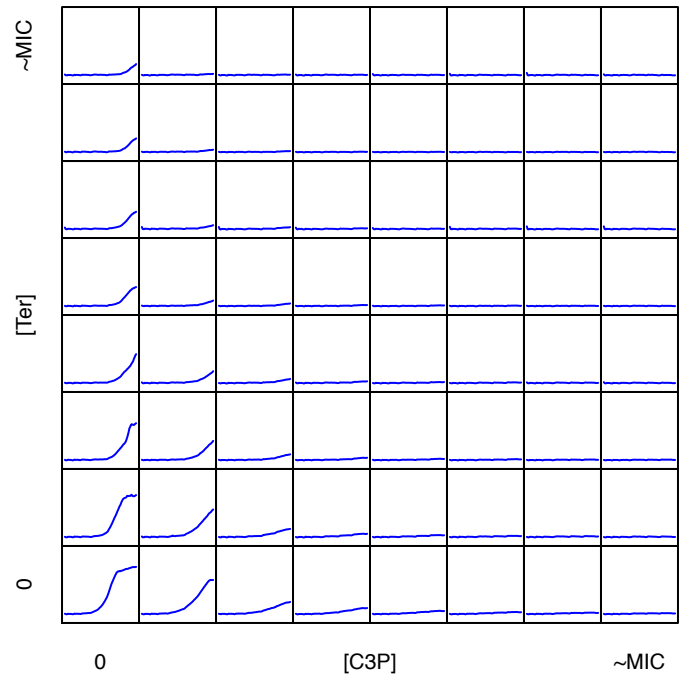
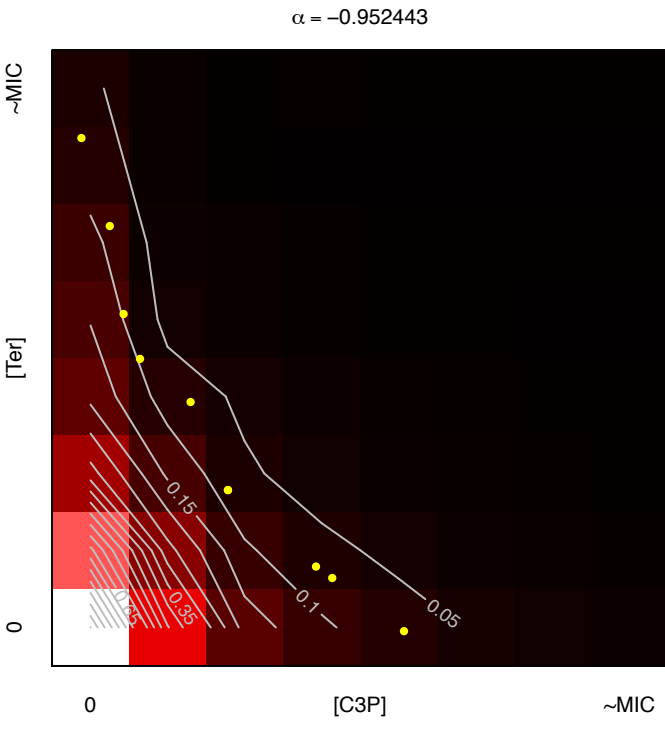
Ix



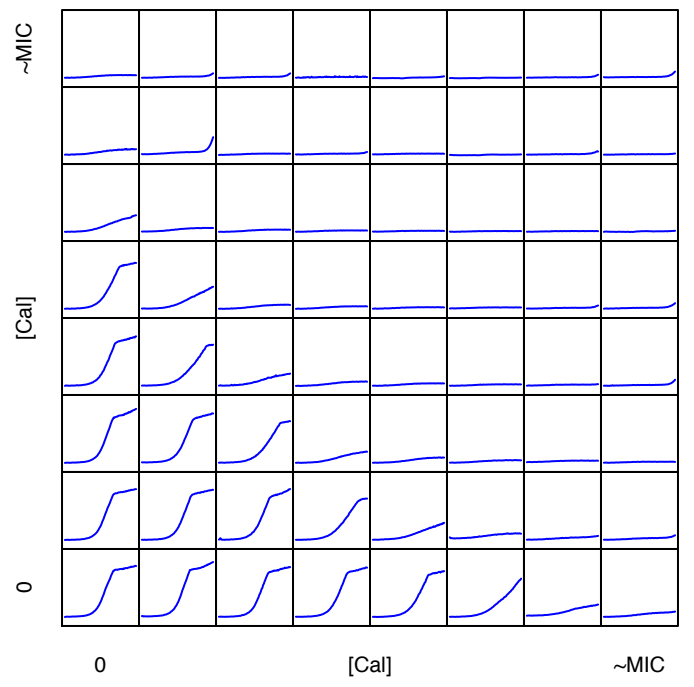
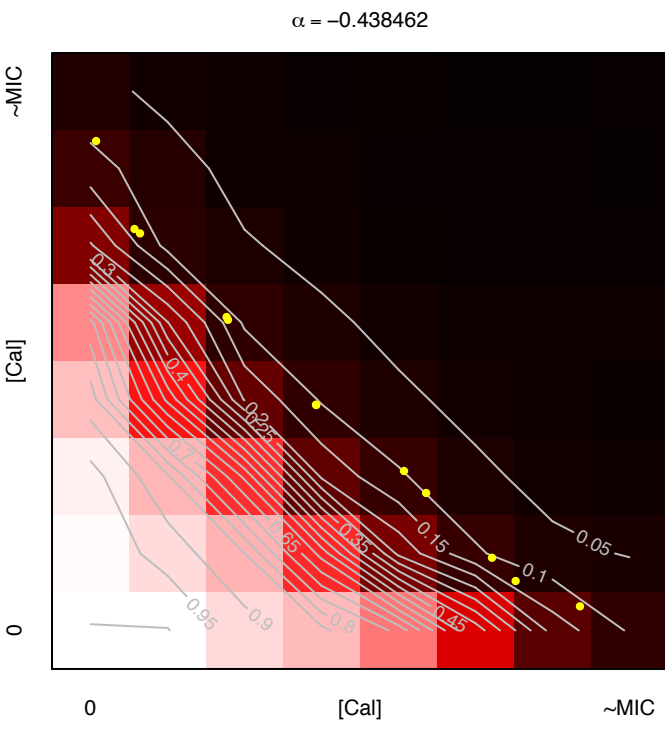
lxi



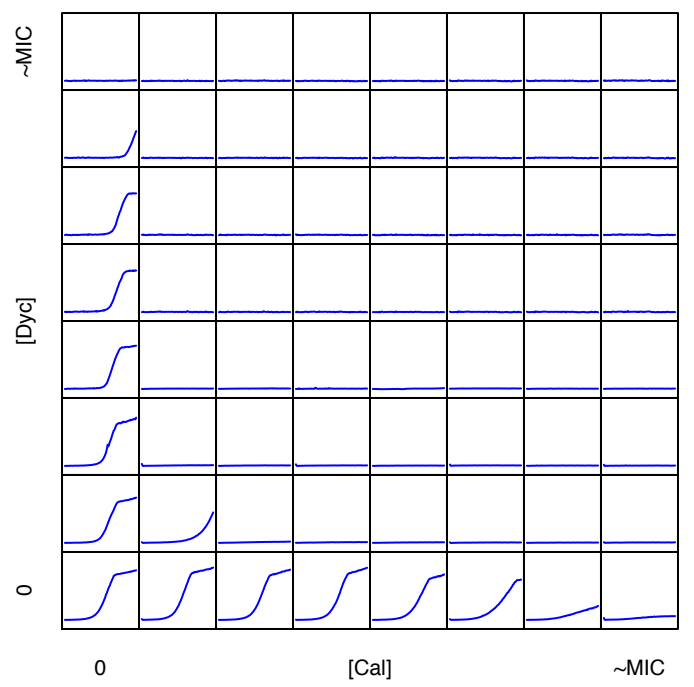
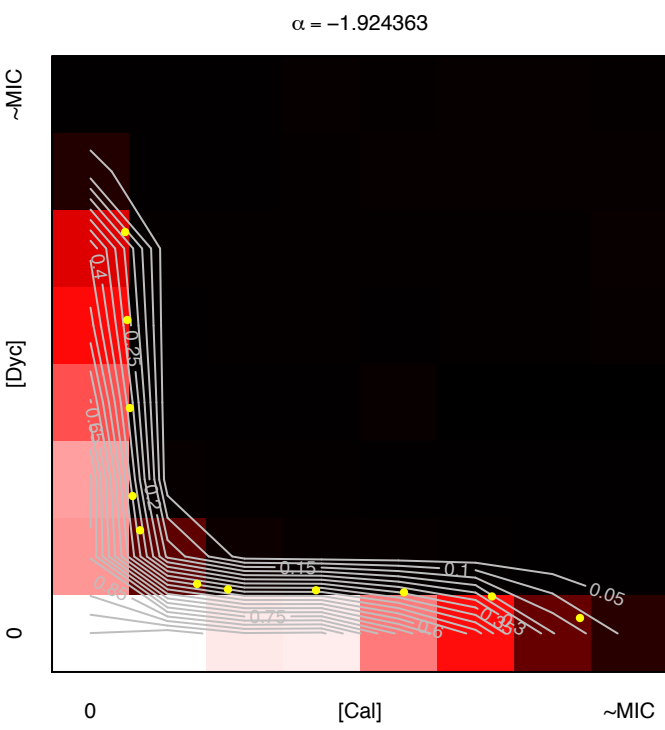
lxii



lxiii

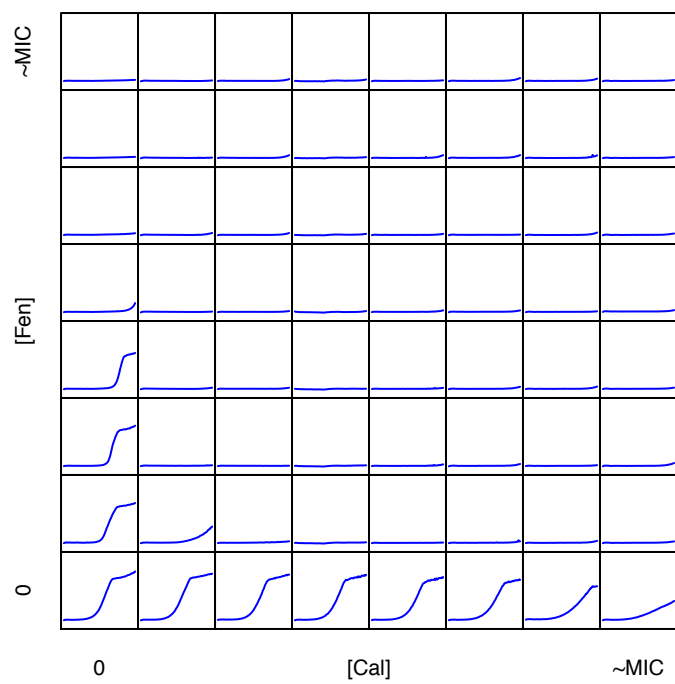
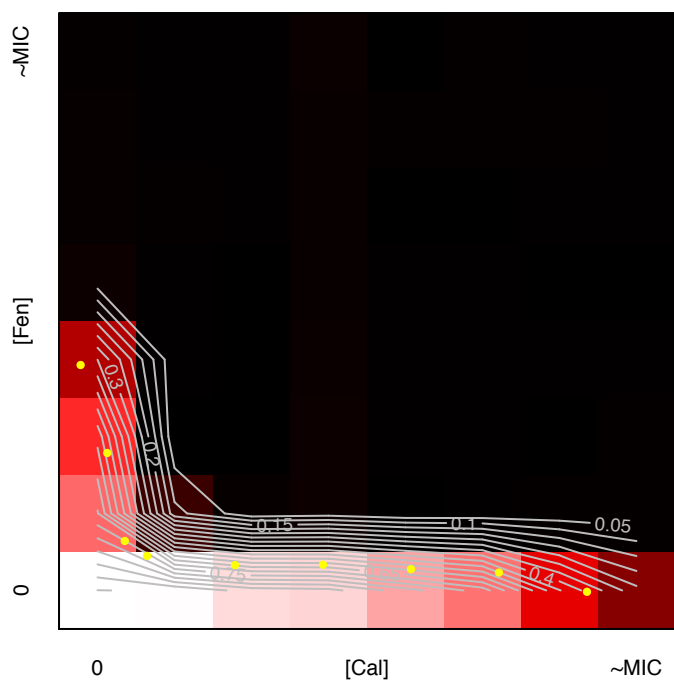


lxiv



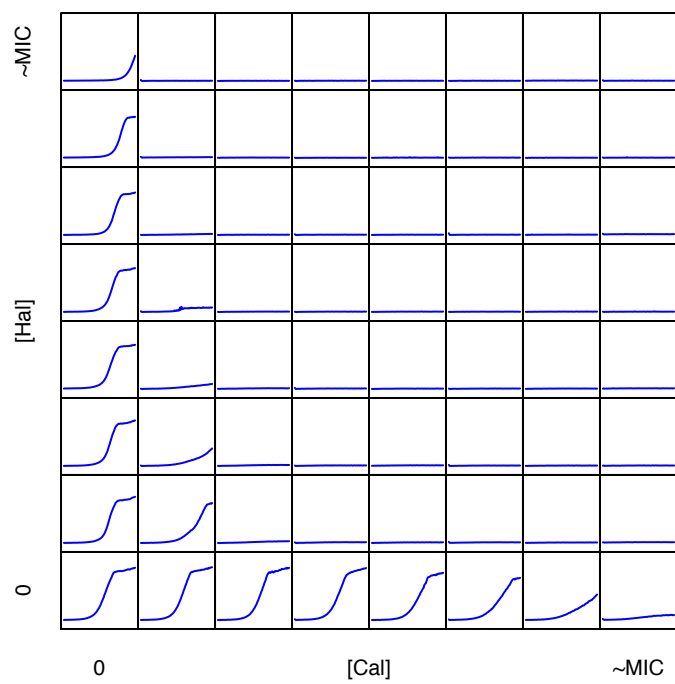
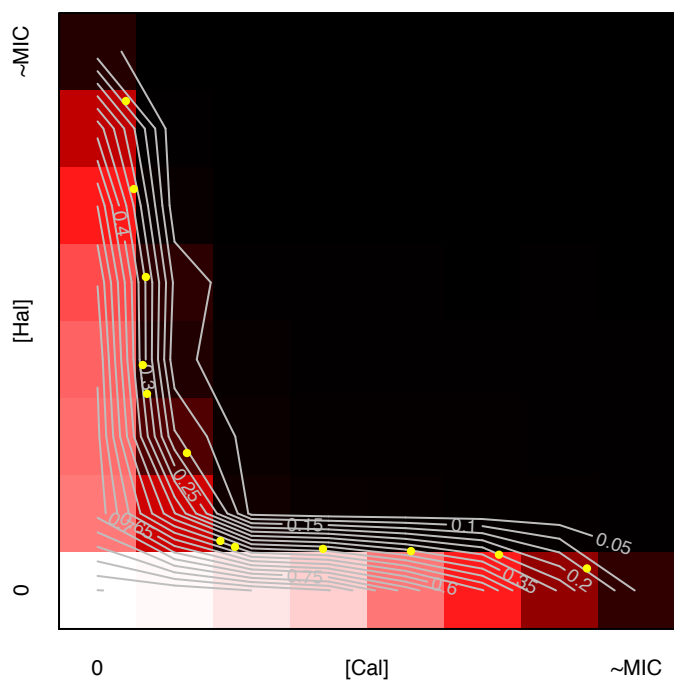
$\alpha = -1.534569$

lxv



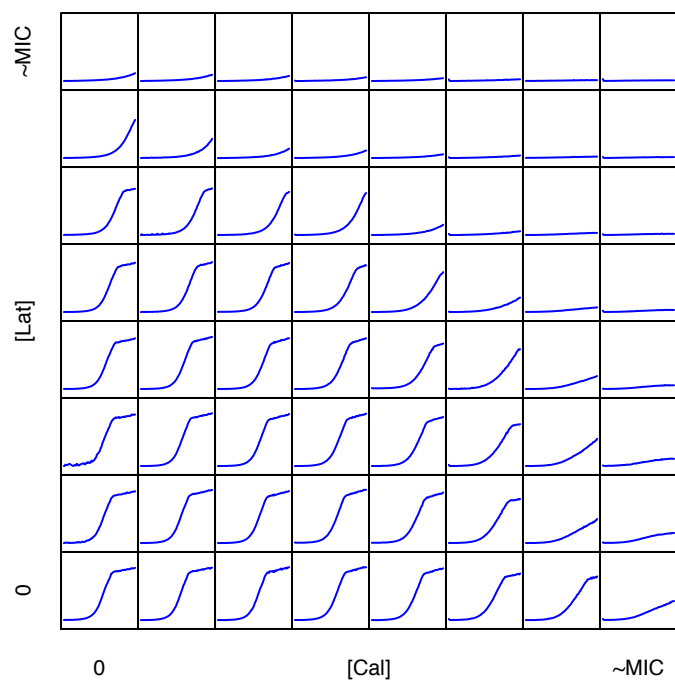
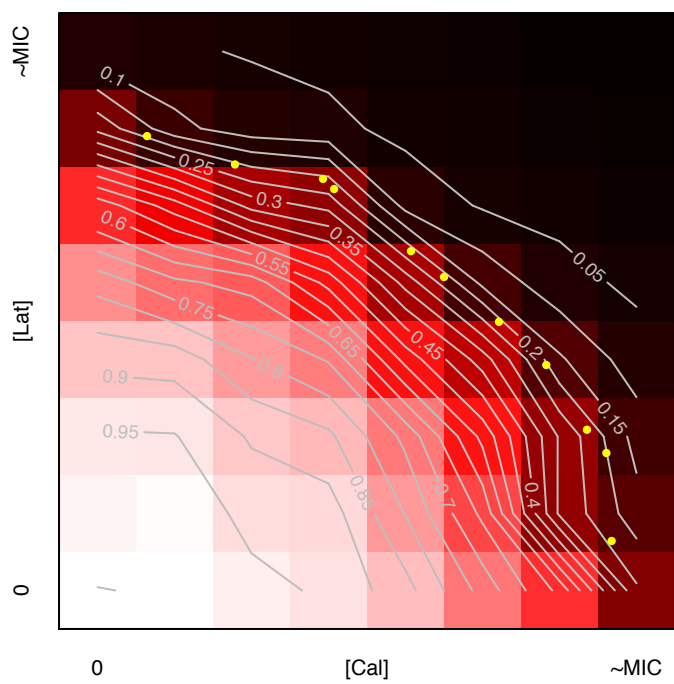
$\alpha = -1.882422$

lxvi



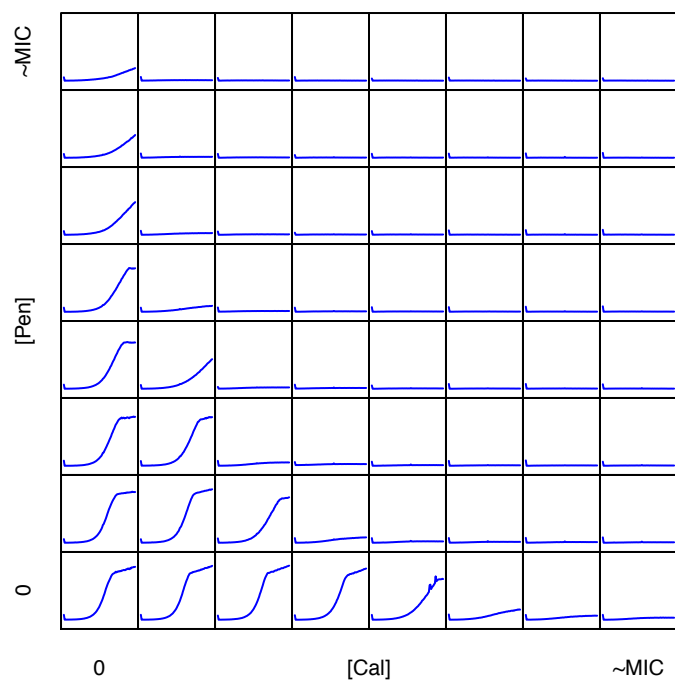
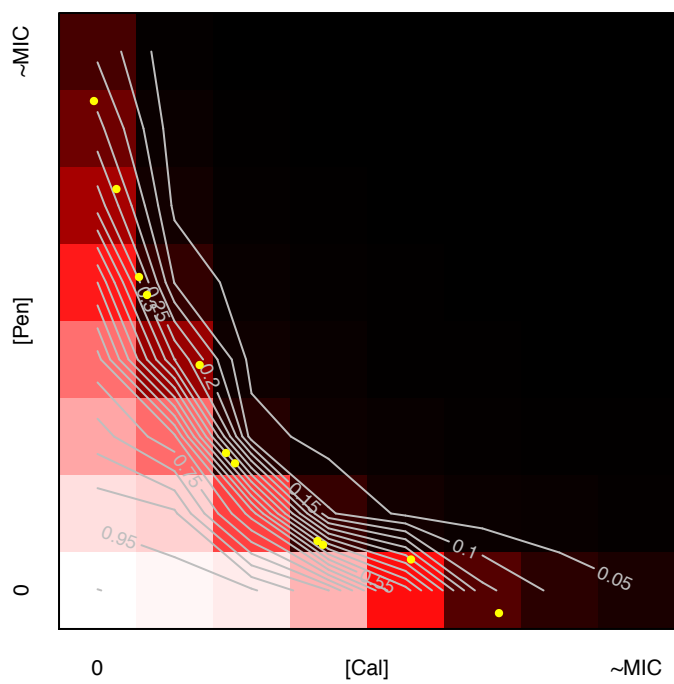
$\alpha = 1.270145$

lxvii

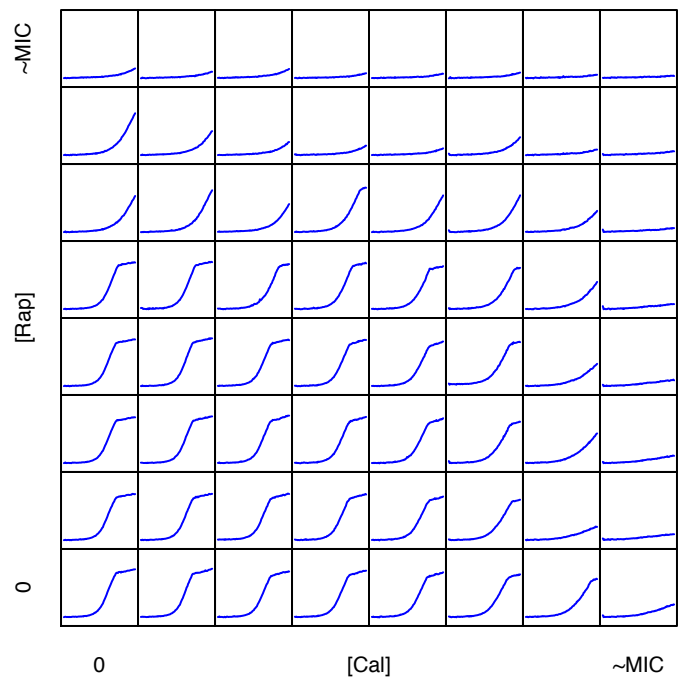
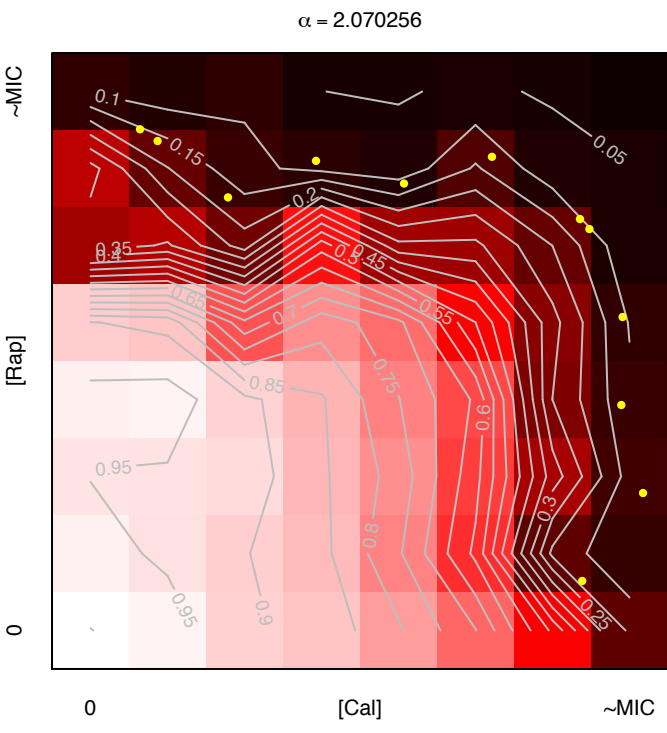


$\alpha = -1.298967$

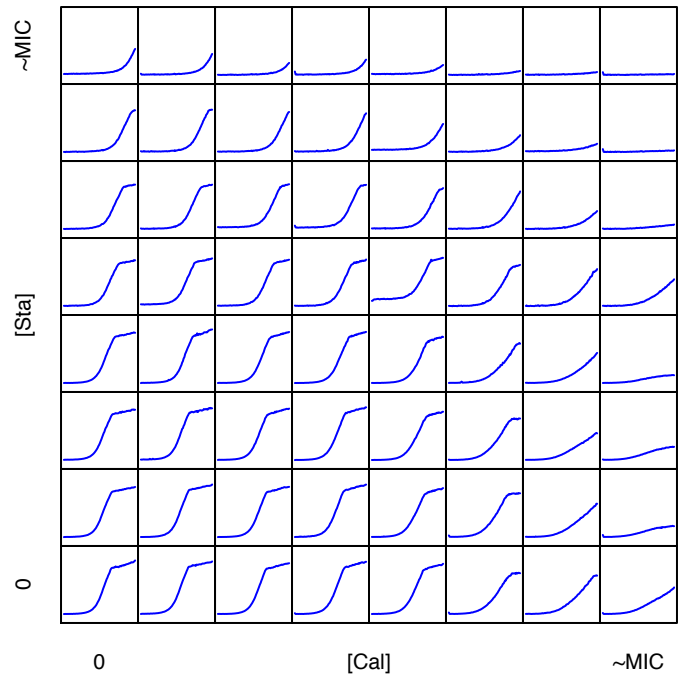
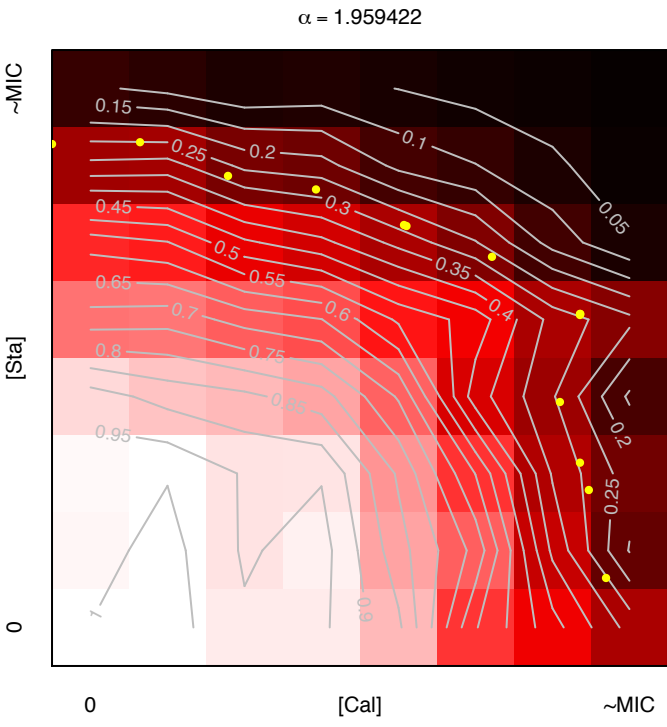
lxviii



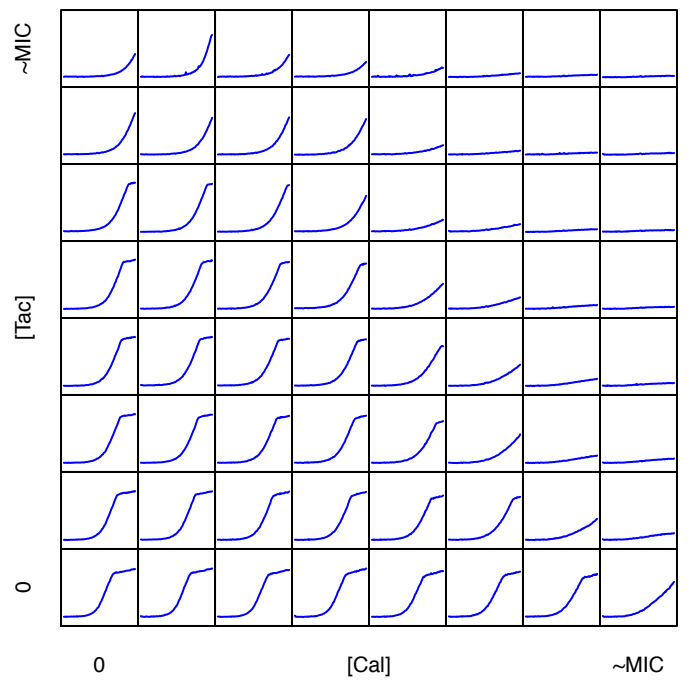
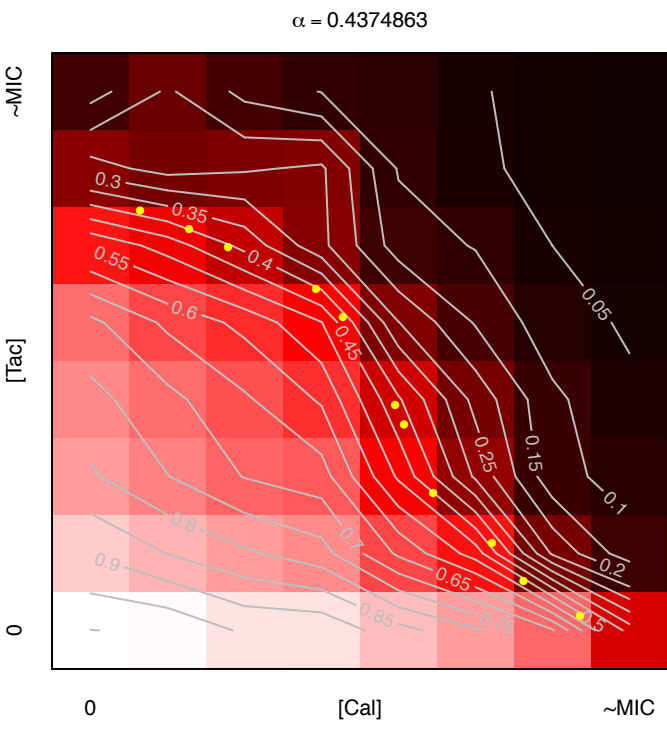
lxi



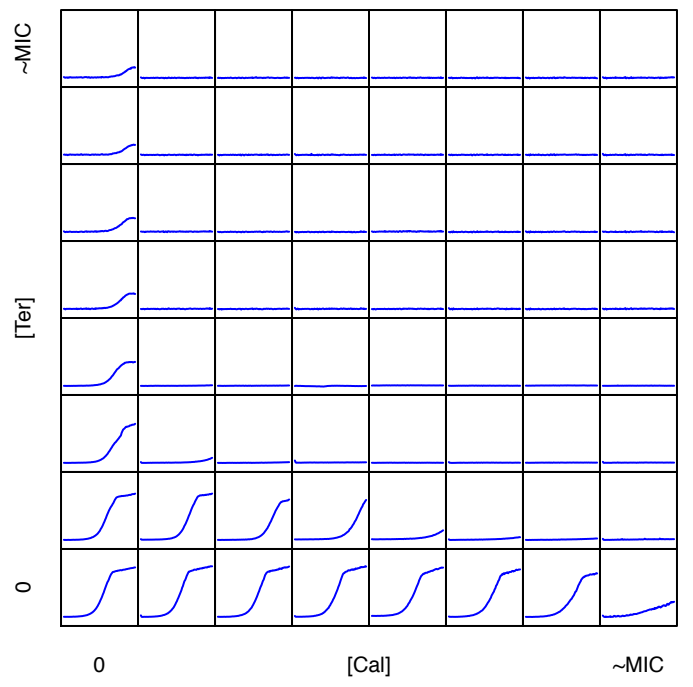
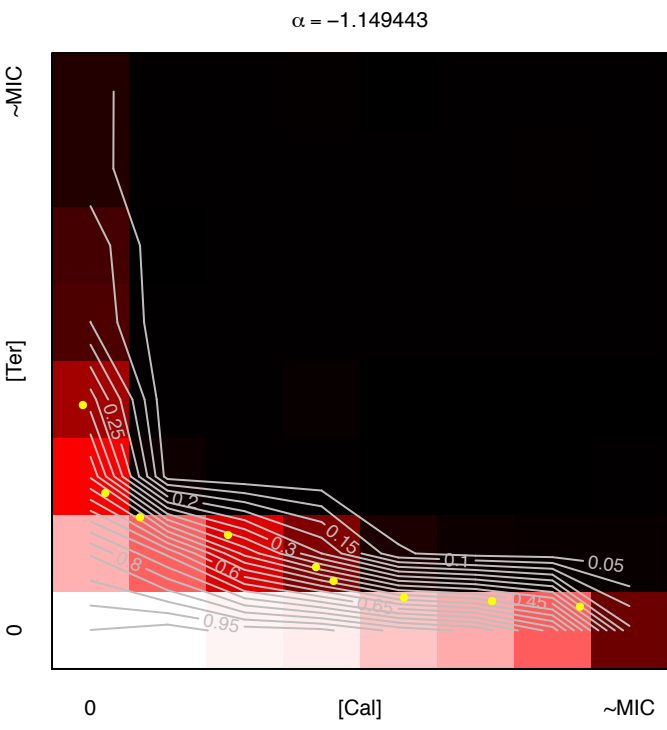
lxx



lxxi

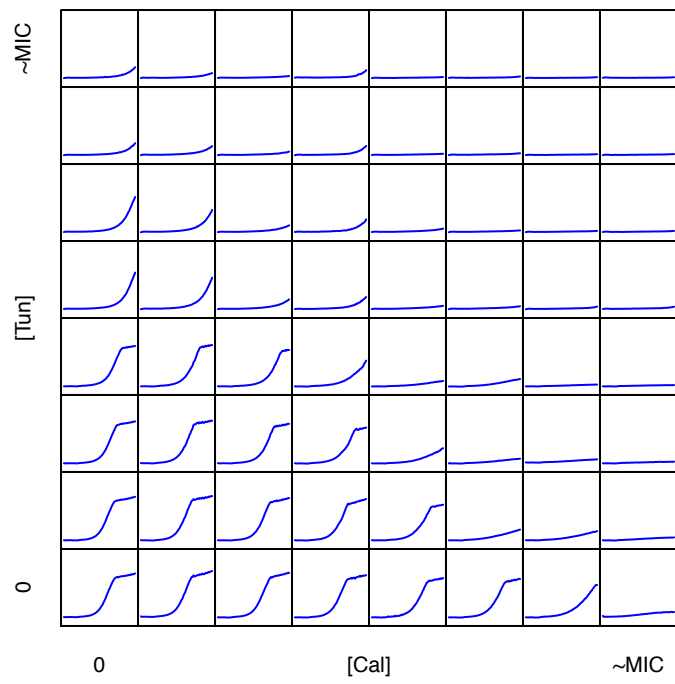
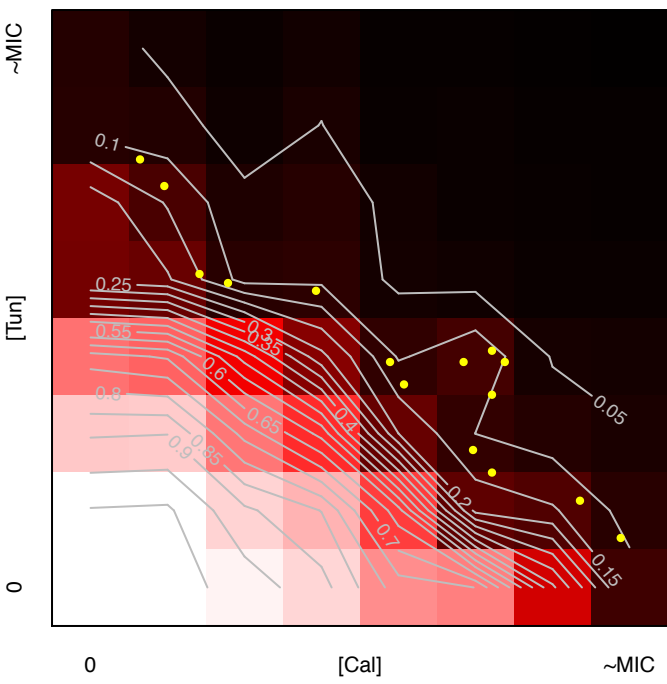


lxxii



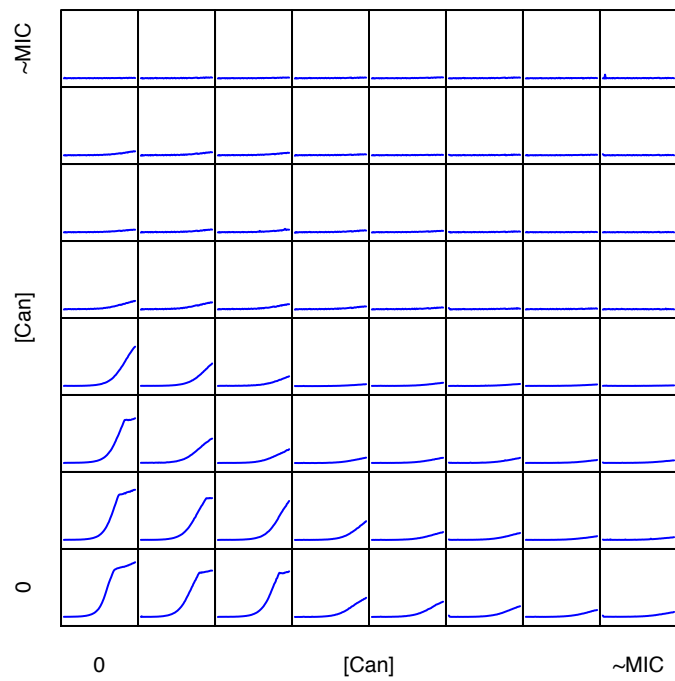
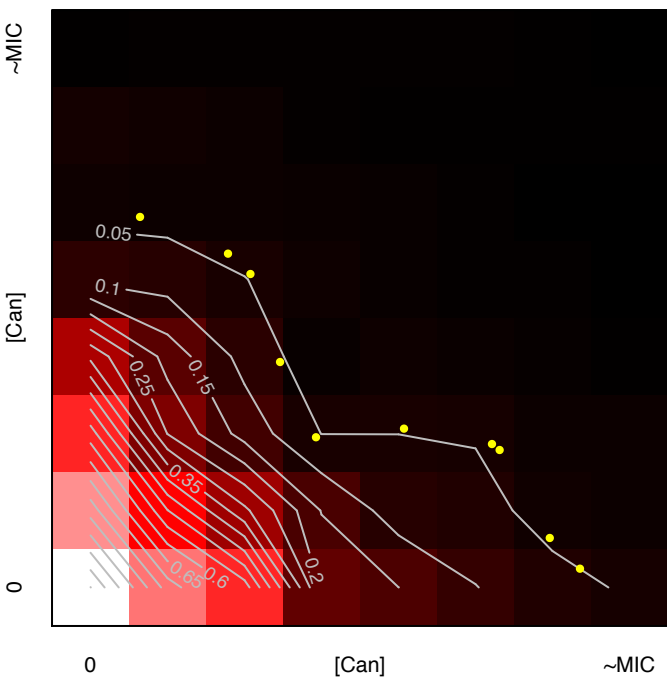
$\alpha = 0.4485827$

lxxiii



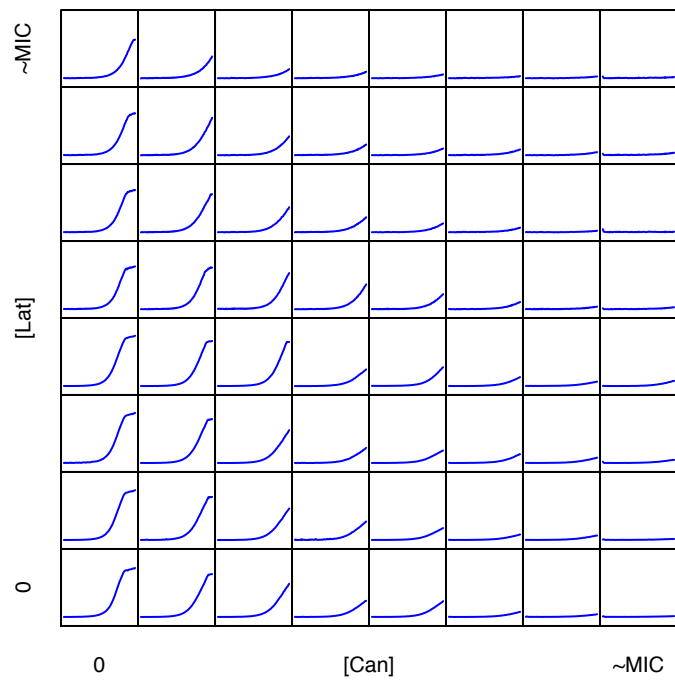
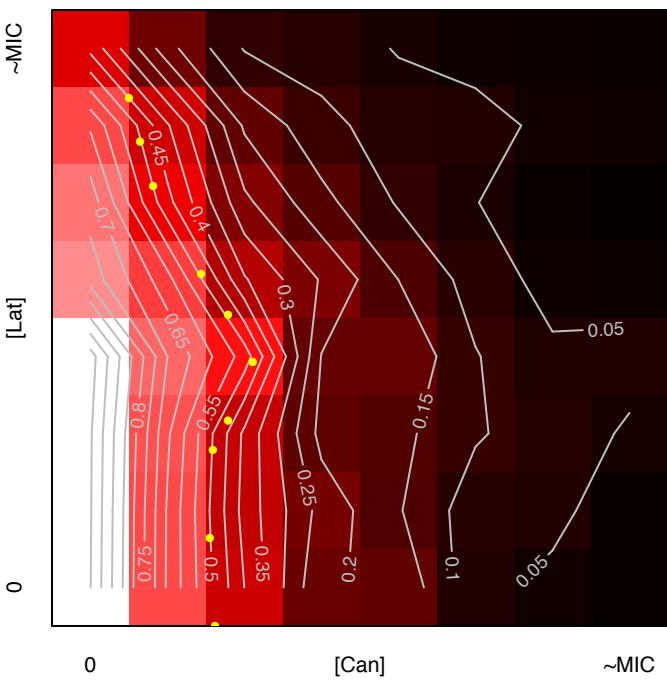
$\alpha = 0.3993201$

lxxiv



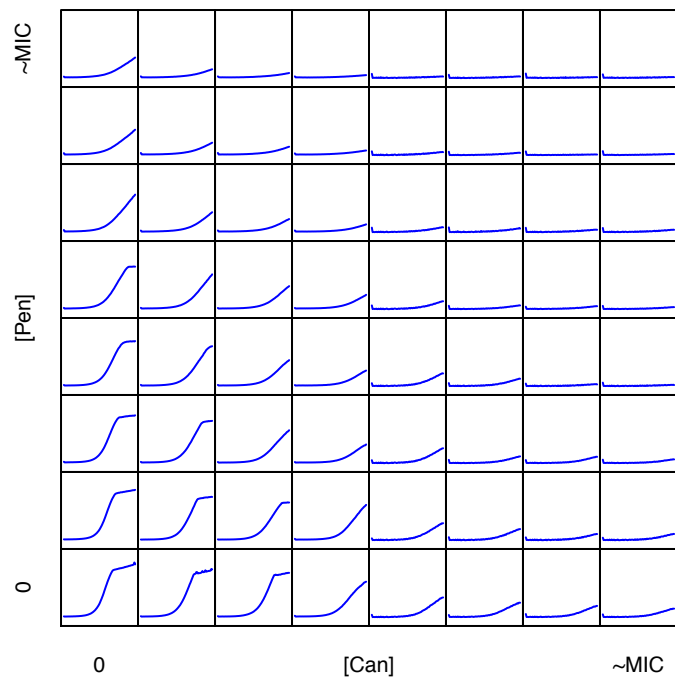
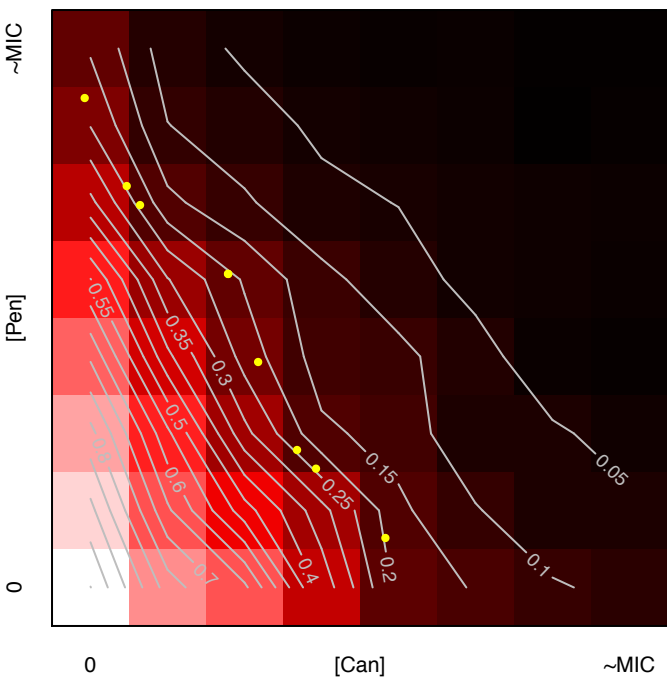
$\alpha = 1.157684$

lxxv



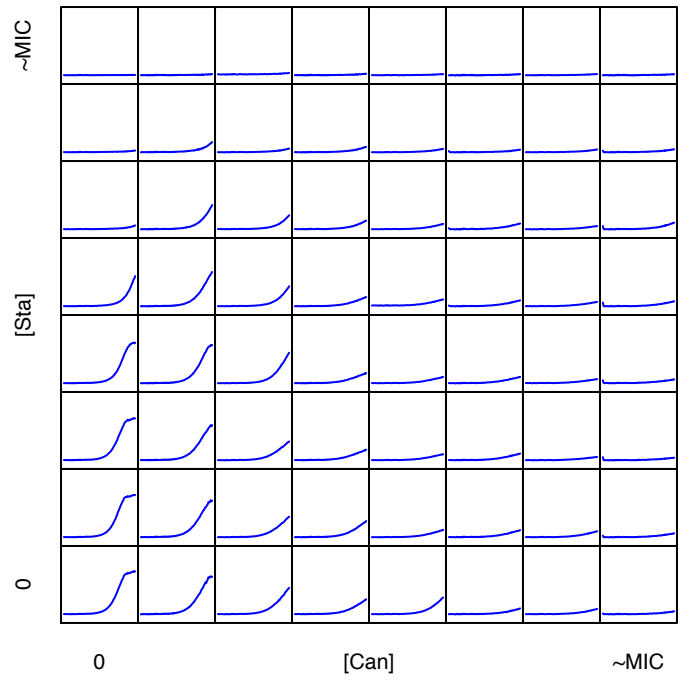
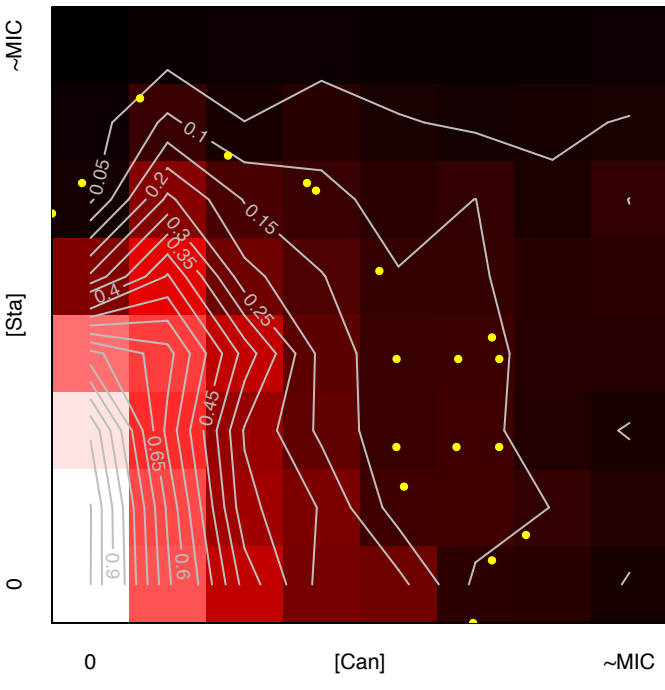
$\alpha = 0.08059704$

lxxvi



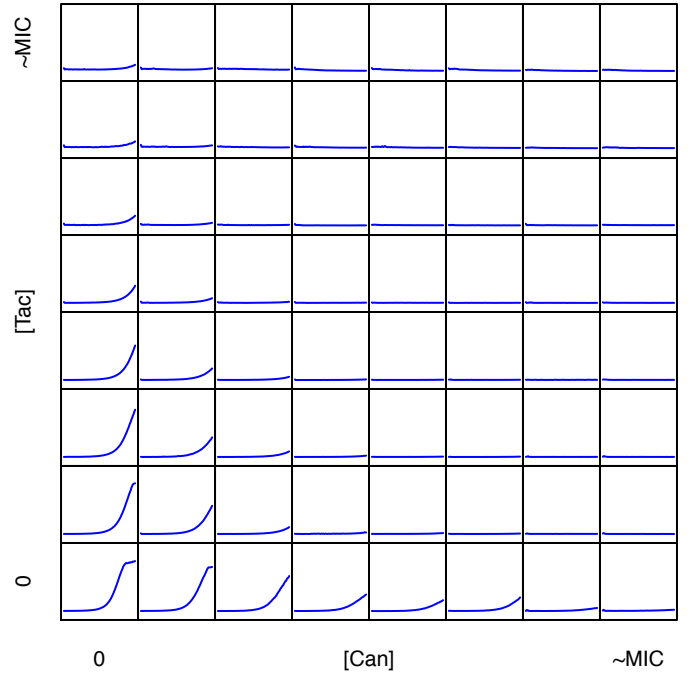
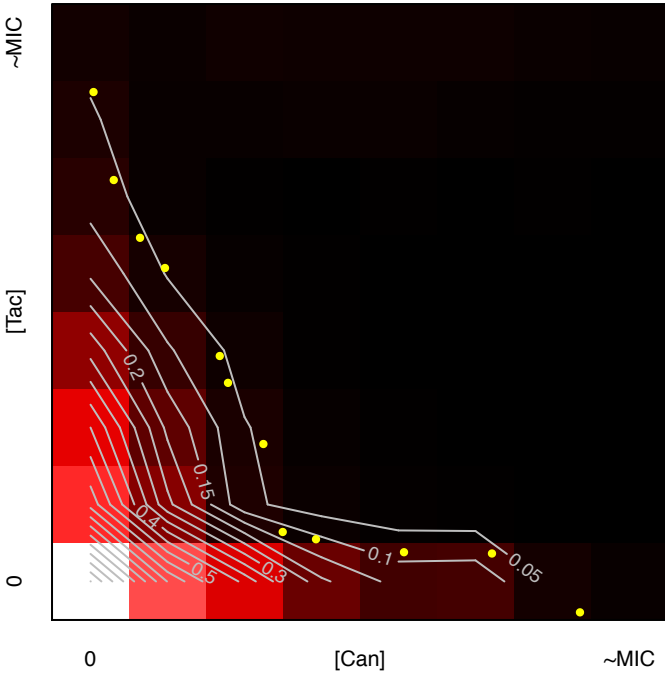
$\alpha = 1.543557$

lxxvii



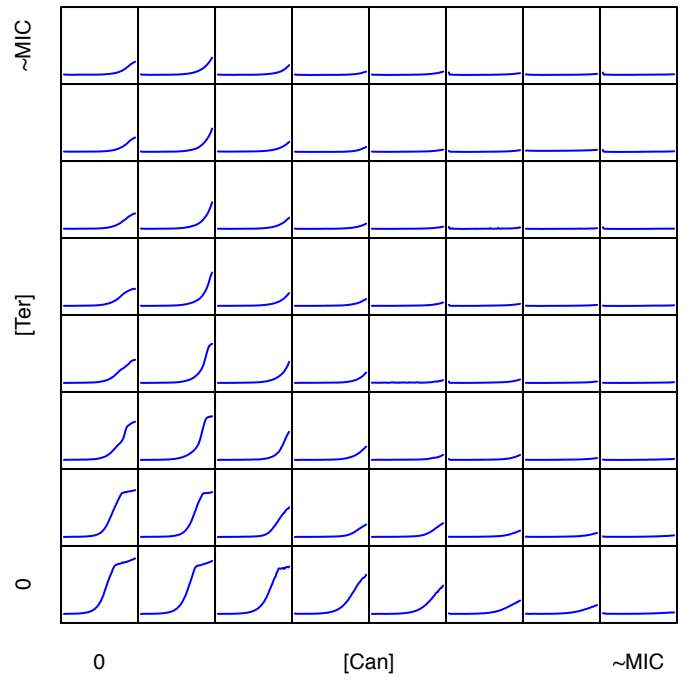
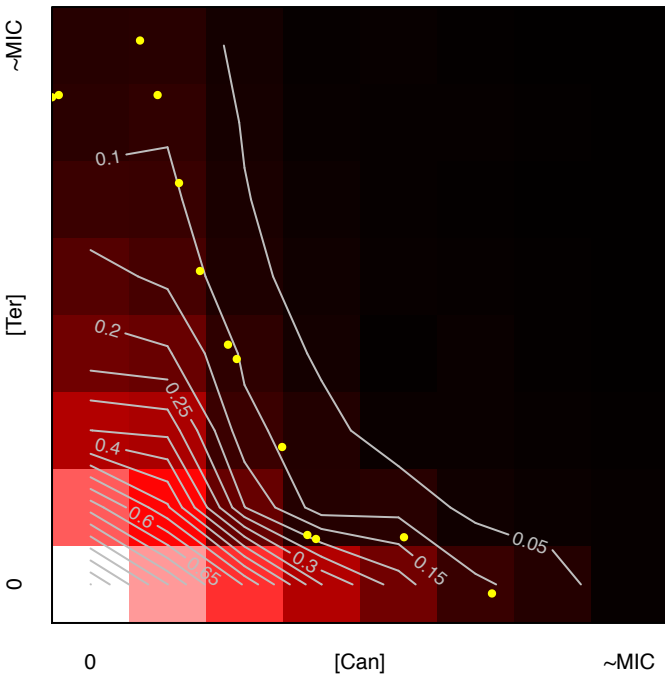
$\alpha = -1.221525$

lxxviii



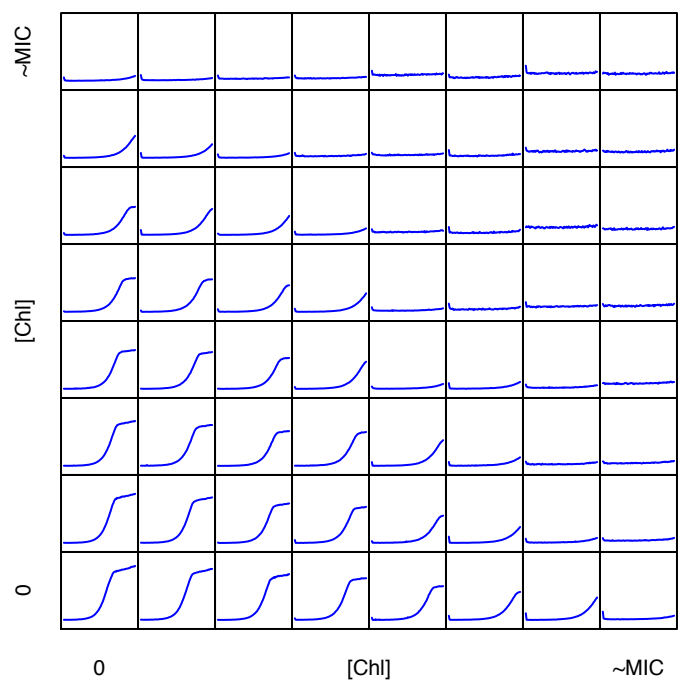
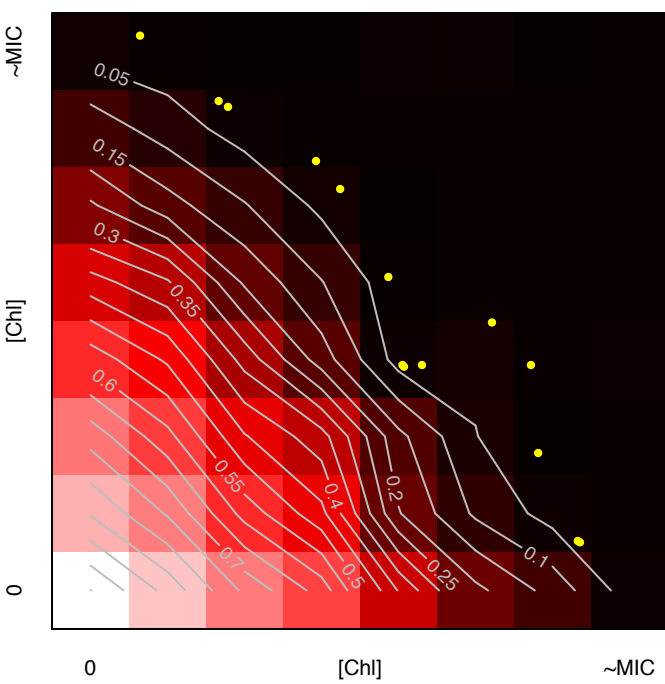
$\alpha = -0.8706326$

lxxix



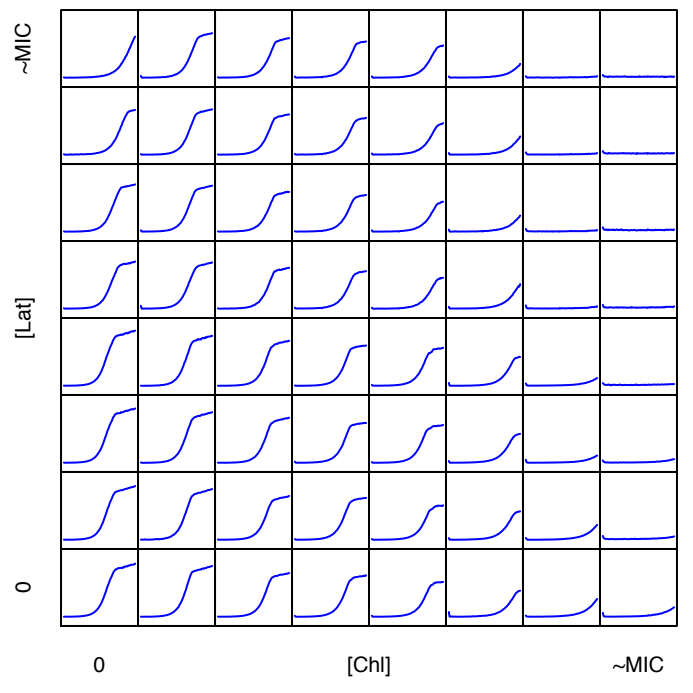
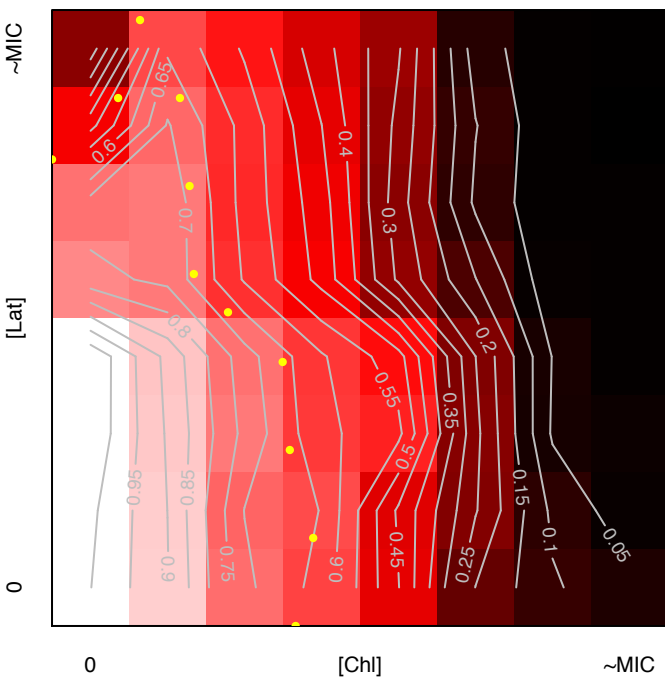
$\alpha = 0.6301139$

lxxx

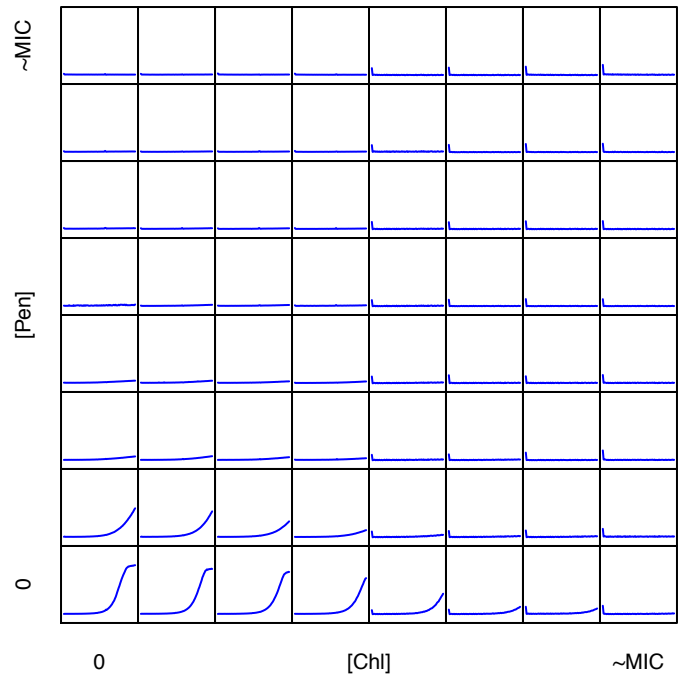
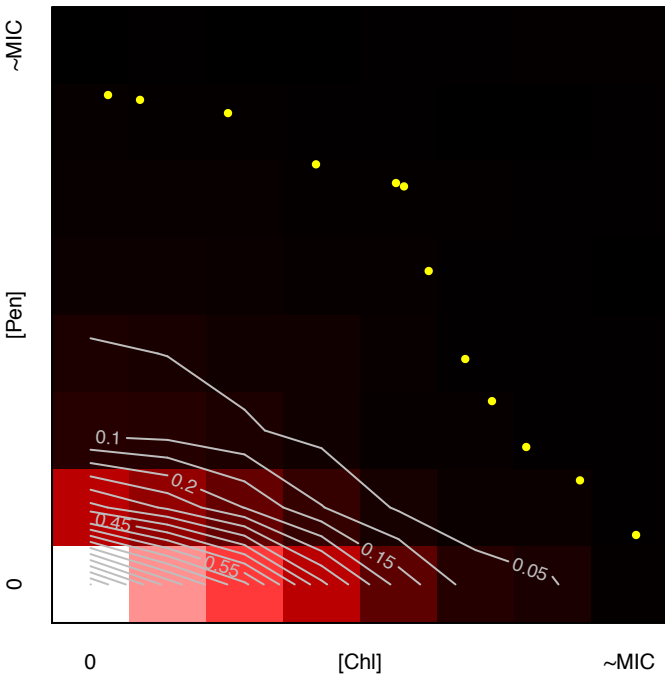


$\alpha = 1.081459$

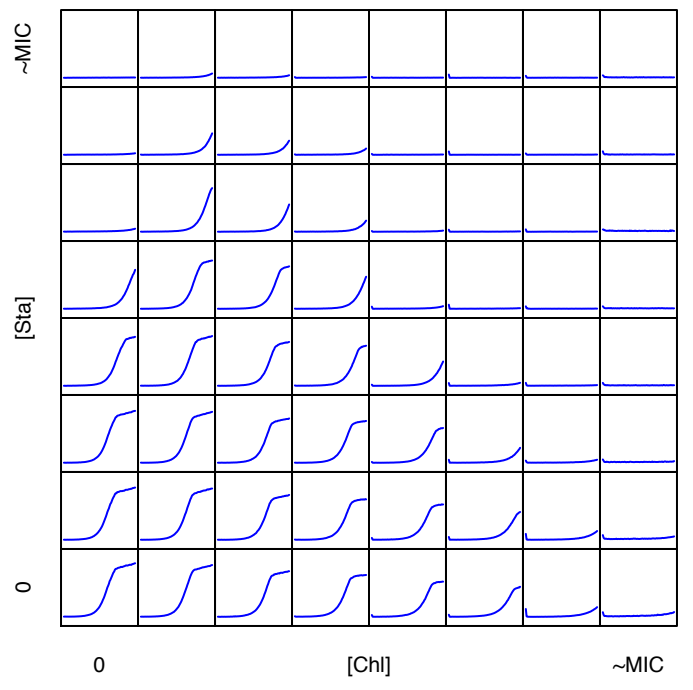
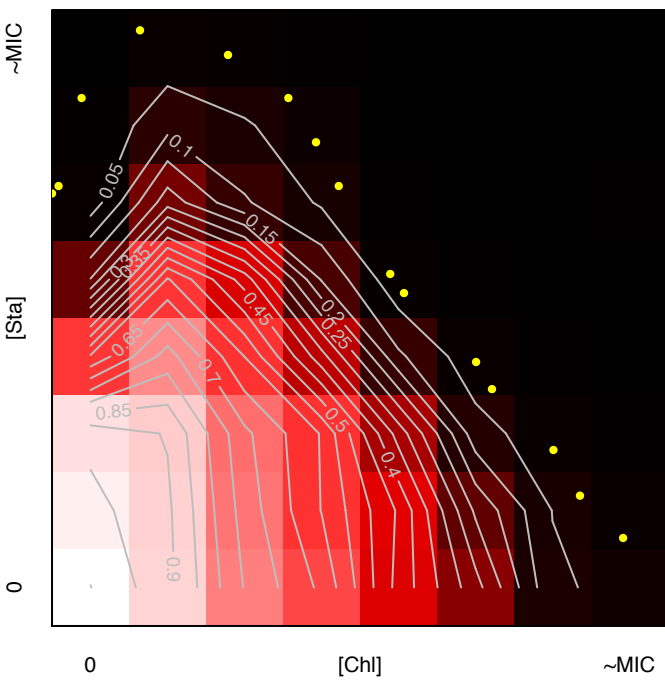
lxxxii

 $\alpha = 1.292096$

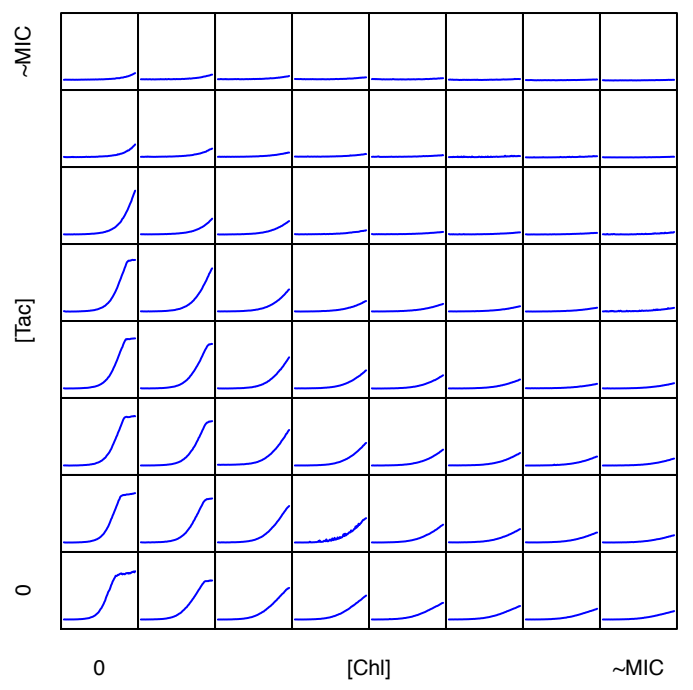
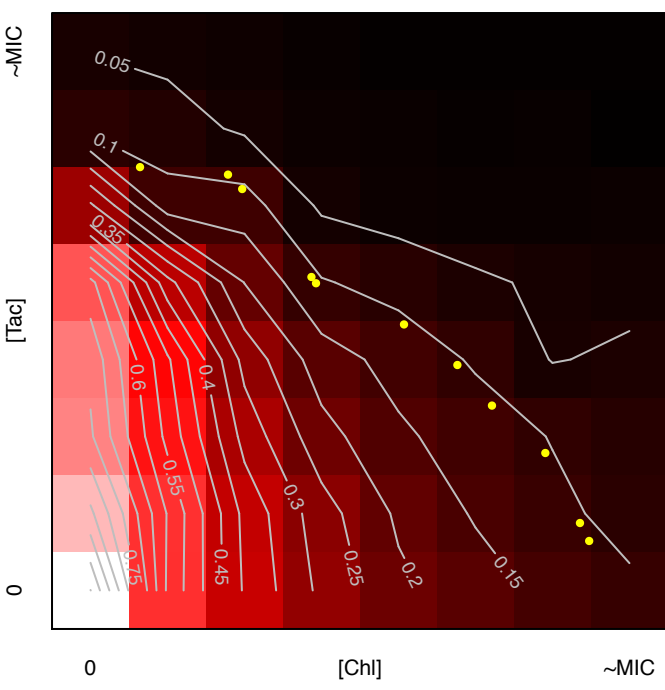
lxxxiii

 $\alpha = 0.5491908$

lxxxiiii

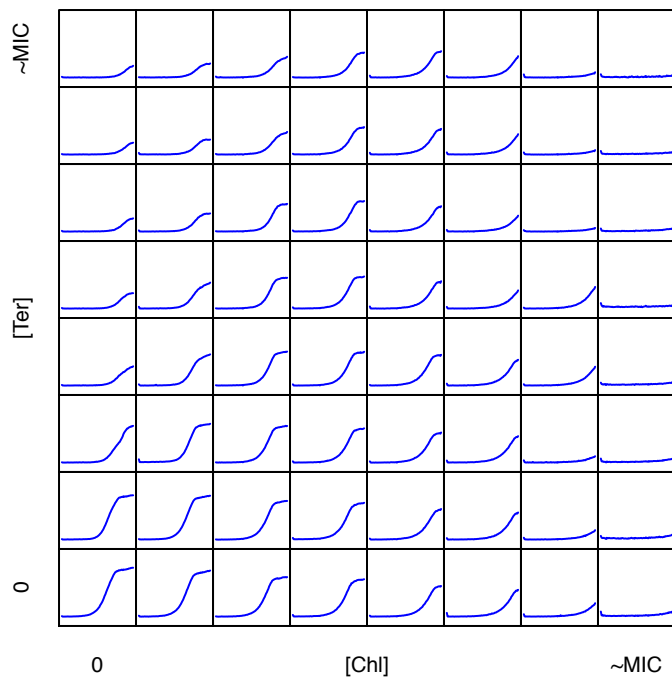
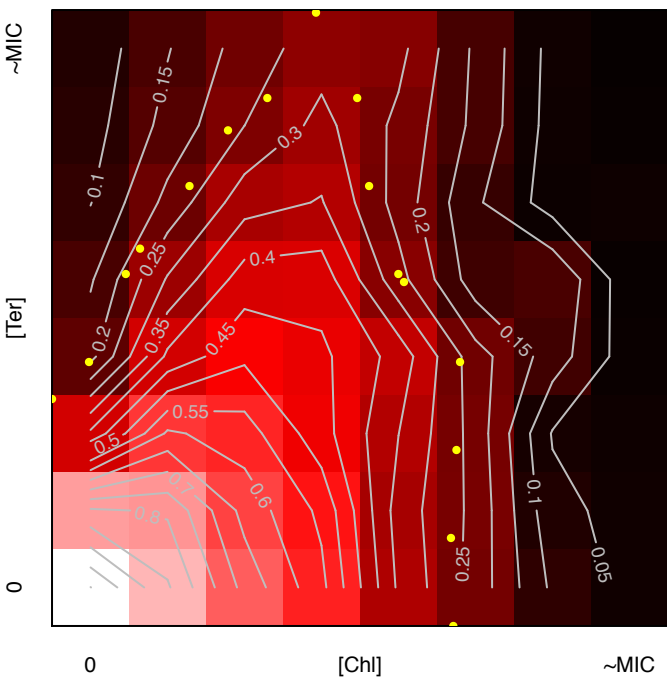
 $\alpha = 0.6244599$

lxxxv



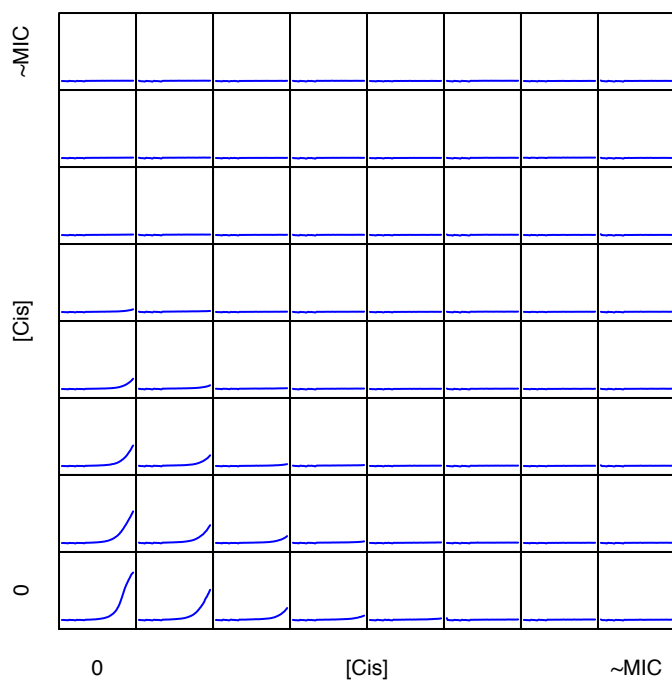
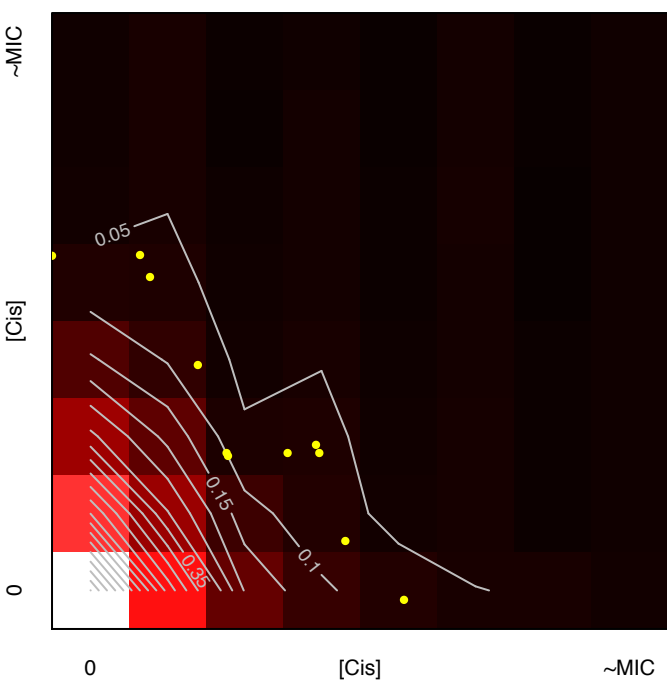
$\alpha = 1.960505$

lxxxv



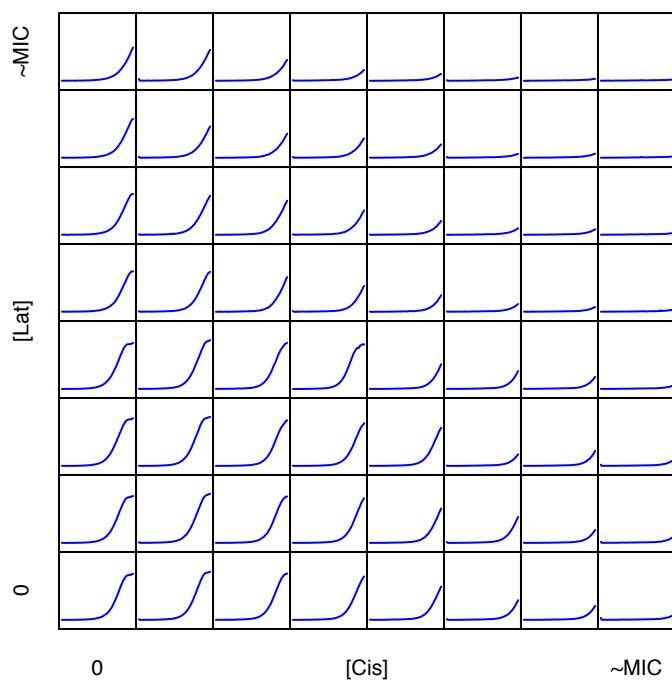
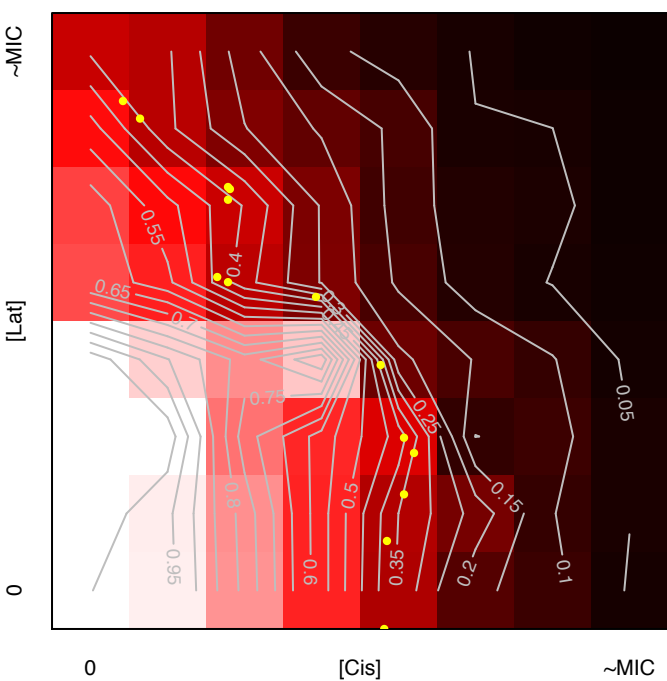
$\alpha = 0.2377447$

lxxxvi



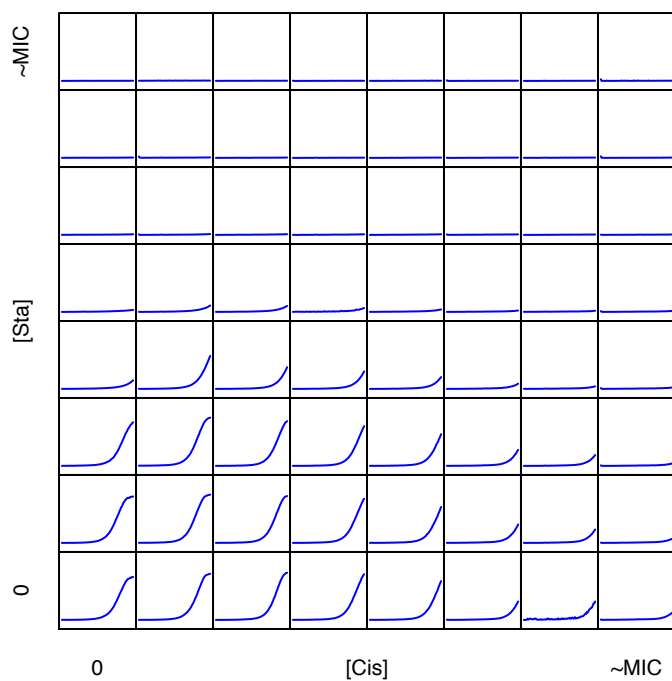
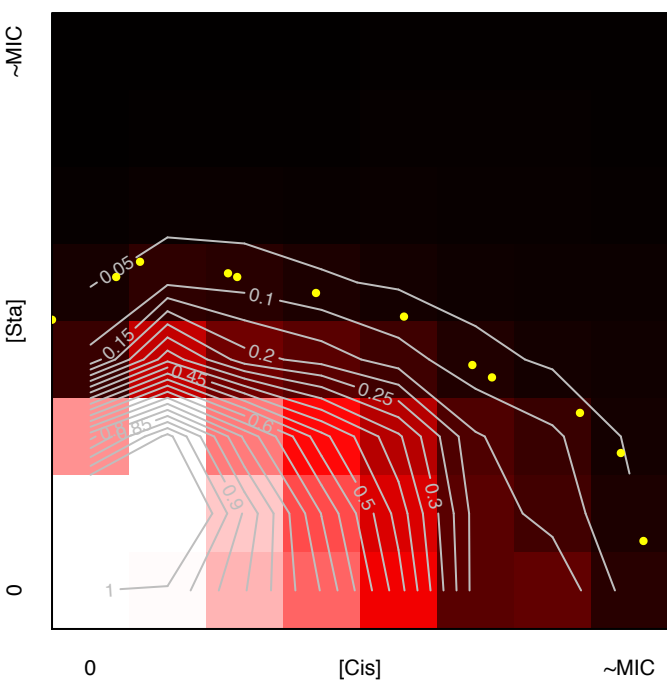
$\alpha = 0.812524$

lxxxvii



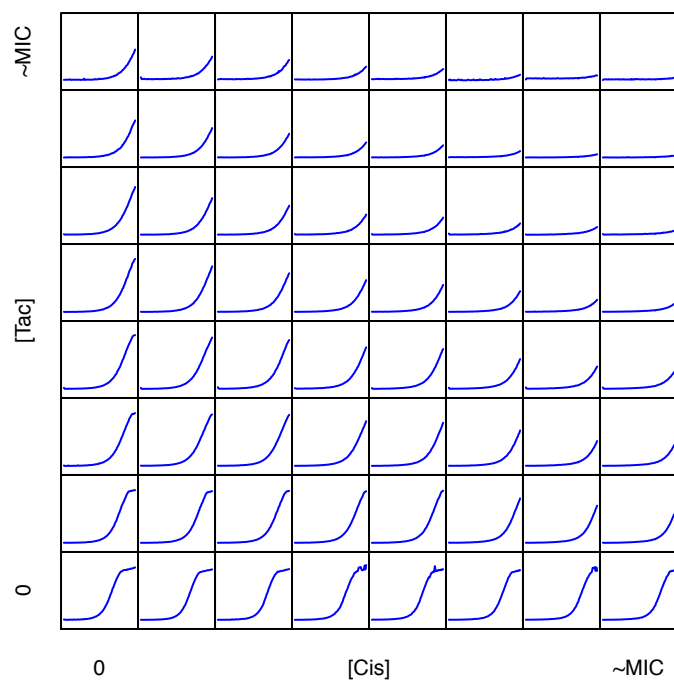
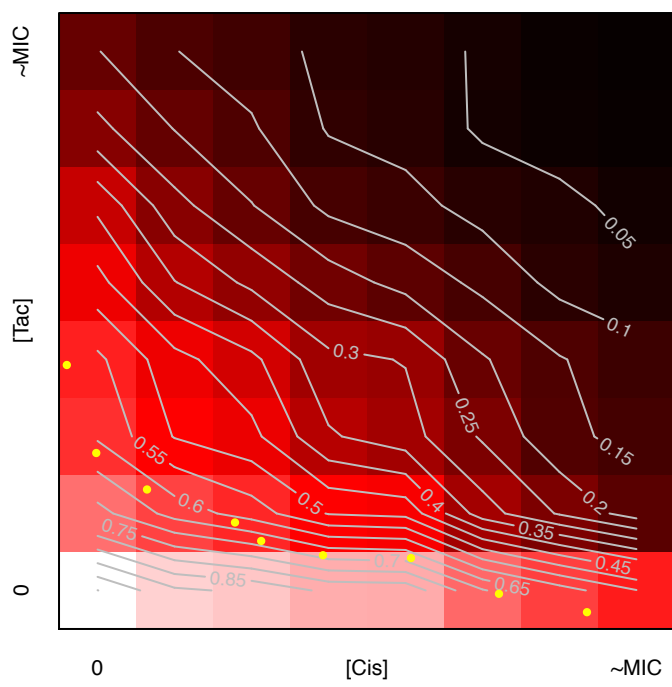
$\alpha = 2.042424$

lxxxviii



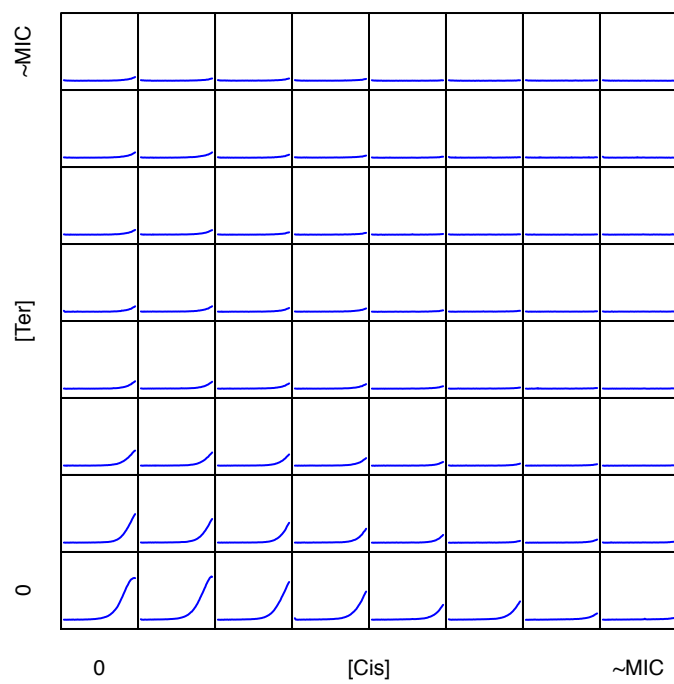
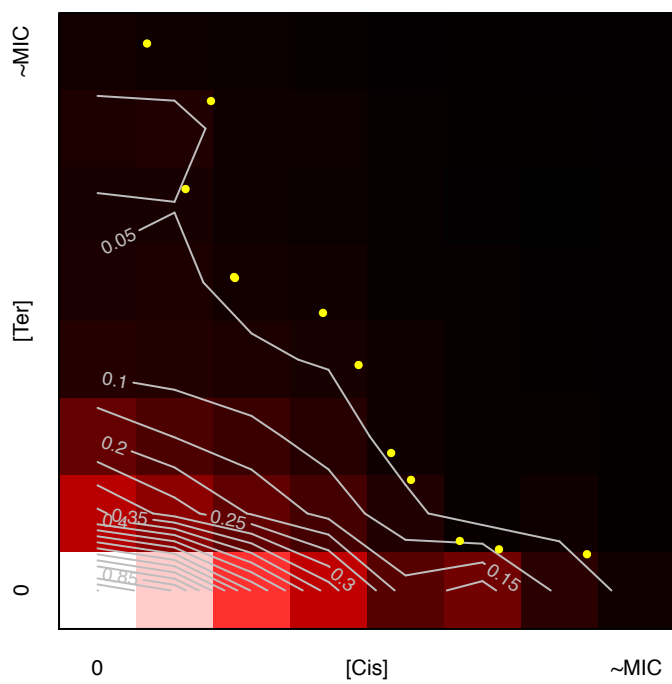
$\alpha = -1.278747$

lxxxix



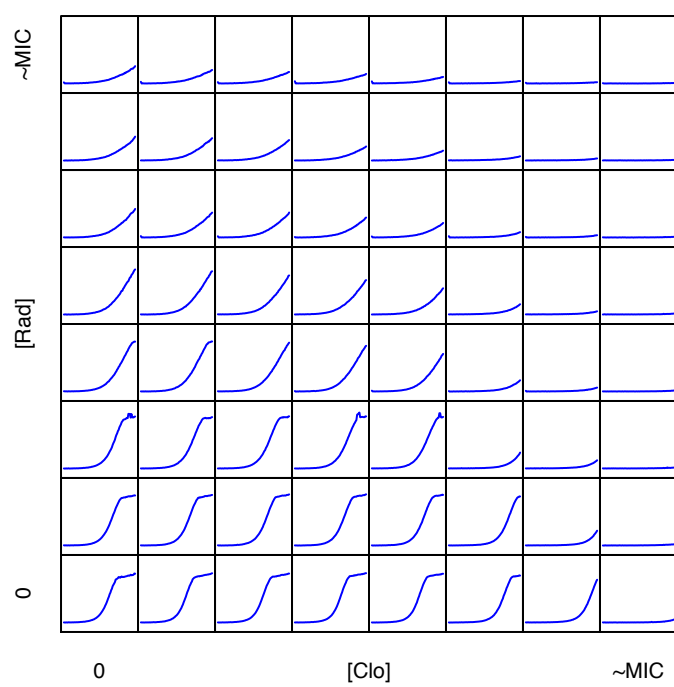
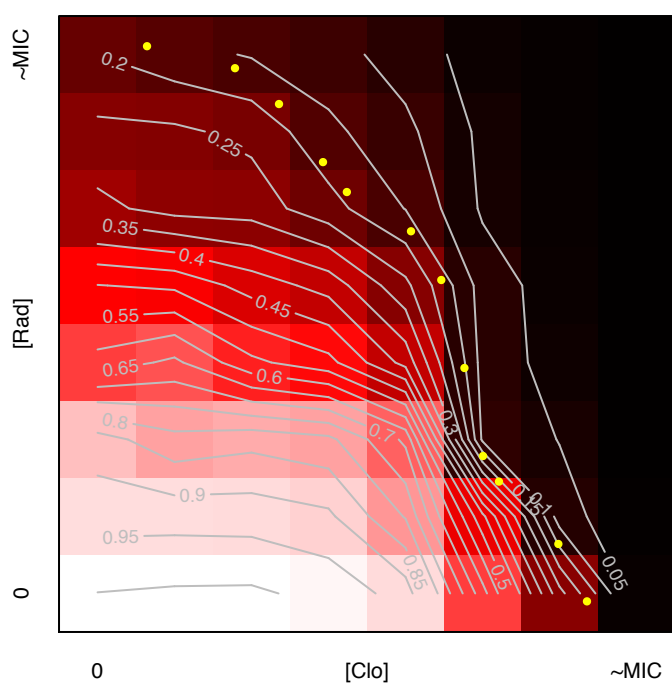
$\alpha = -0.5585719$

xc



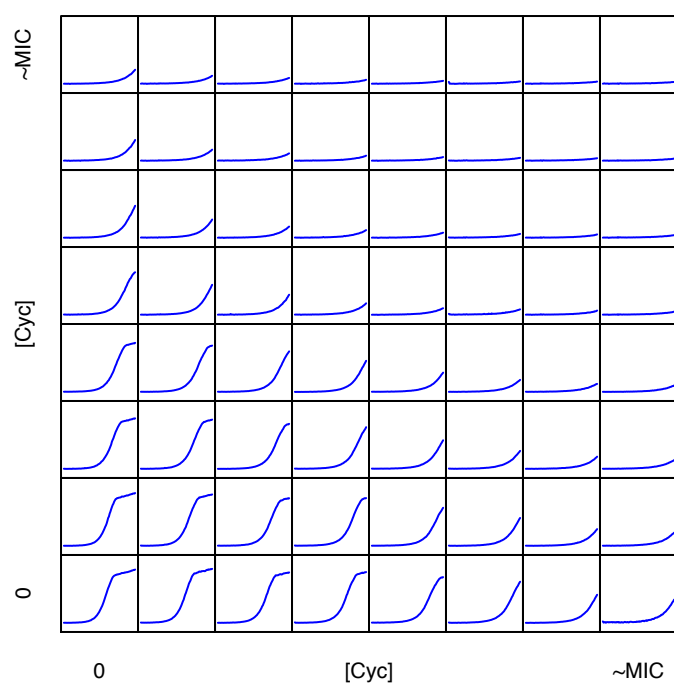
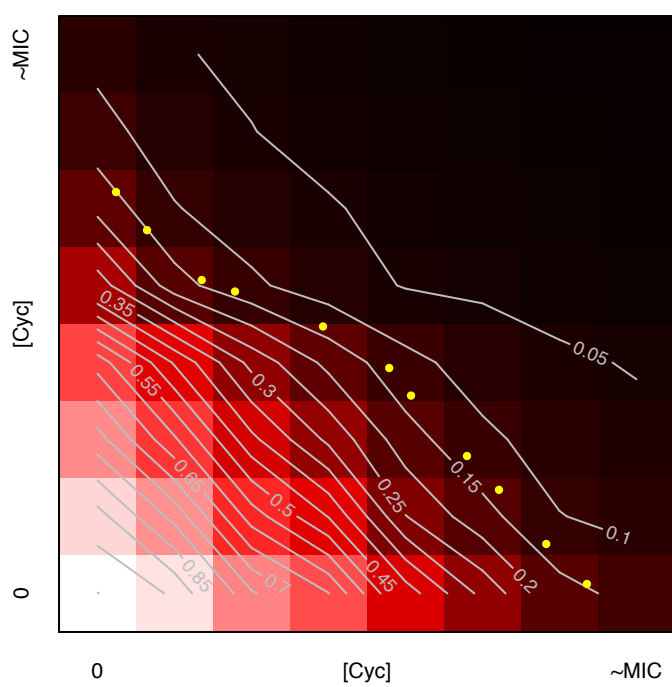
$\alpha = 1.03216$

xcii



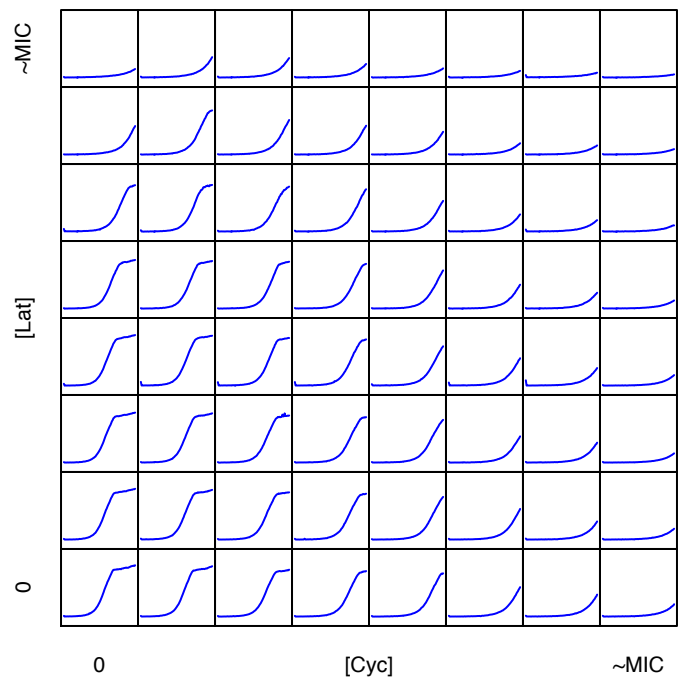
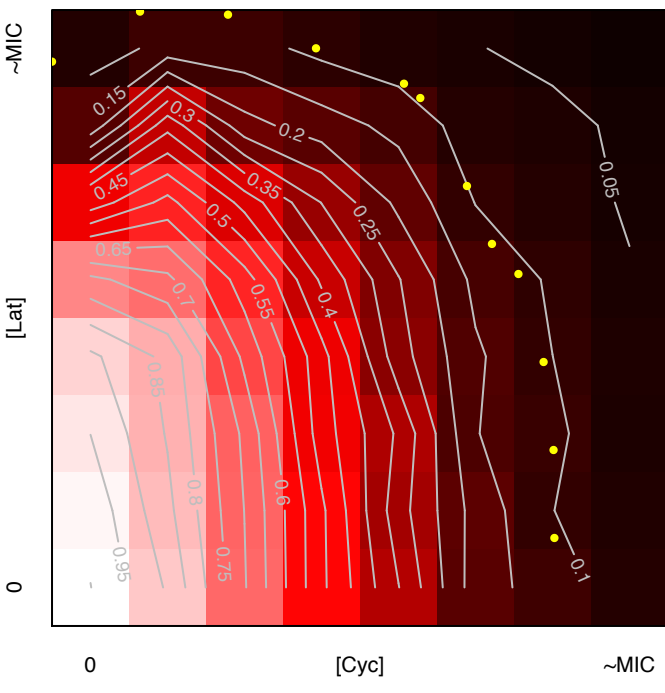
$\alpha = -0.2230583$

xciii



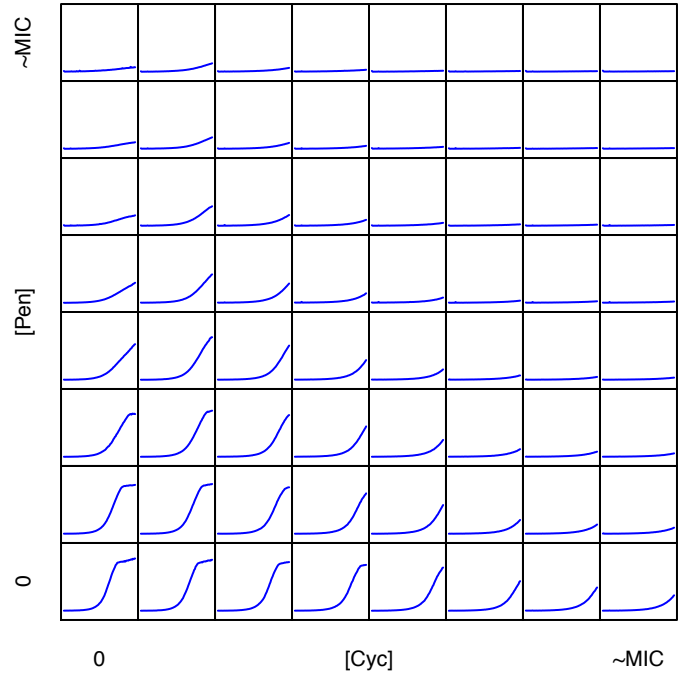
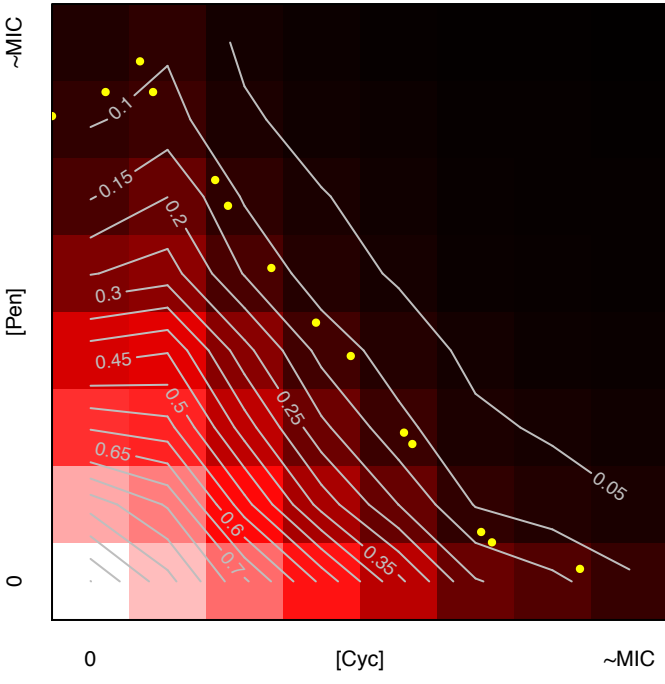
$\alpha = 2.349379$

XCiii



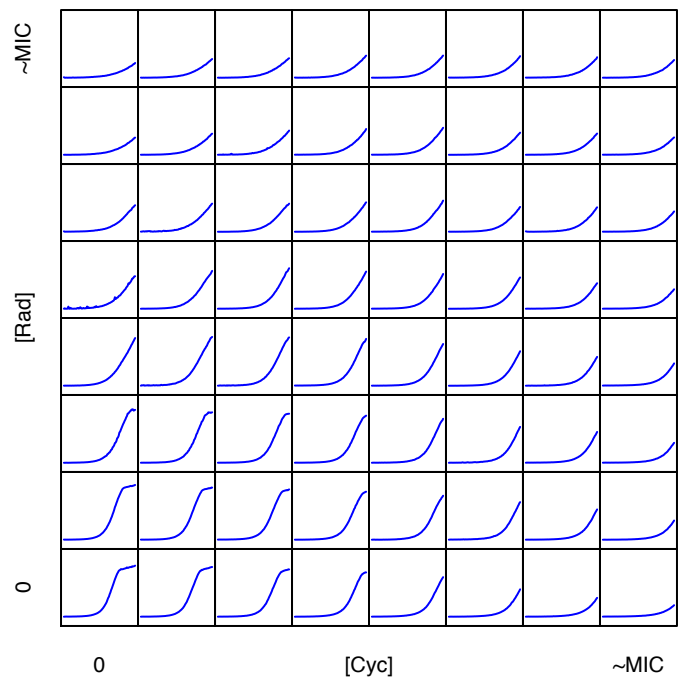
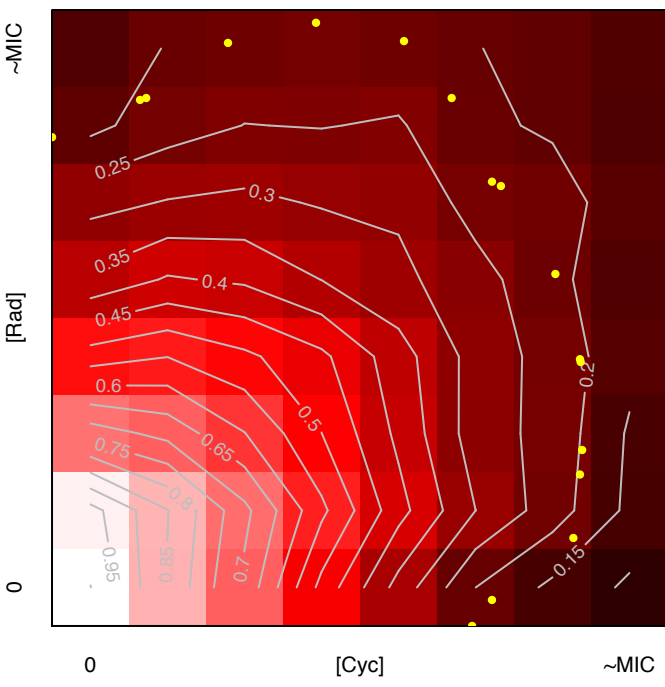
$\alpha = -0.1694487$

XCiv



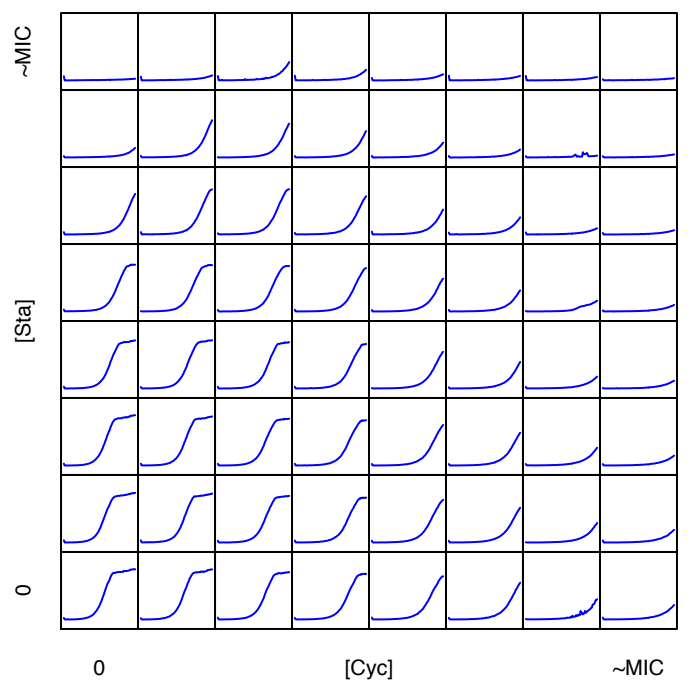
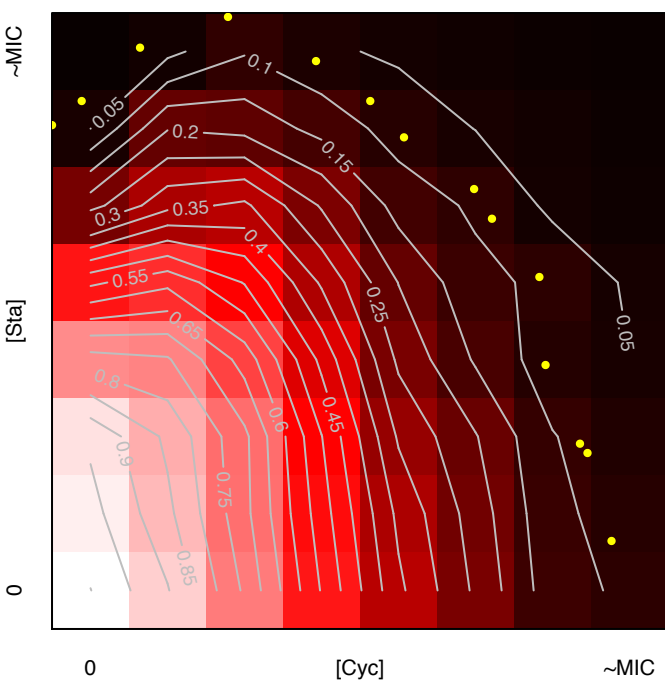
$\alpha = 2.700311$

XCv



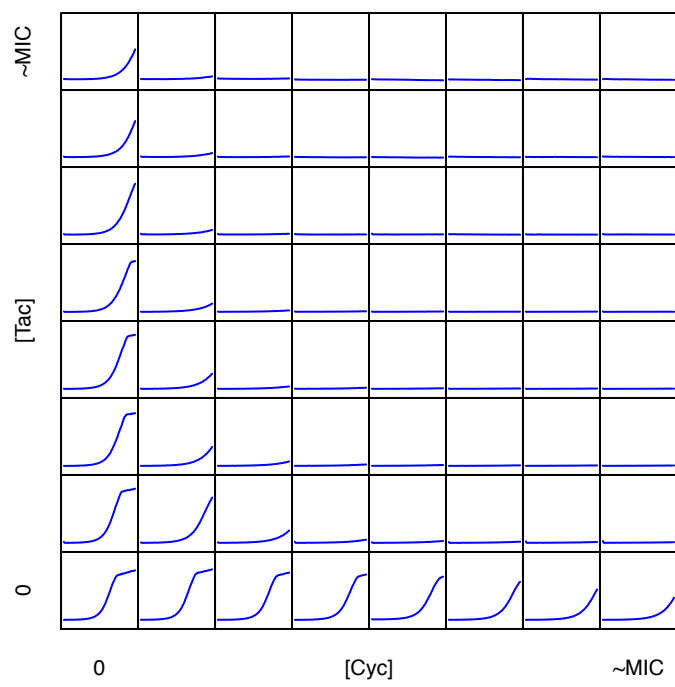
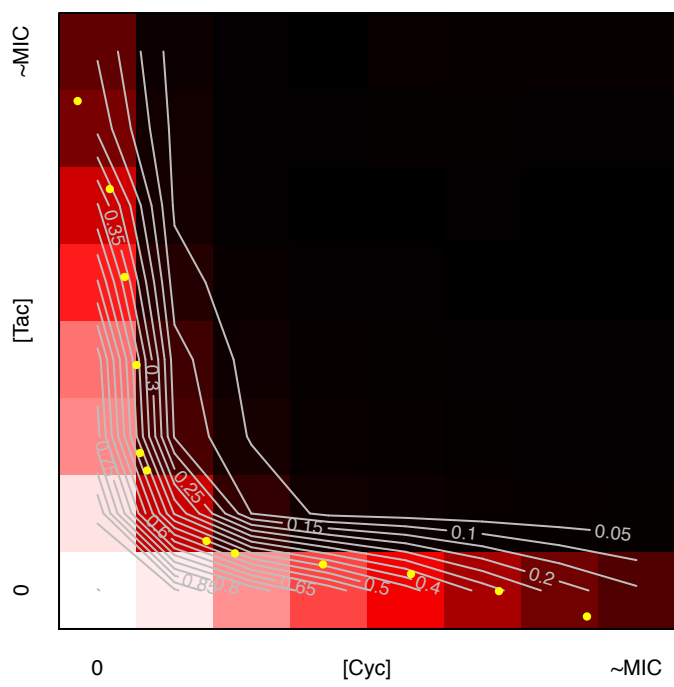
$\alpha = 1.608227$

XCvi



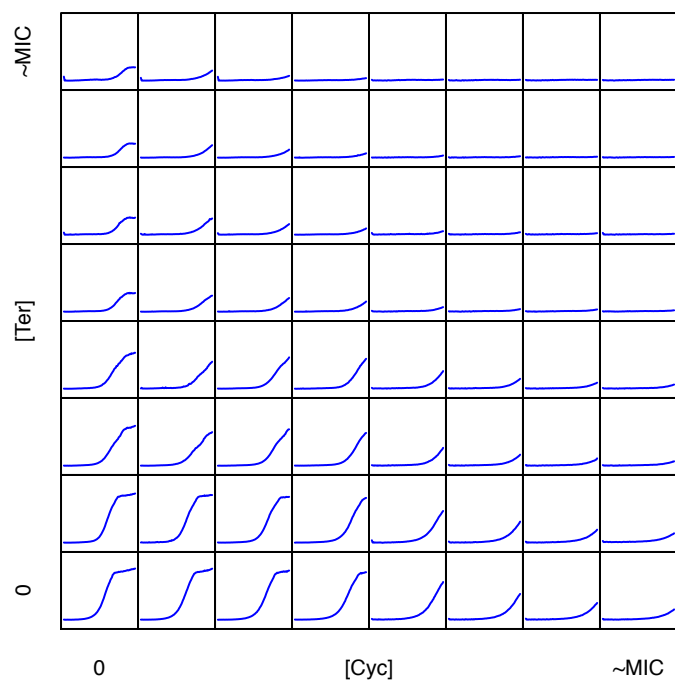
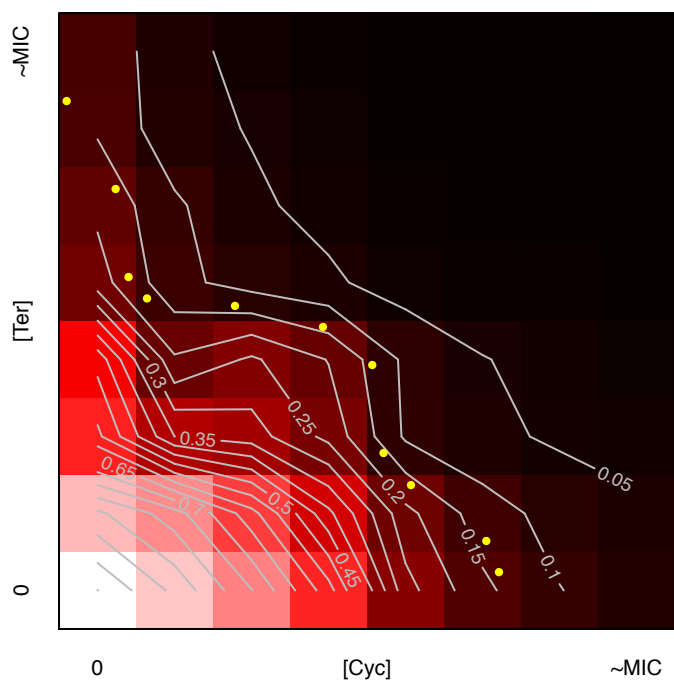
$\alpha = -1.988403$

xcvii



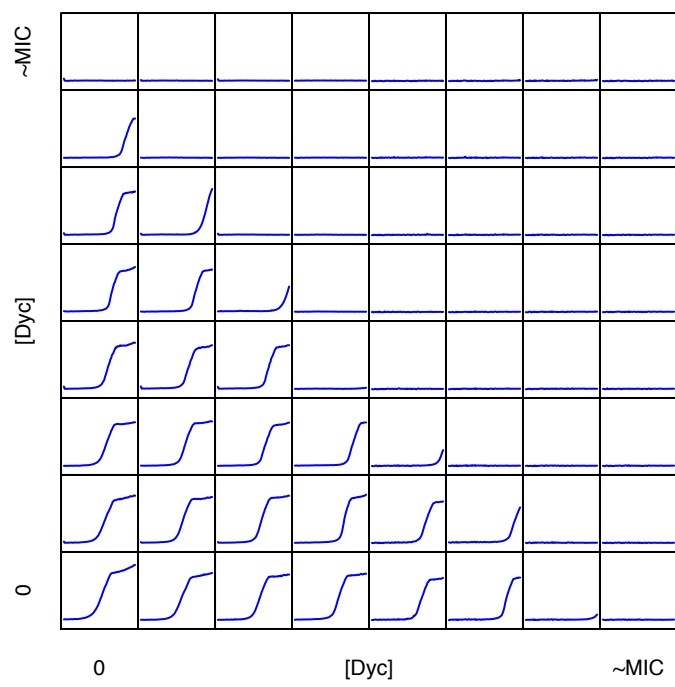
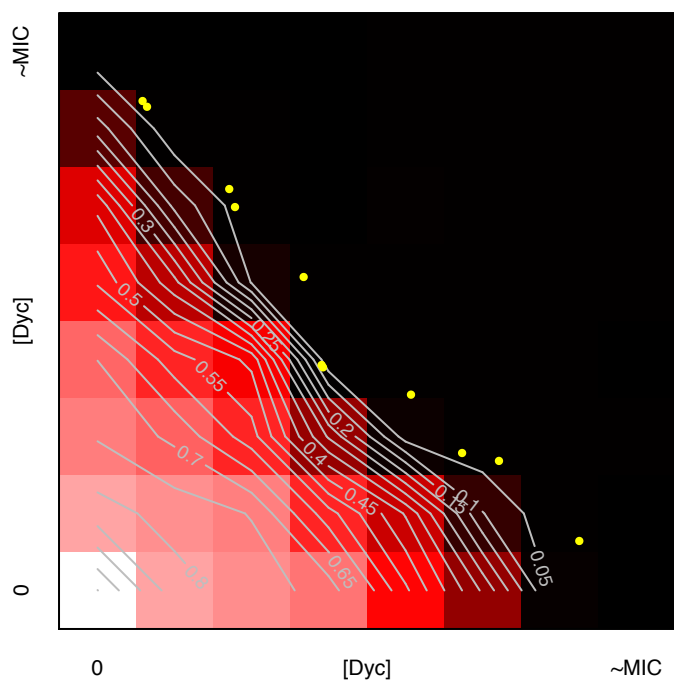
$\alpha = -0.1545347$

xcviii



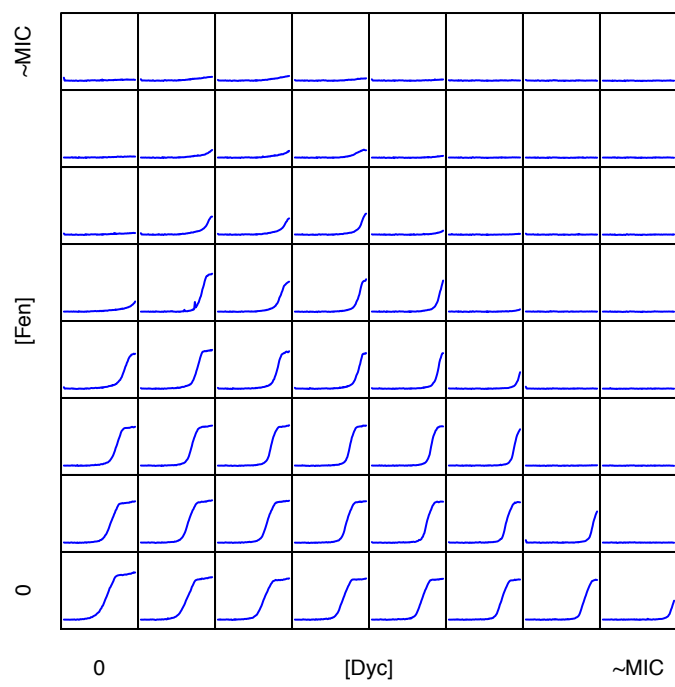
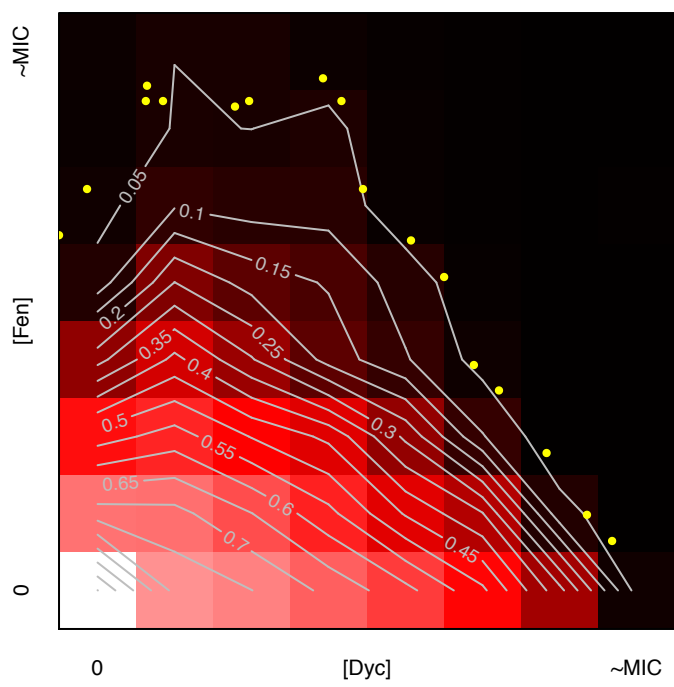
$\alpha = 0.1812499$

xcix



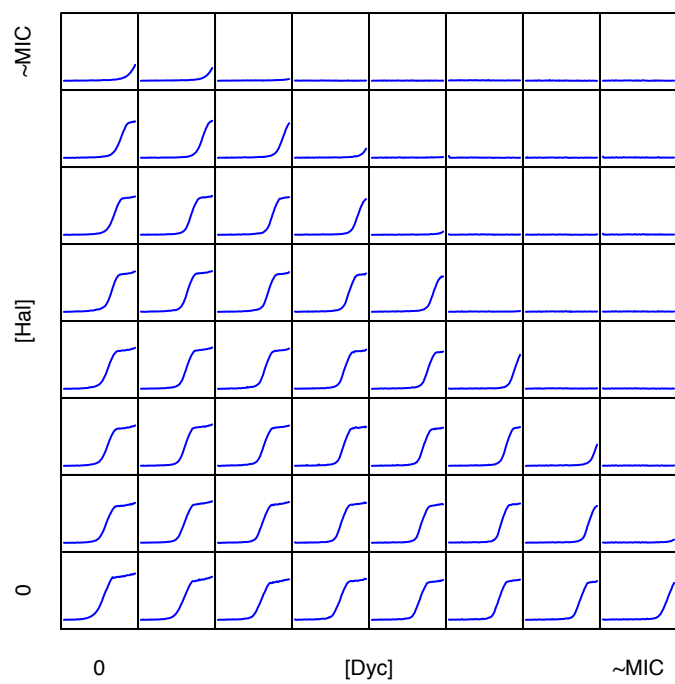
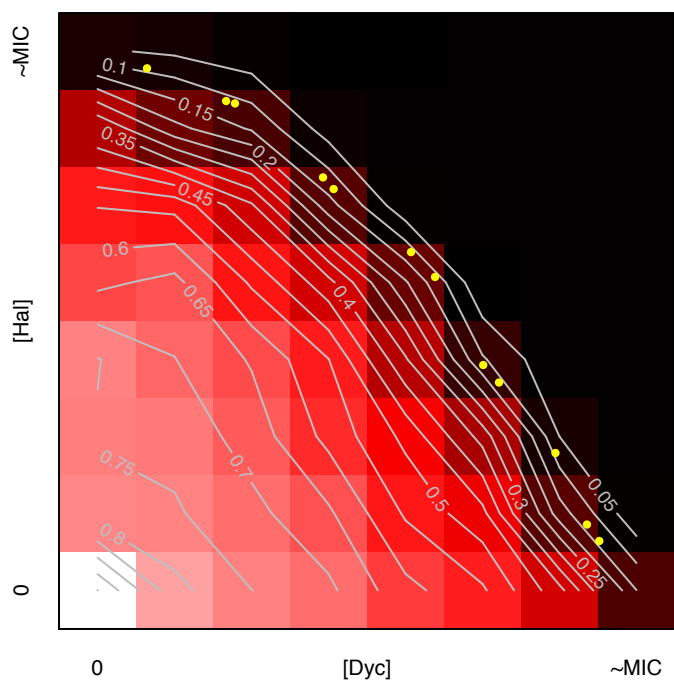
$\alpha = 1.184982$

C



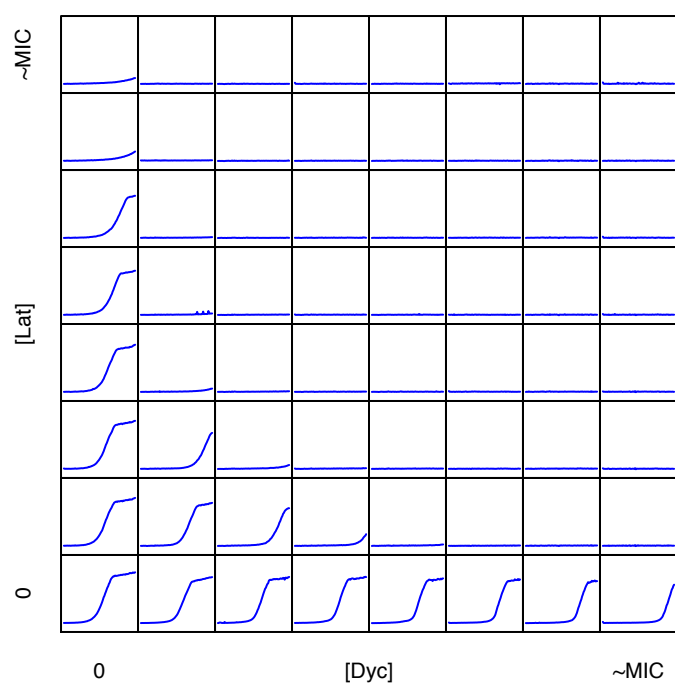
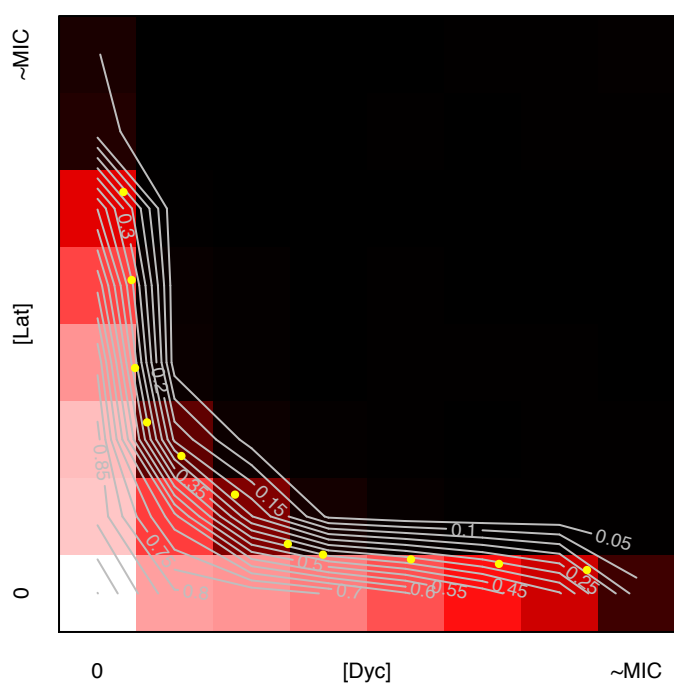
$\alpha = 0.8565137$

ci



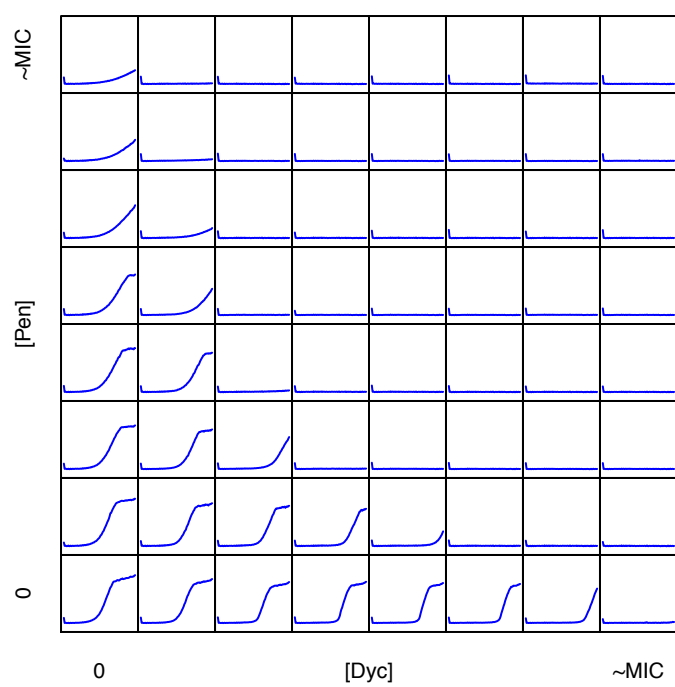
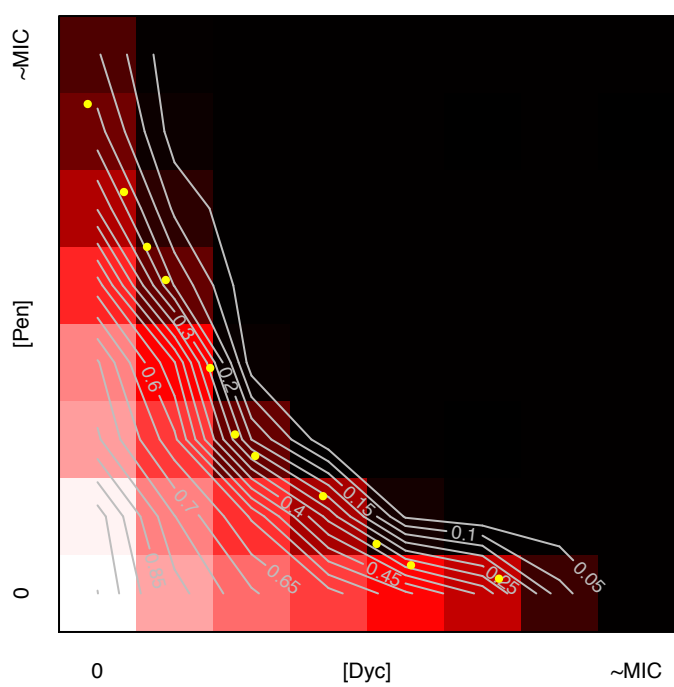
$\alpha = -1.913129$

cii



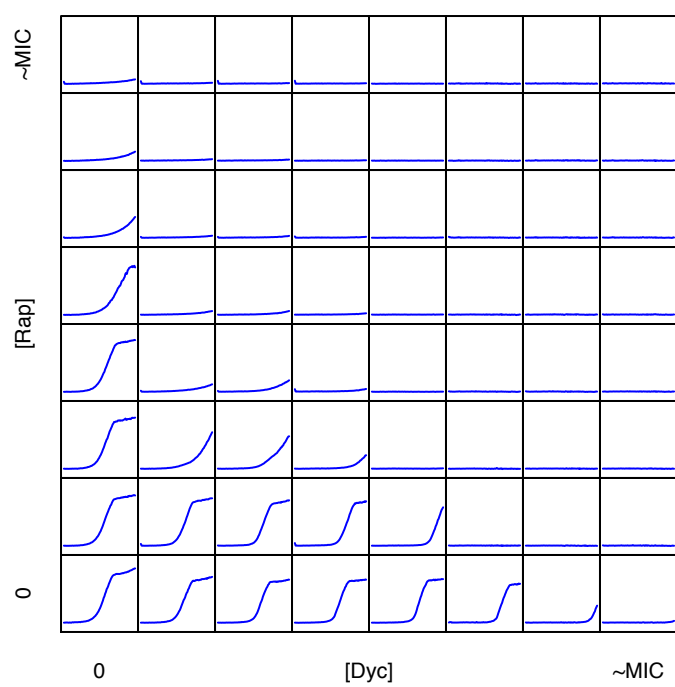
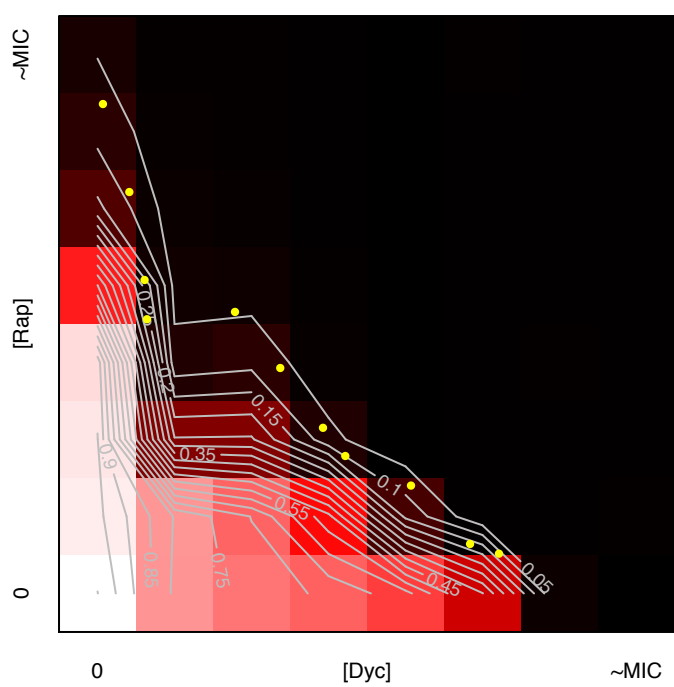
$\alpha = -1.172866$

ciii



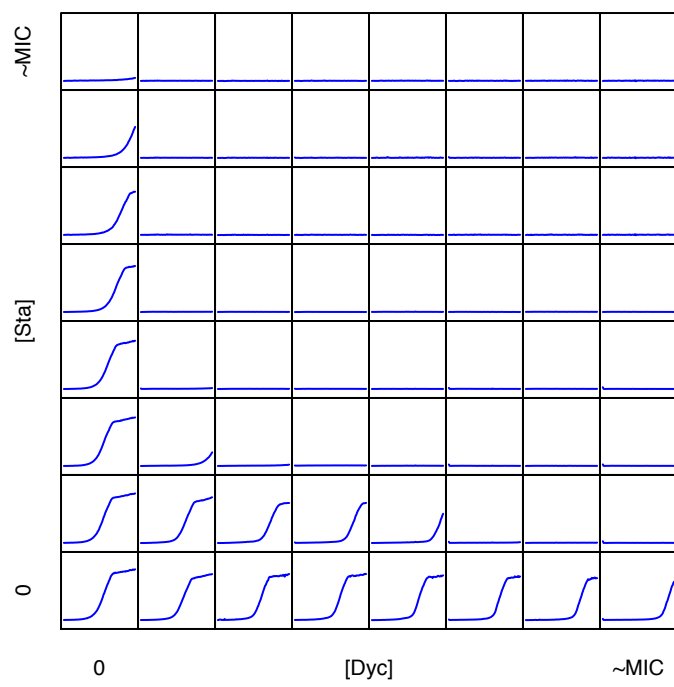
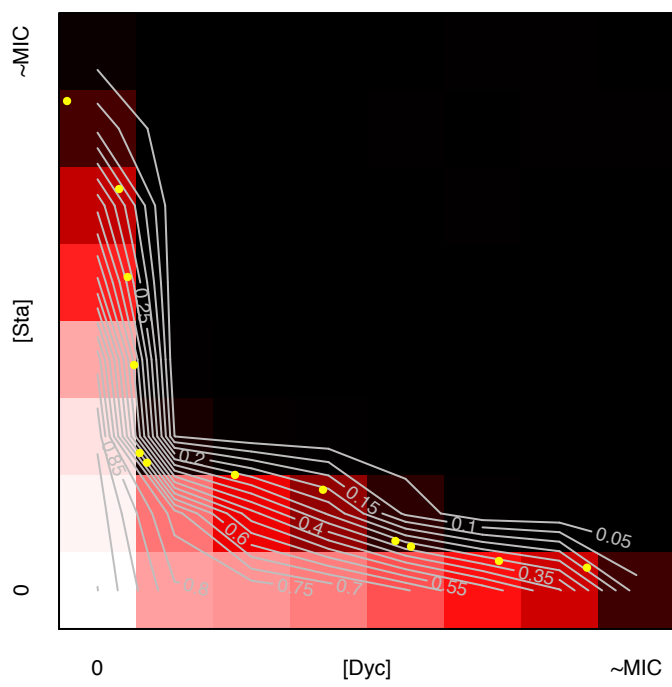
$\alpha = -0.6506027$

civ



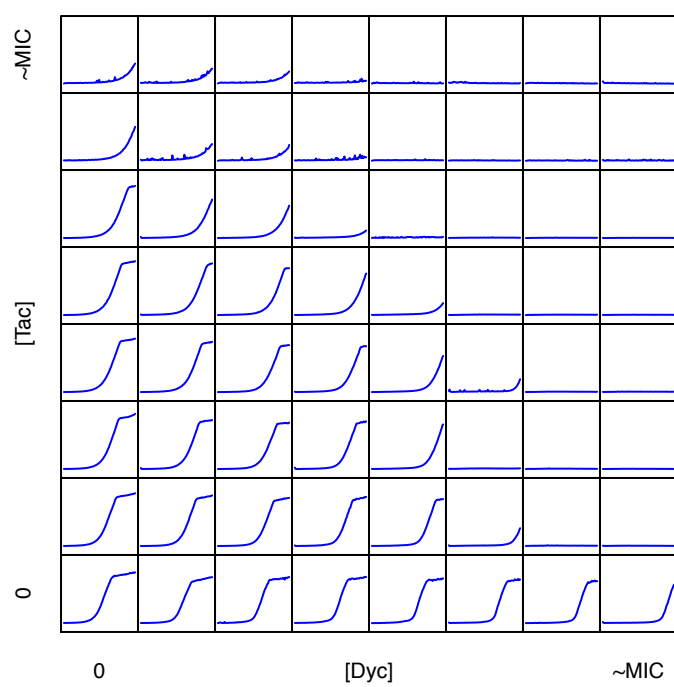
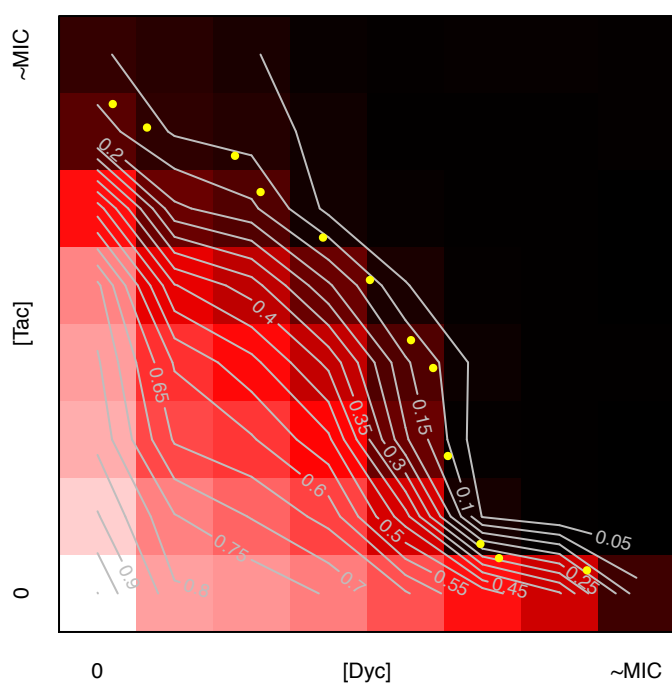
$\alpha = -1.433022$

CV



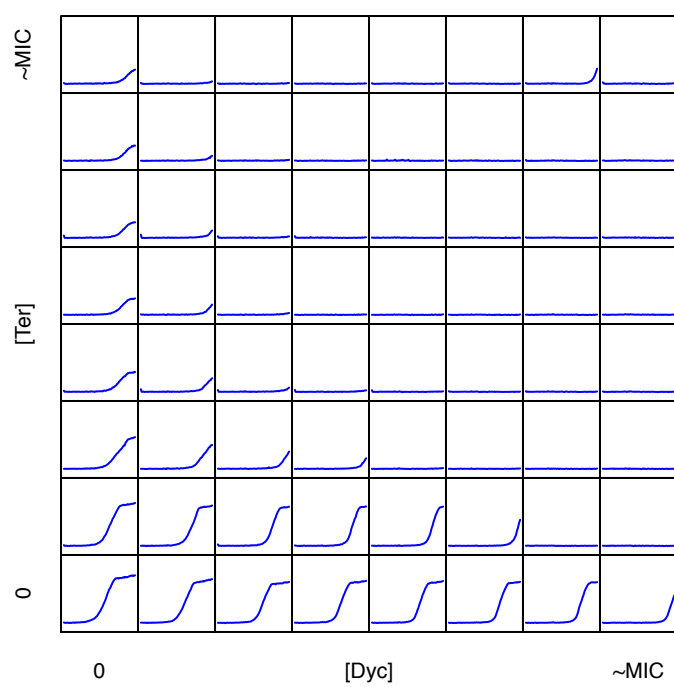
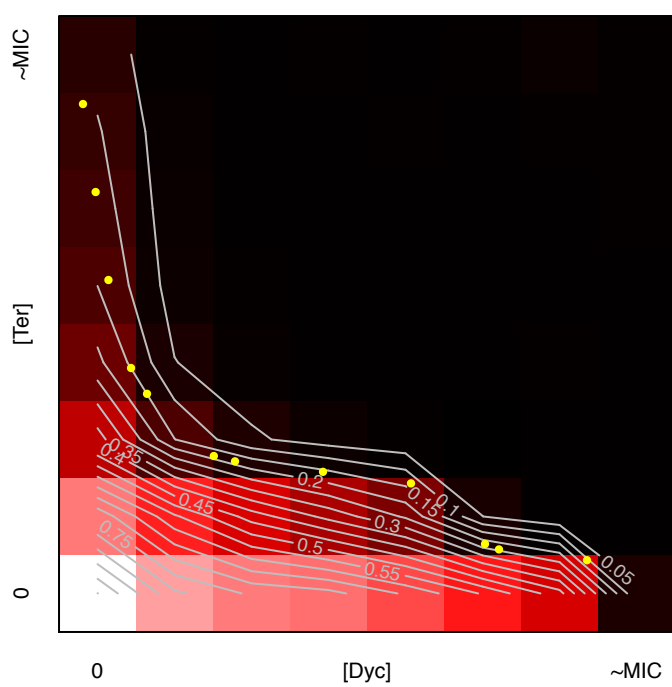
$\alpha = 0.0980357$

CVi



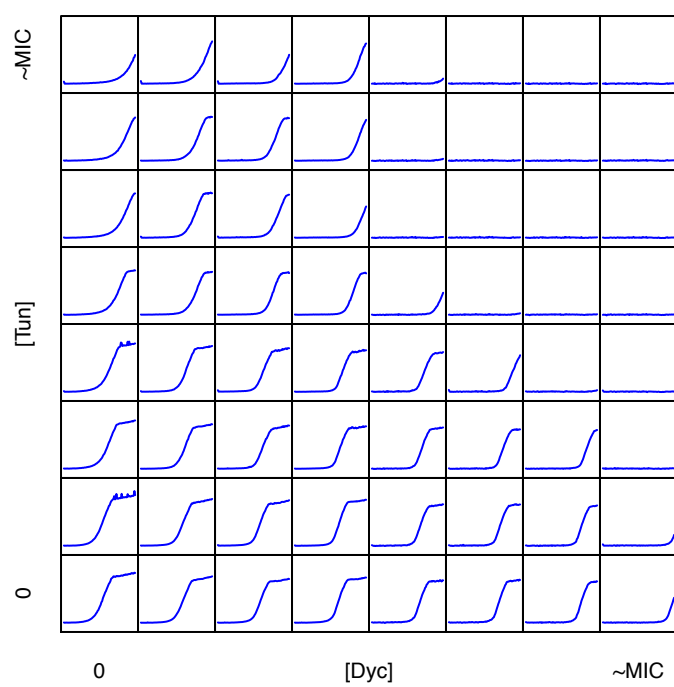
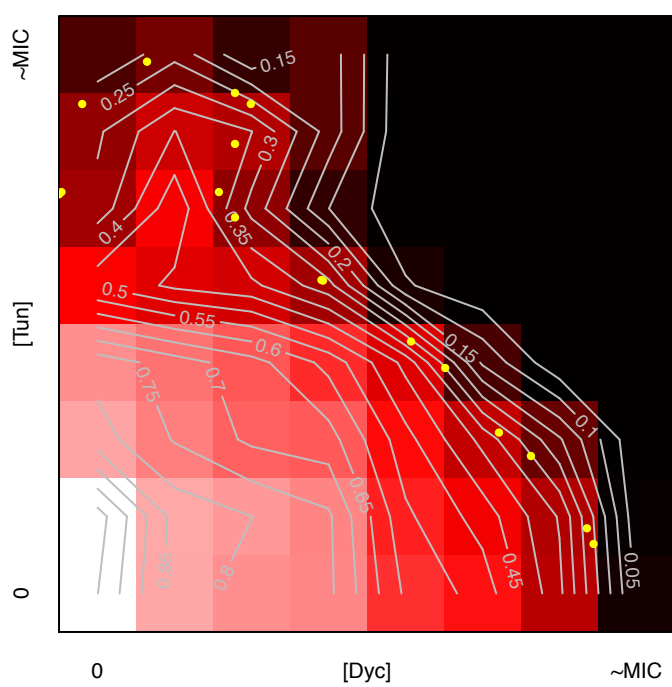
$\alpha = -1.661215$

CVii



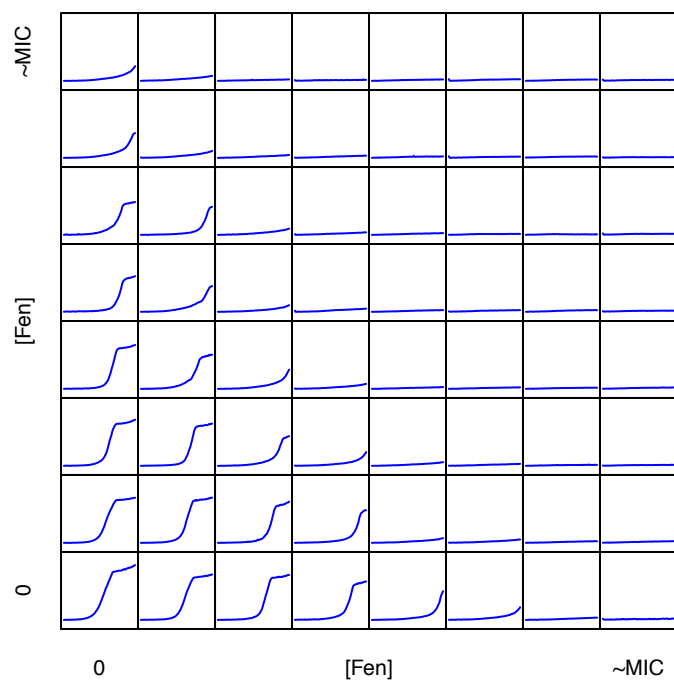
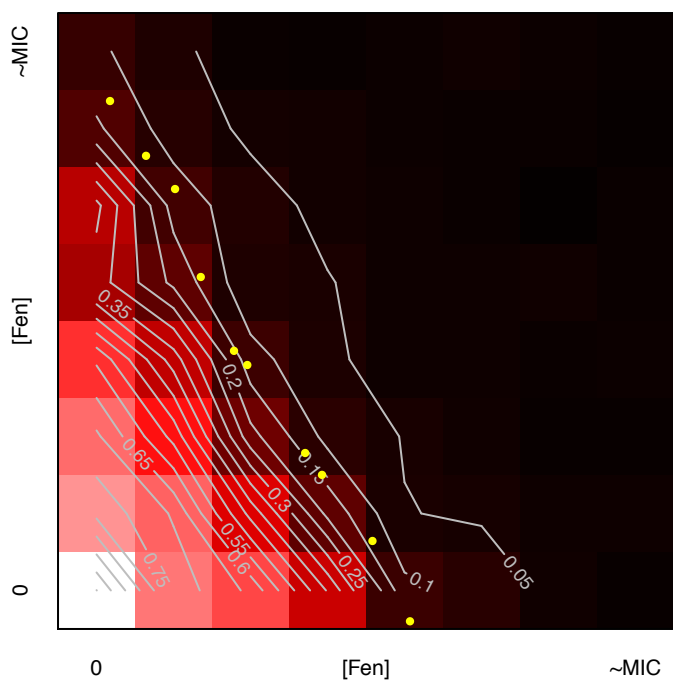
$\alpha = 0.7744981$

CViii



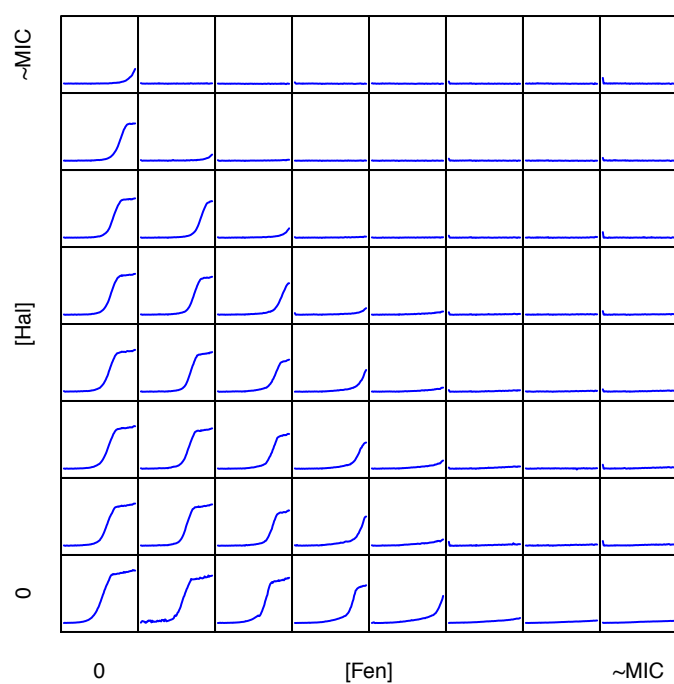
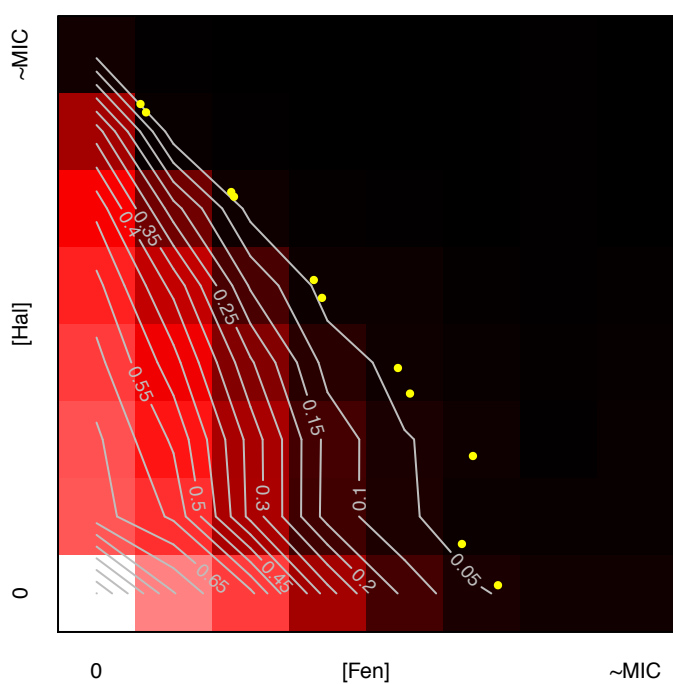
$\alpha = -0.1663256$

Cix



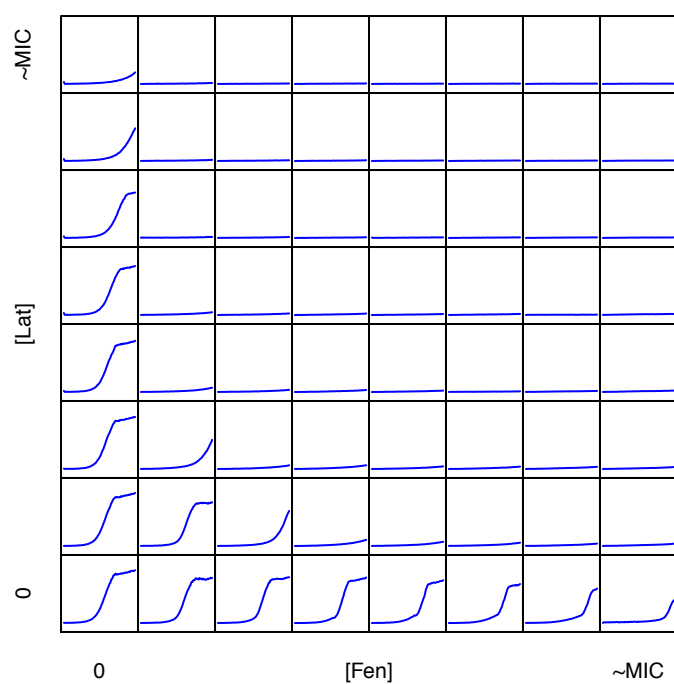
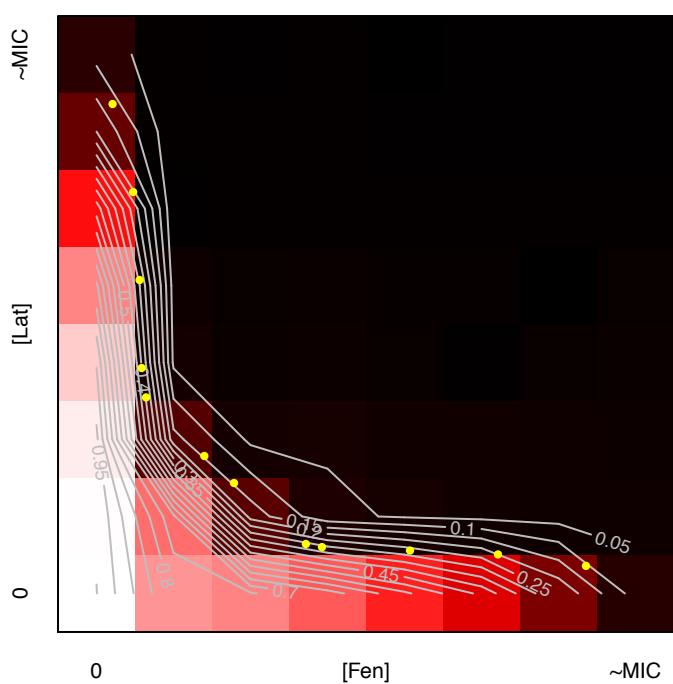
$\alpha = 0.2193959$

CX



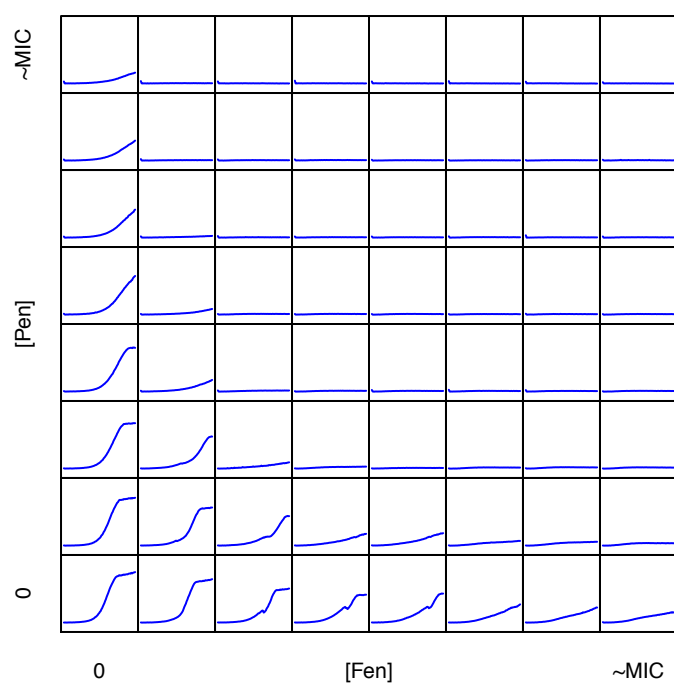
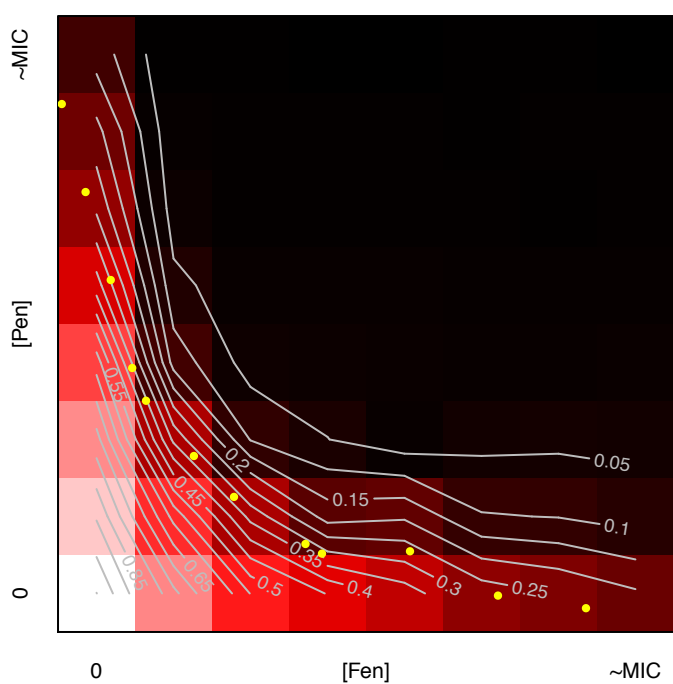
$\alpha = -1.830015$

Cxi



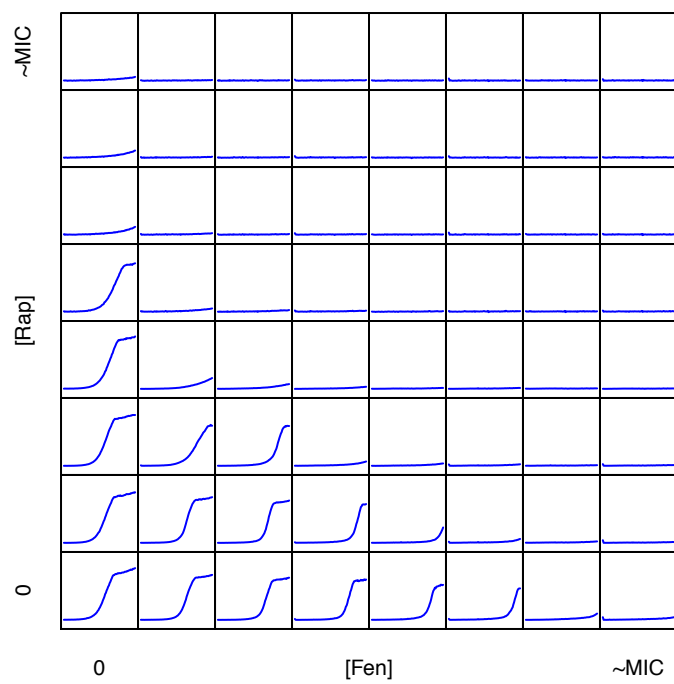
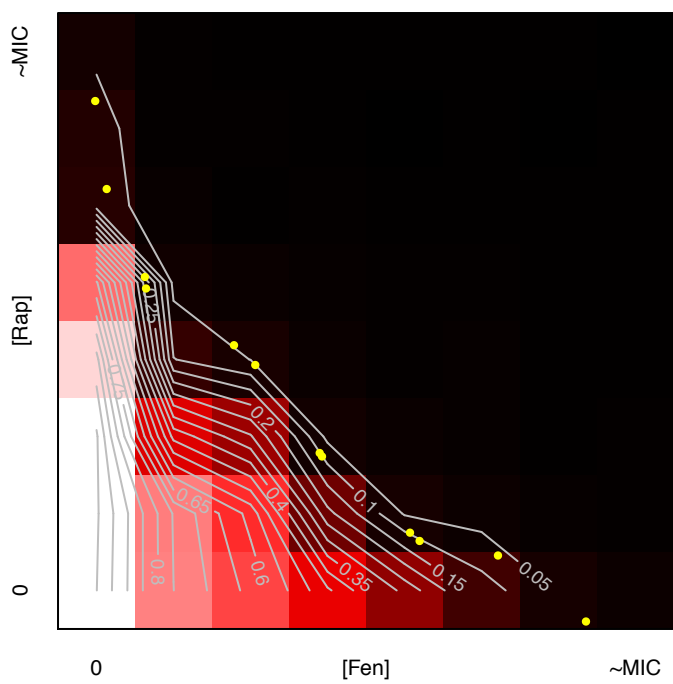
$\alpha = -1.853662$

Cxii



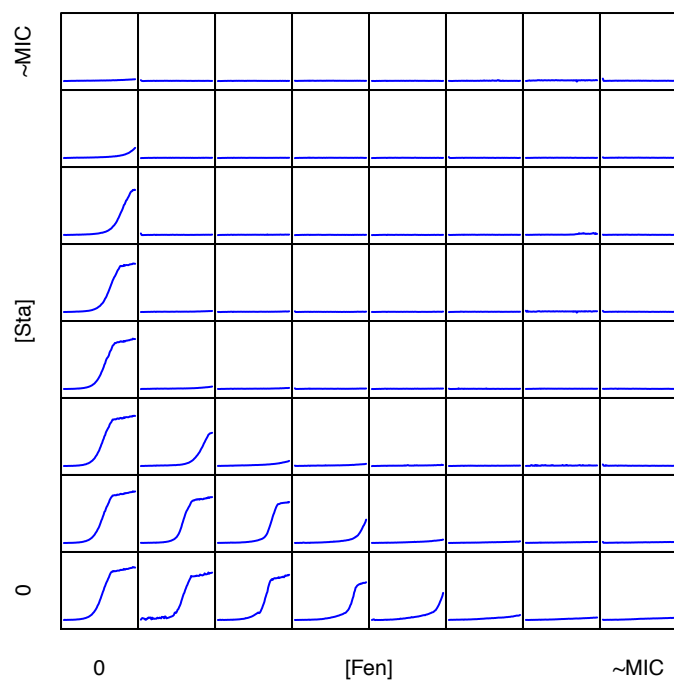
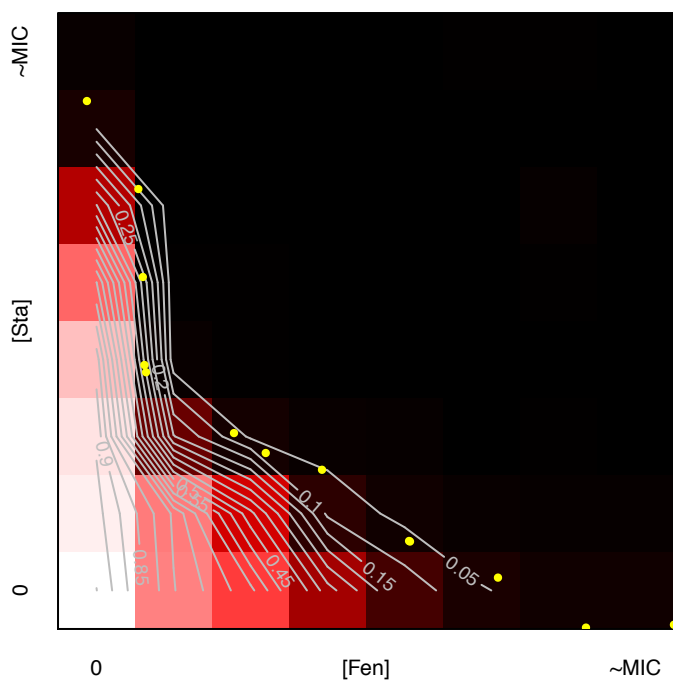
$\alpha = -0.9940276$

CXiii



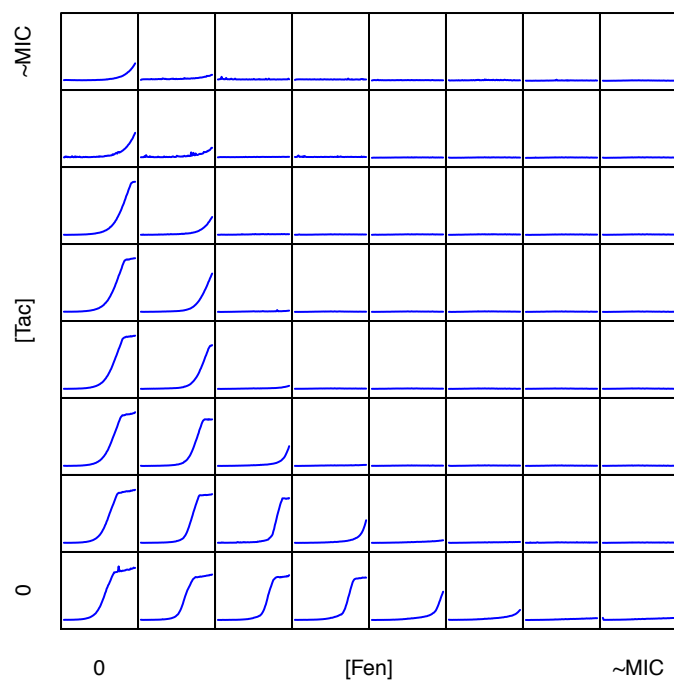
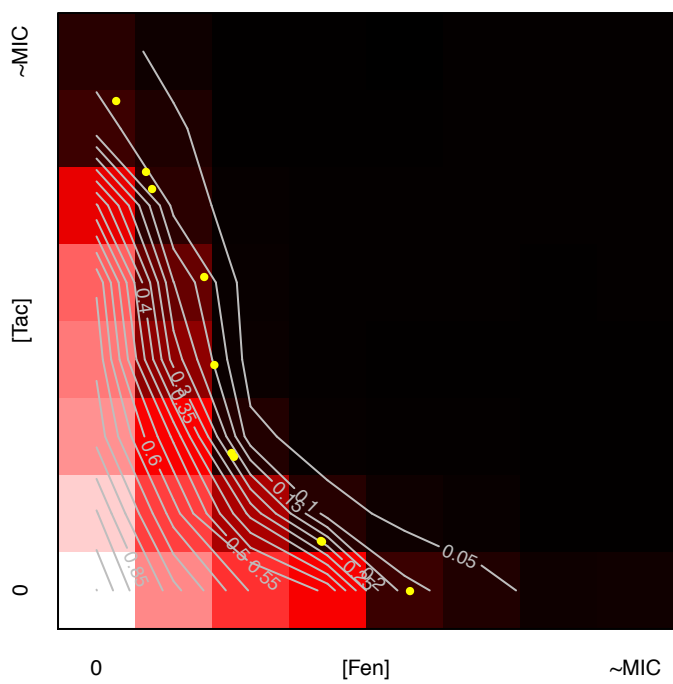
$\alpha = -1.435672$

CXiv



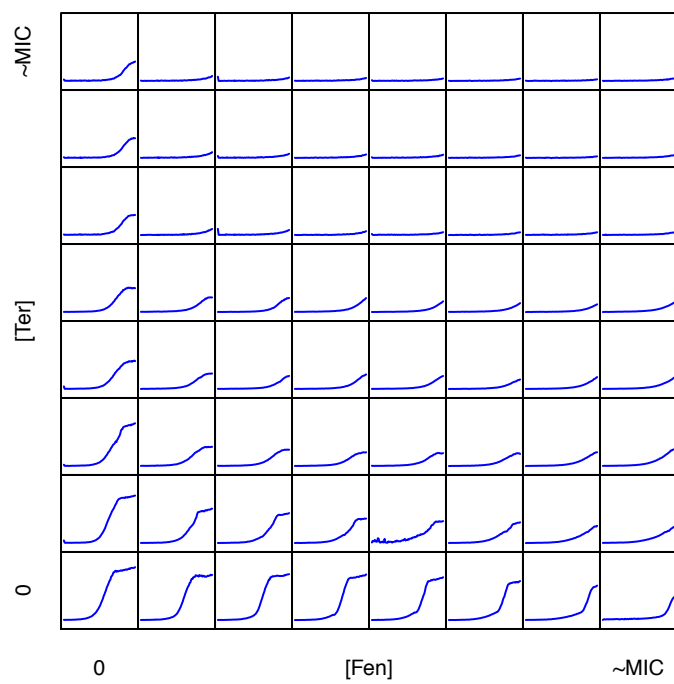
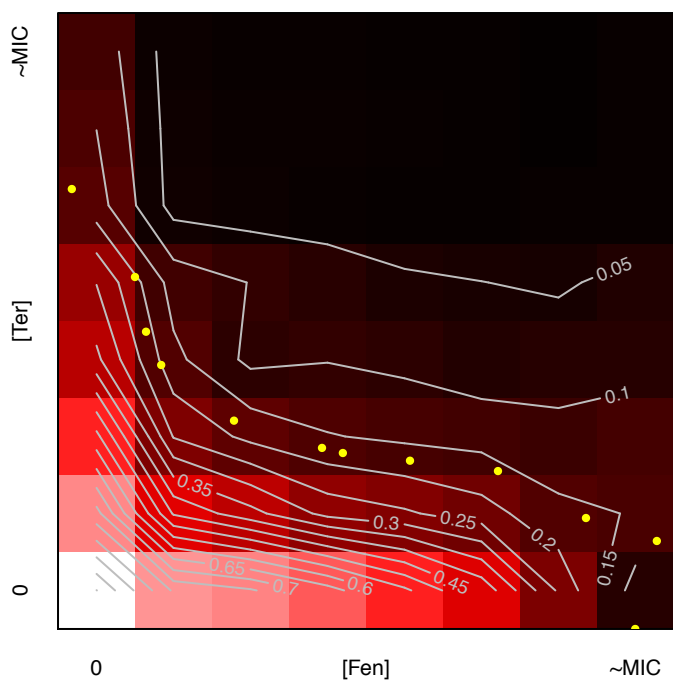
$\alpha = -0.9242625$

CXV



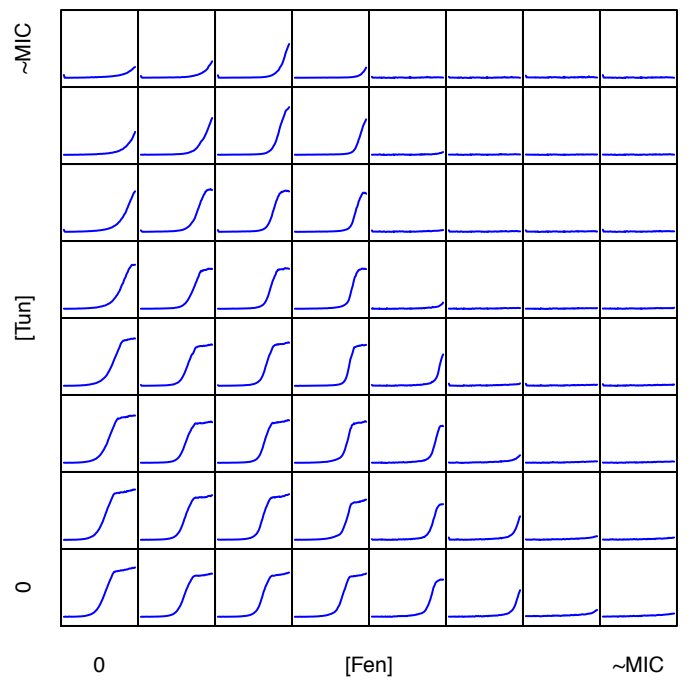
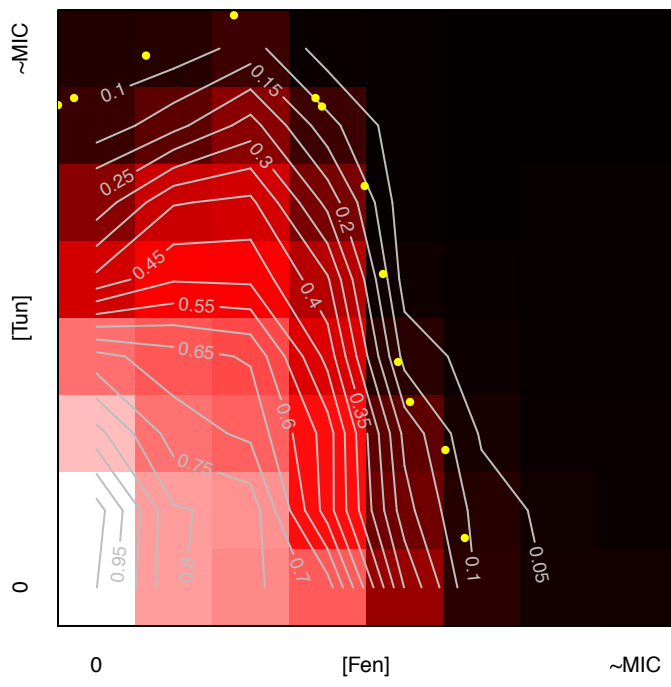
$\alpha = -1.047175$

CXvi



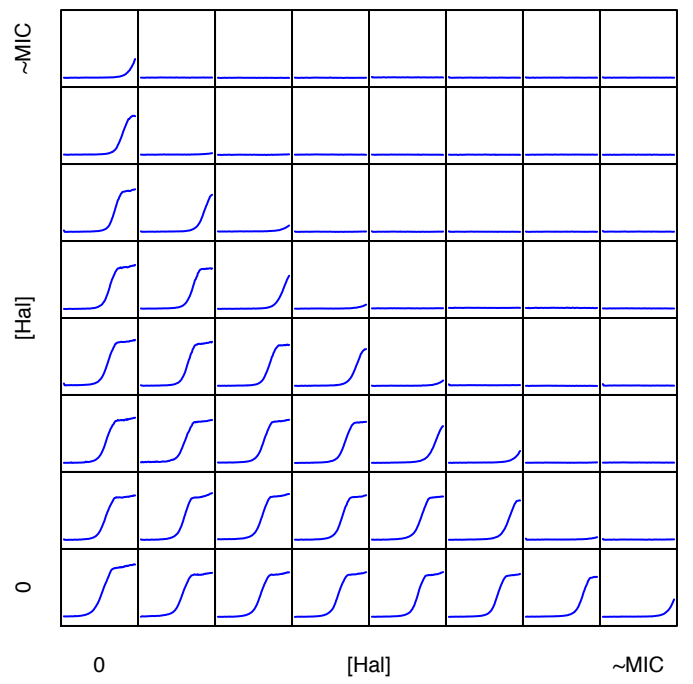
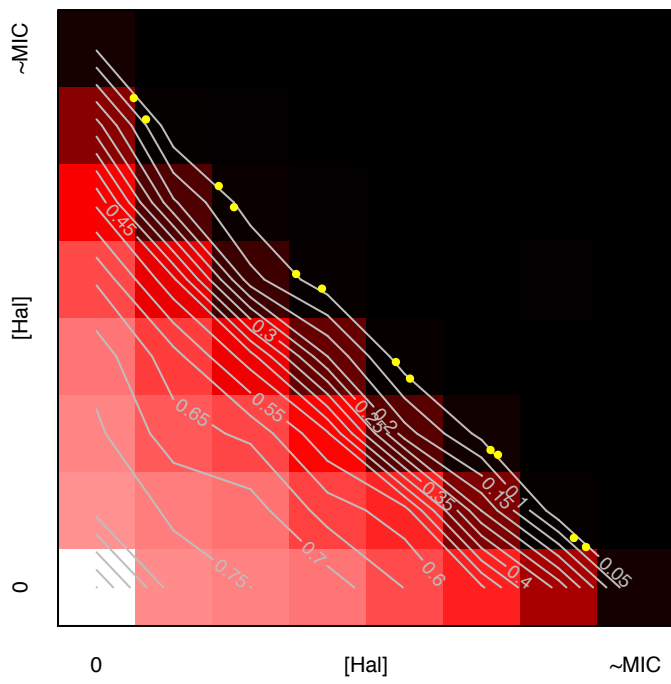
$\alpha = 1.528557$

CXVII



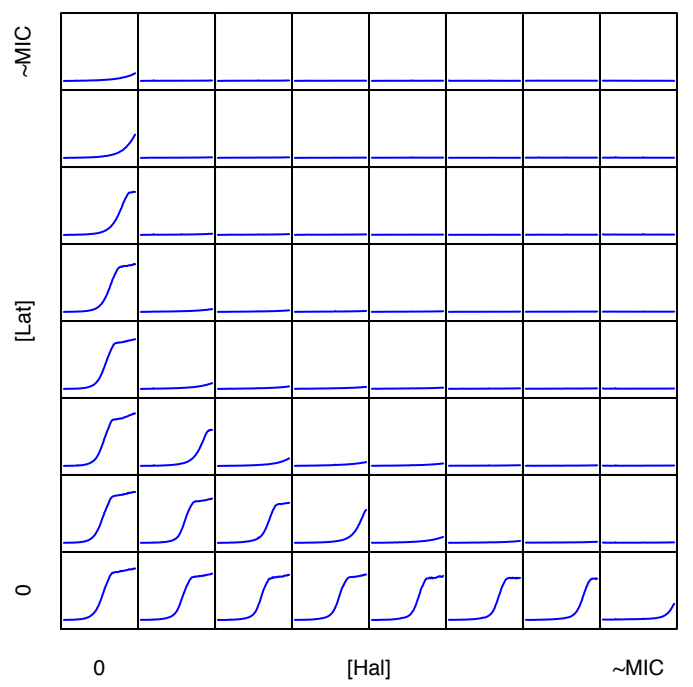
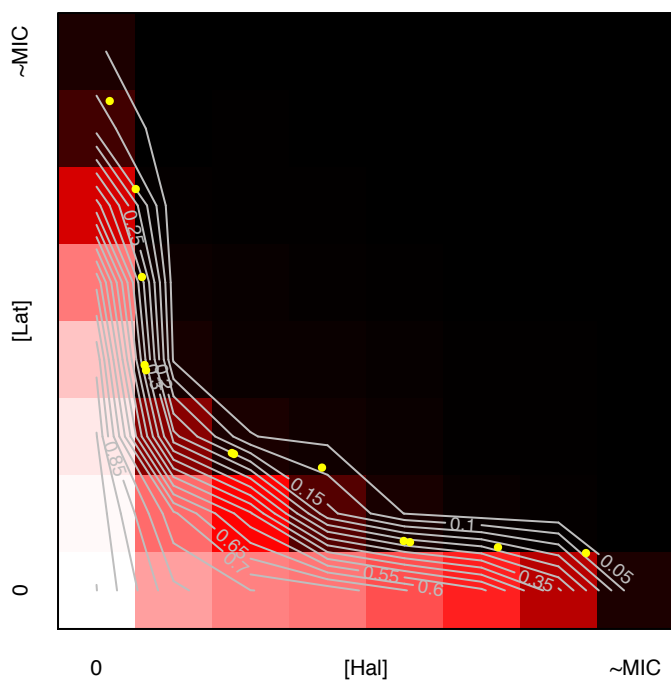
$\alpha = -0.1271207$

CXVIII



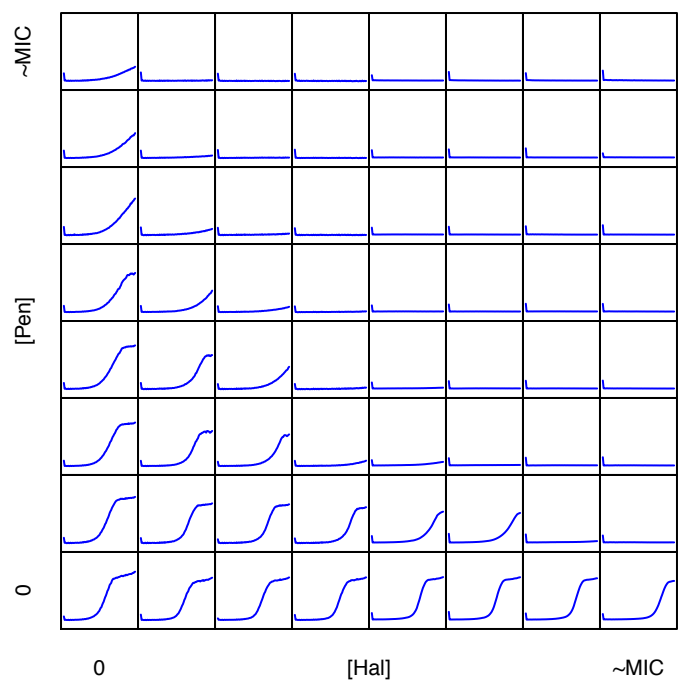
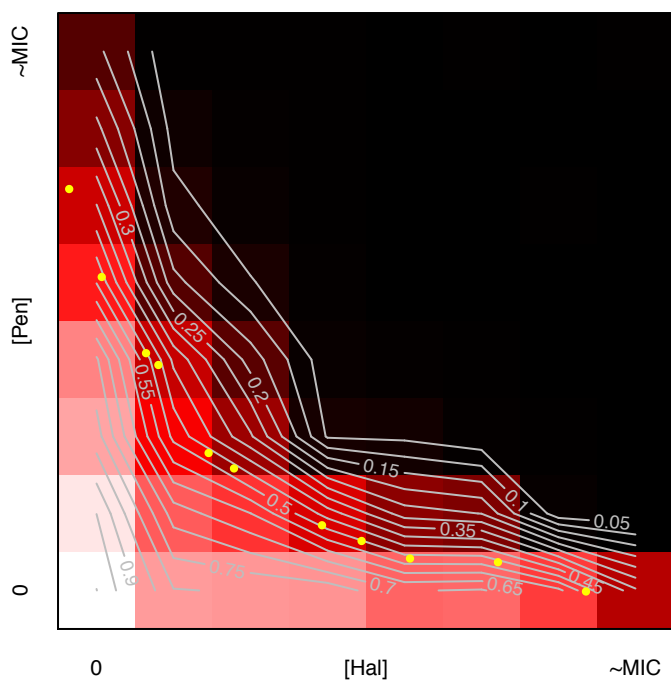
$\alpha = -1.534703$

CXIX



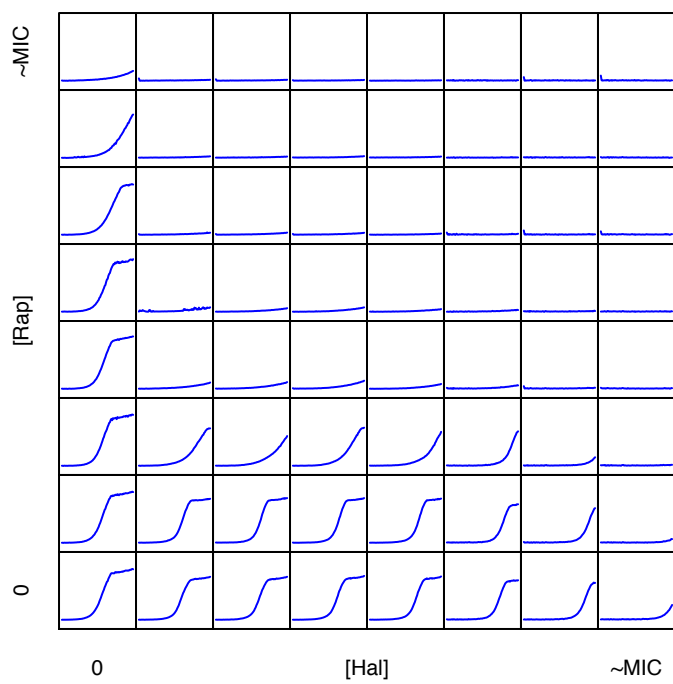
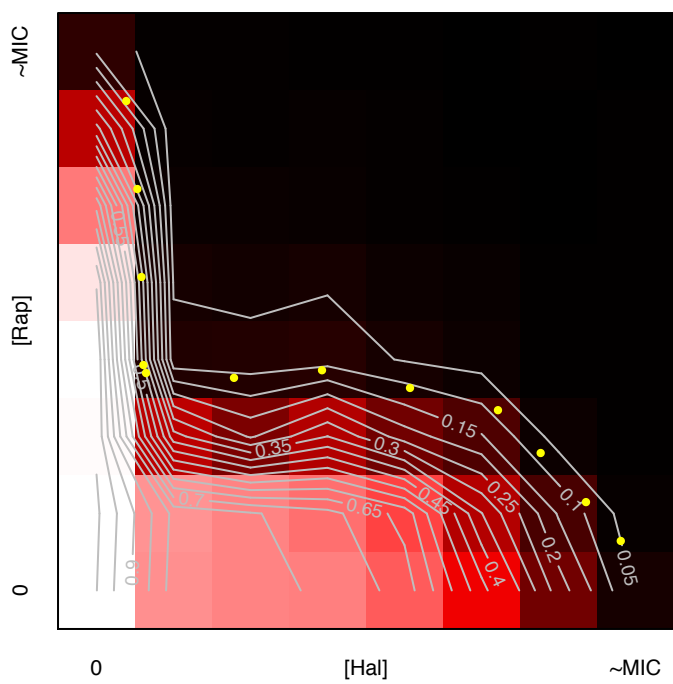
$\alpha = -1.444088$

CXX



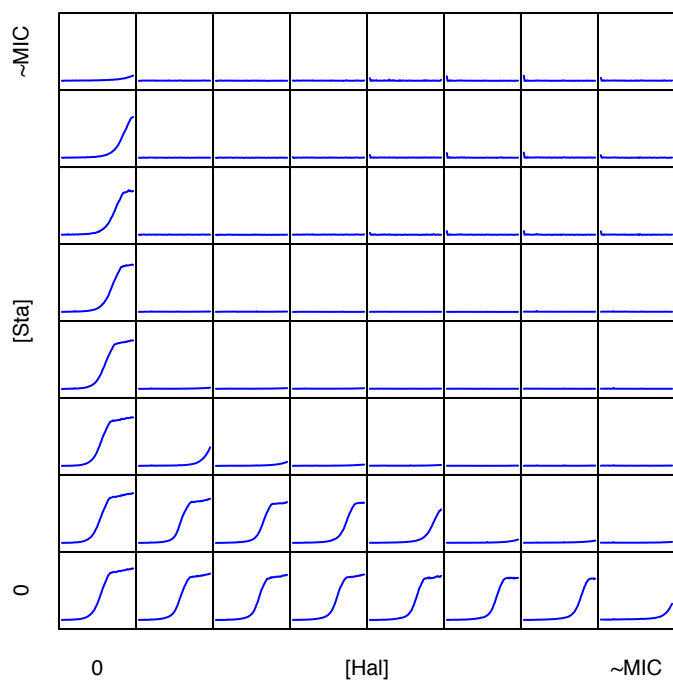
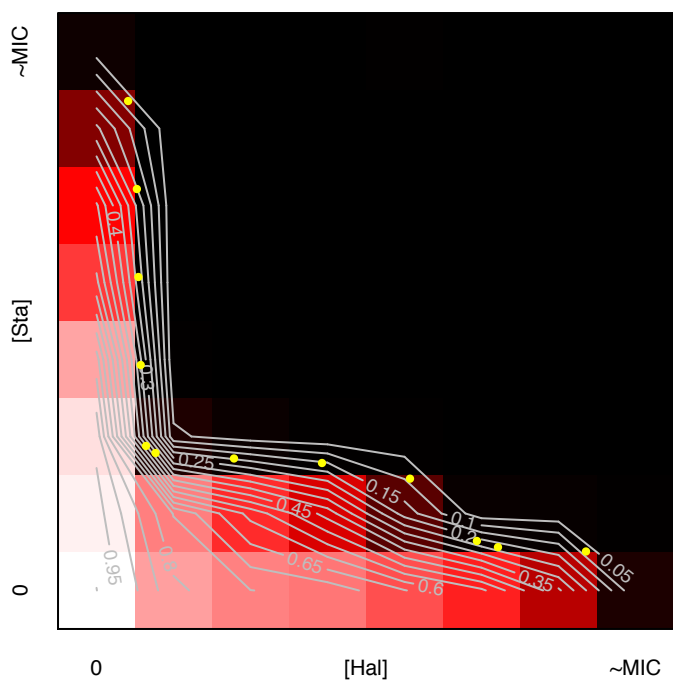
$\alpha = -0.4062178$

CXXi



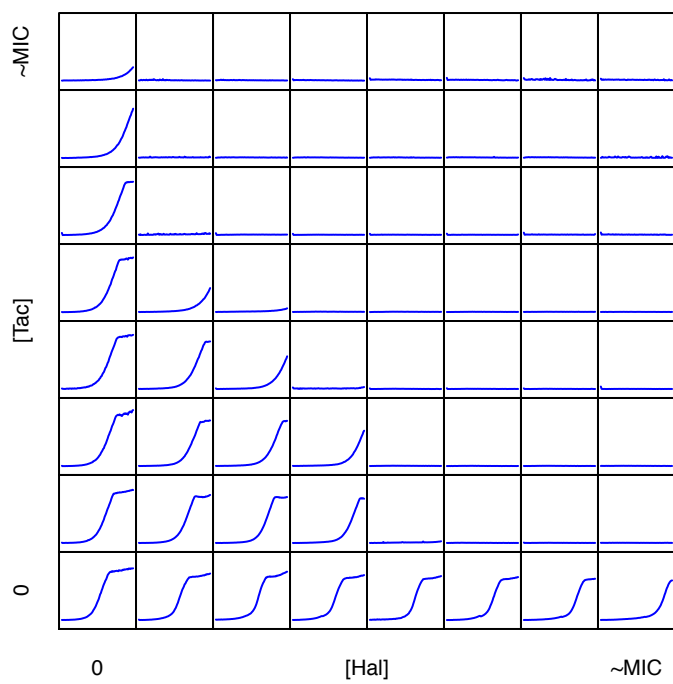
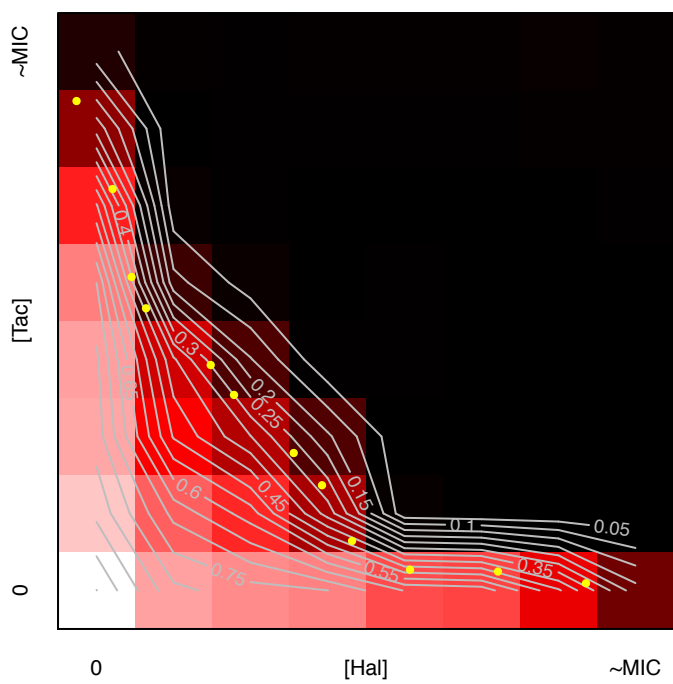
$\alpha = -1.156822$

CXXii



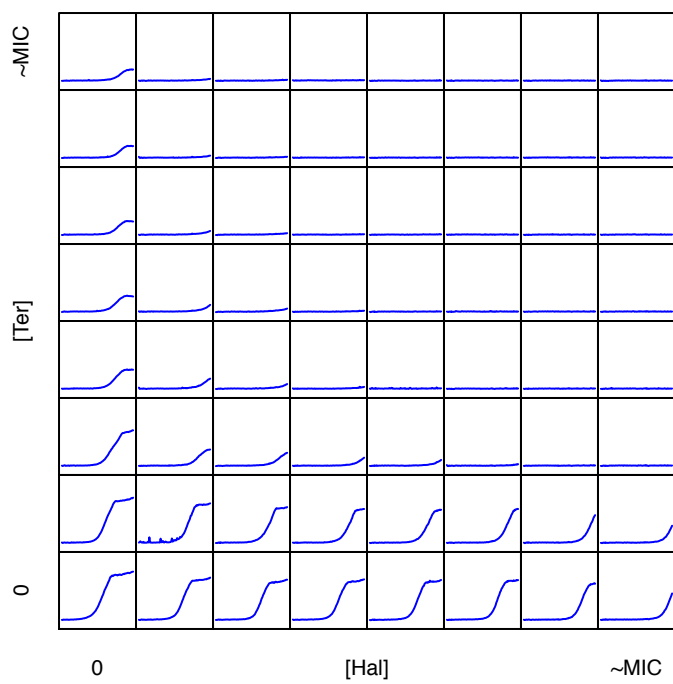
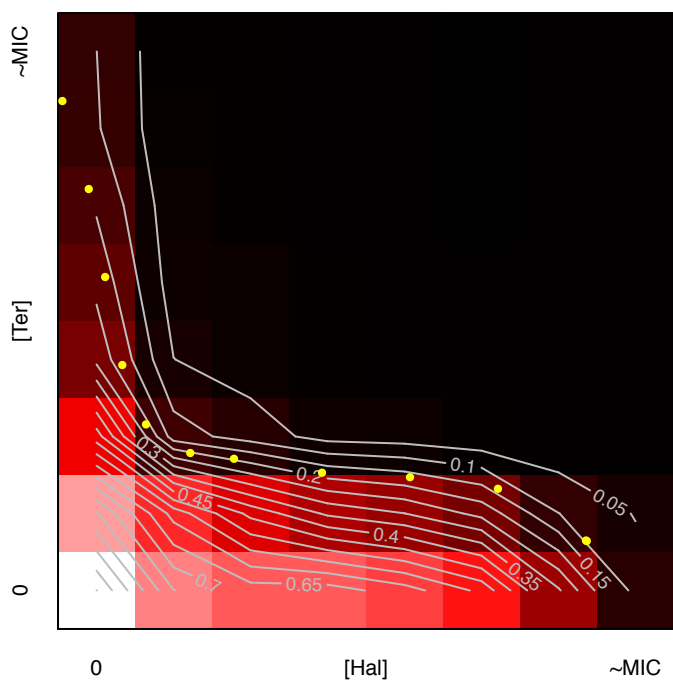
$\alpha = -1.241121$

CXXiii



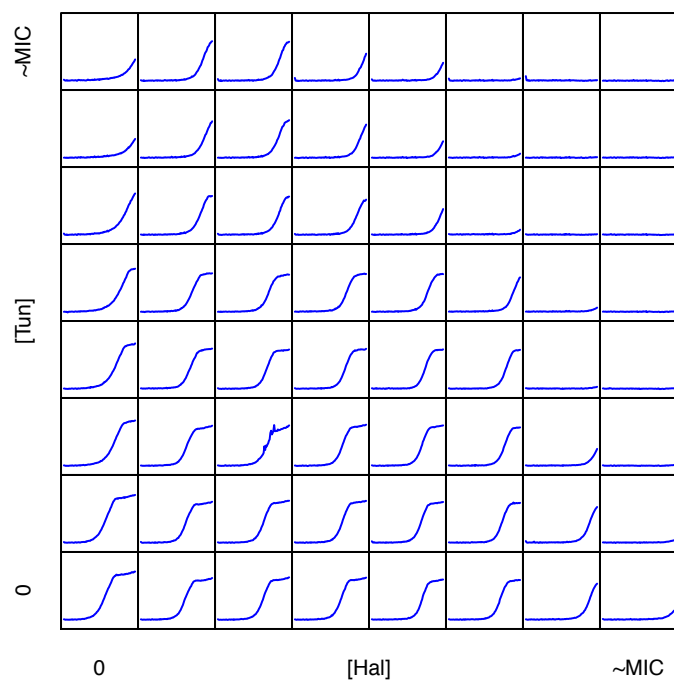
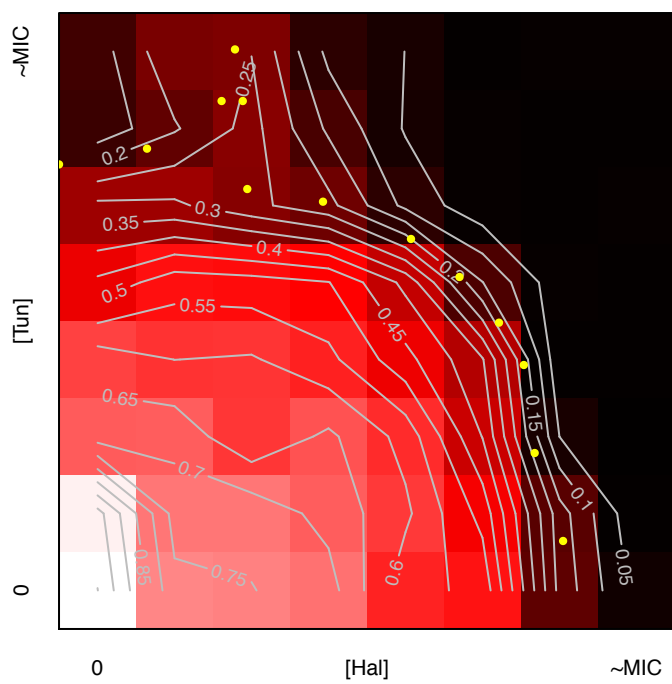
$\alpha = -1.956164$

CXXiv

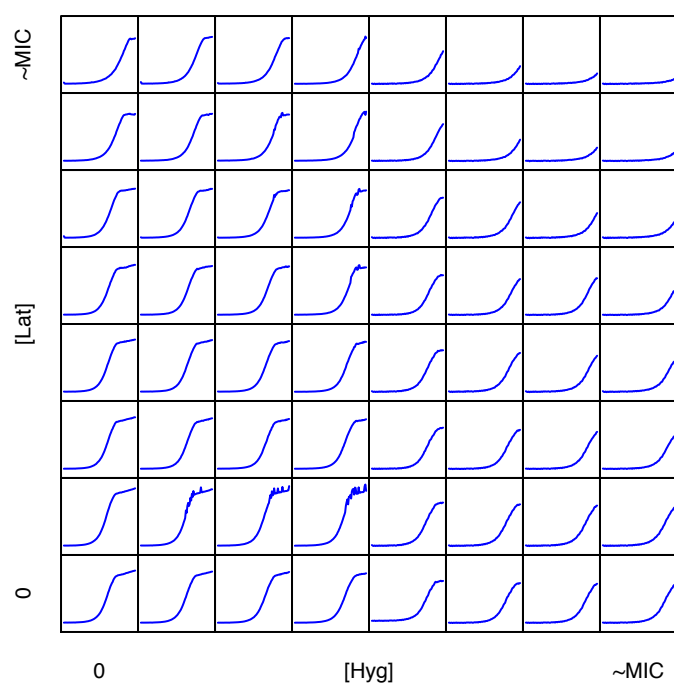
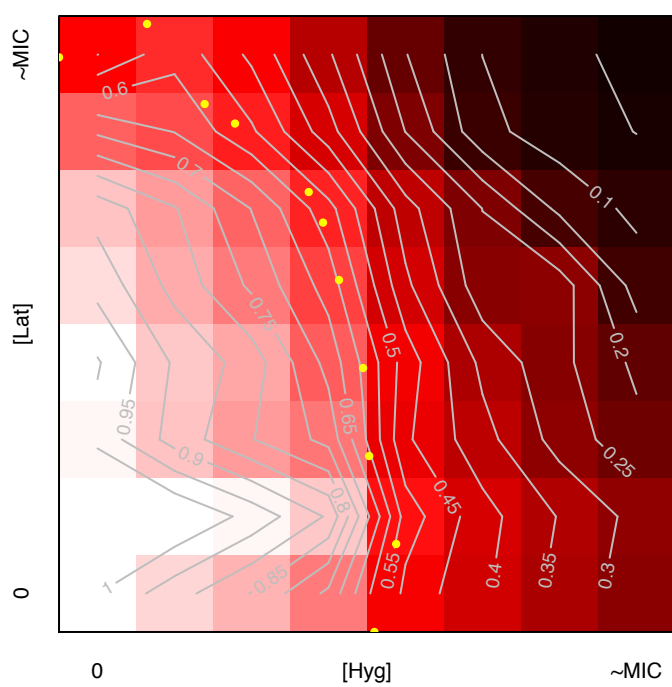


$\alpha = 1.732372$

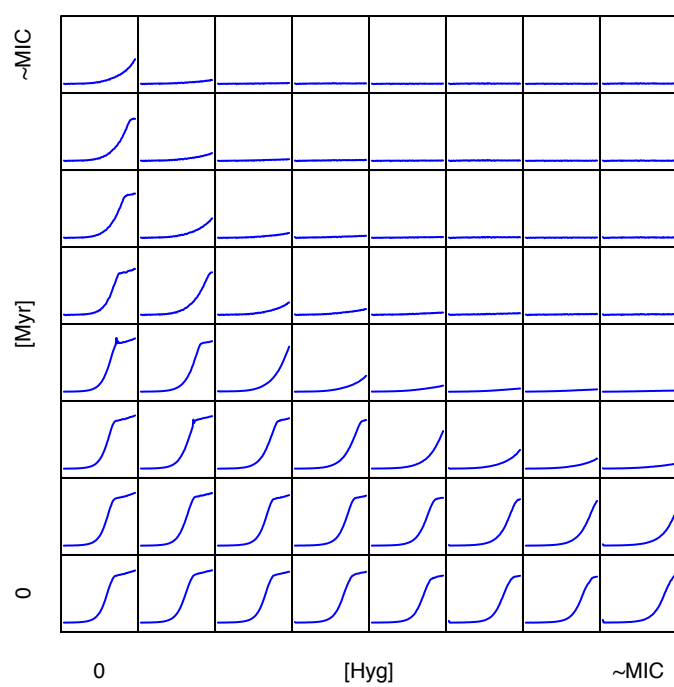
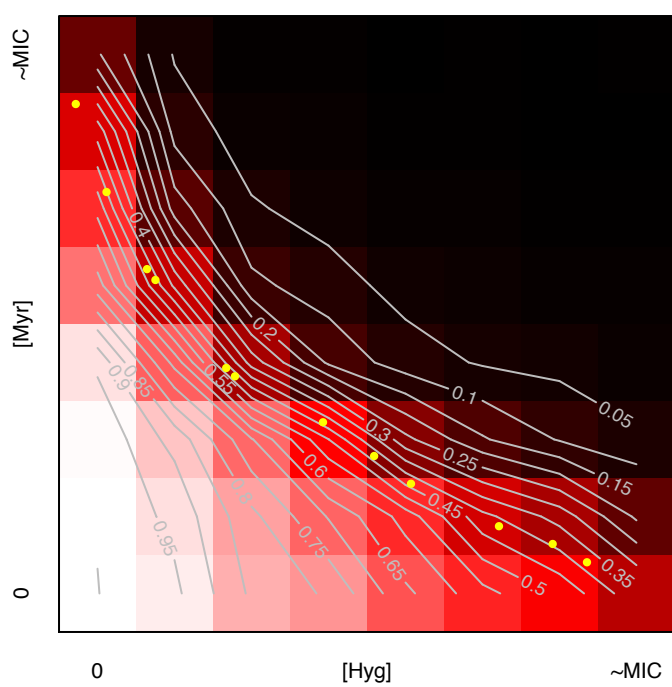
CXXV

 $\alpha = 1.907453$

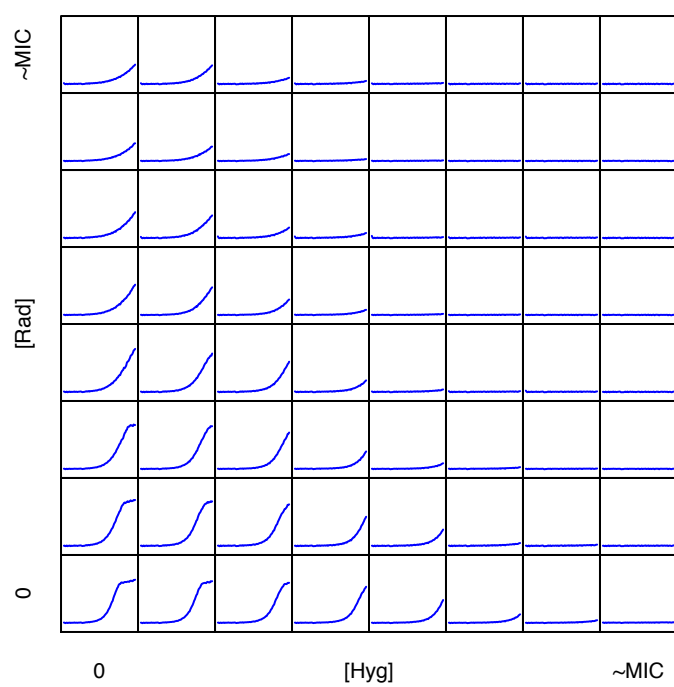
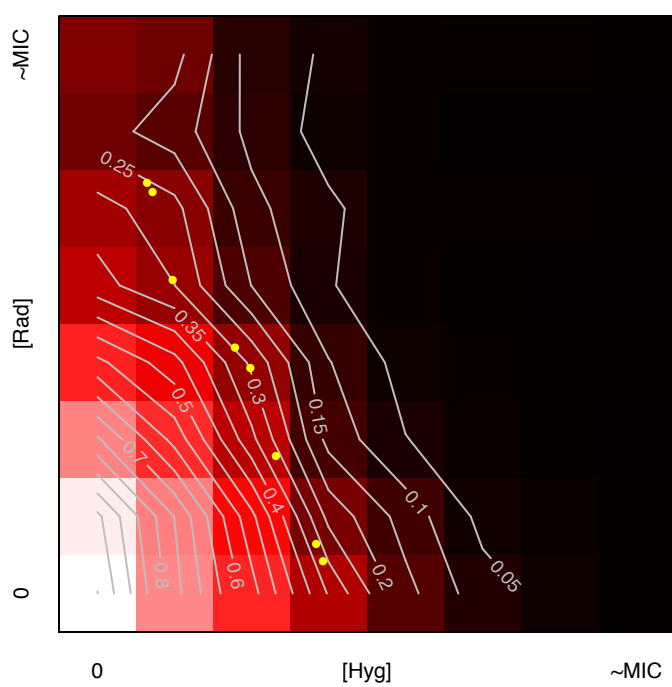
CXXvi

 $\alpha = -0.7543034$

CXXvii

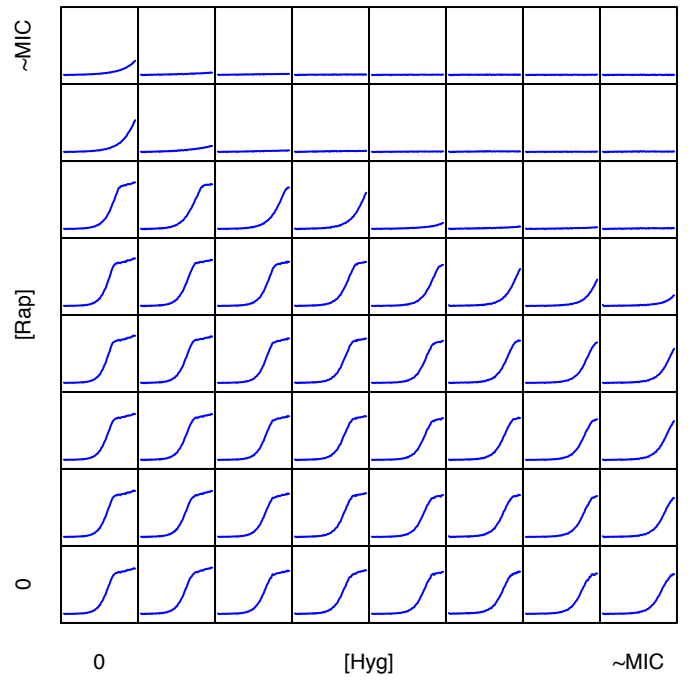
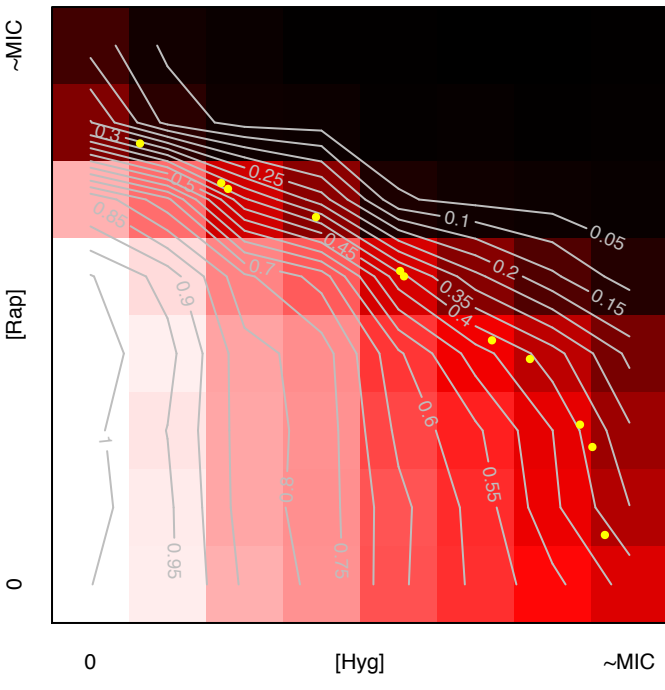
 $\alpha = 0.4635056$

CXXviii



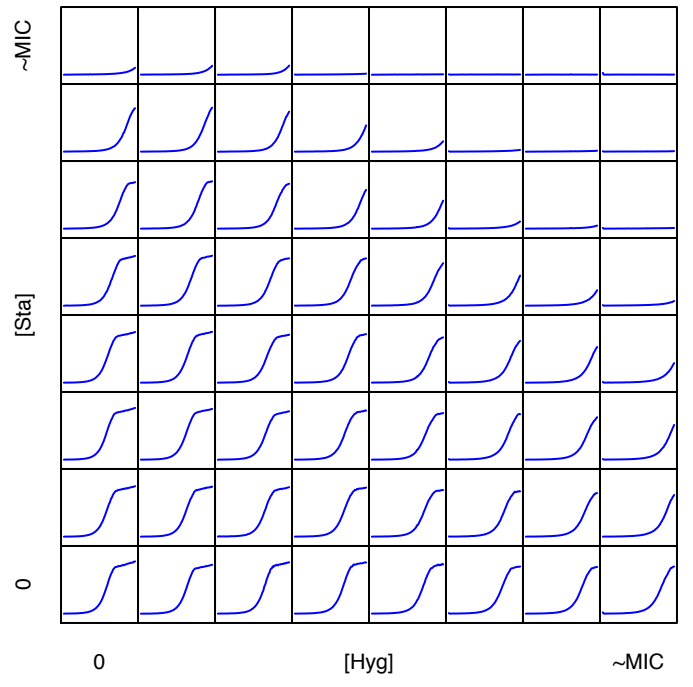
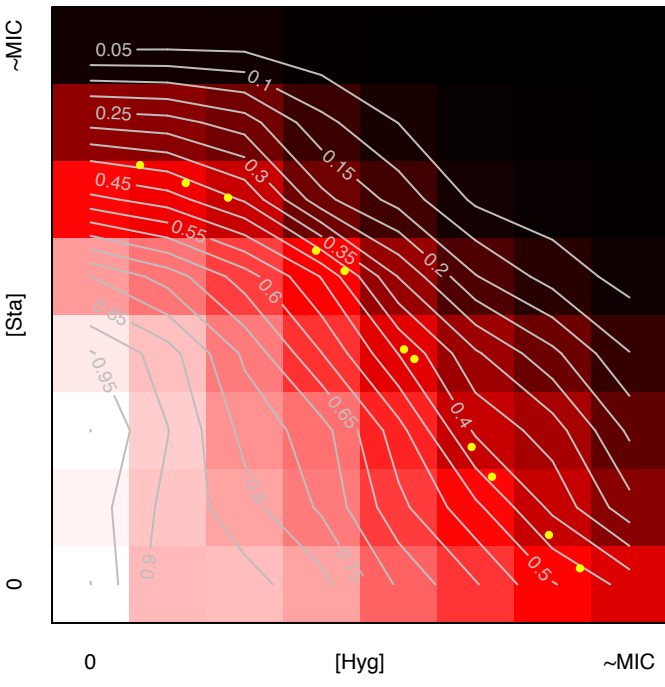
$\alpha = 1.154270$

CXXIX



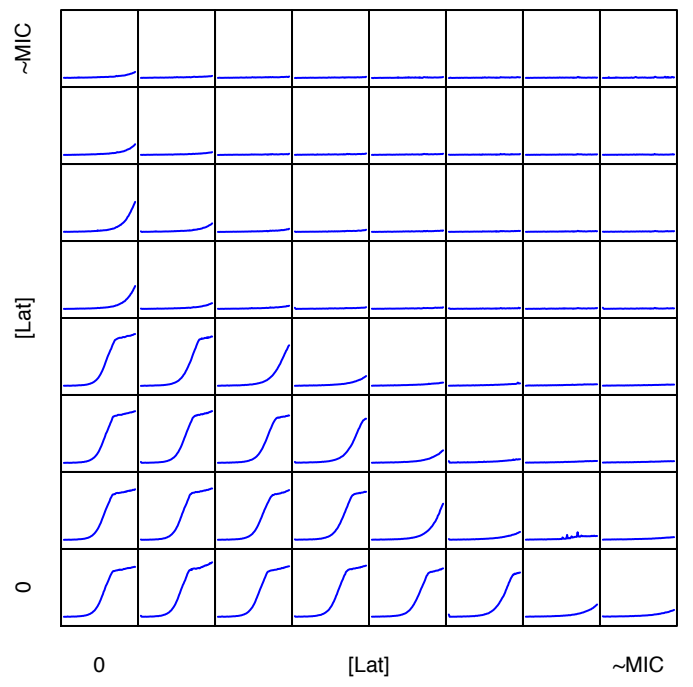
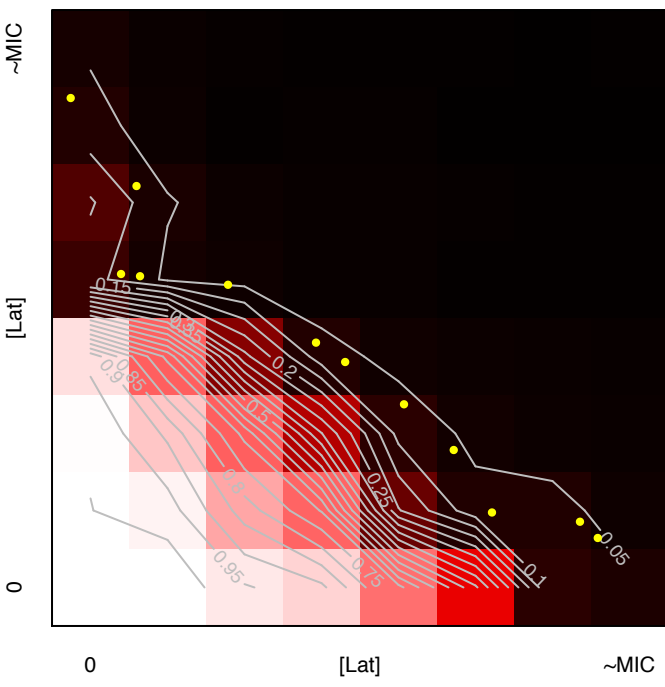
$\alpha = 0.6086447$

CXXX



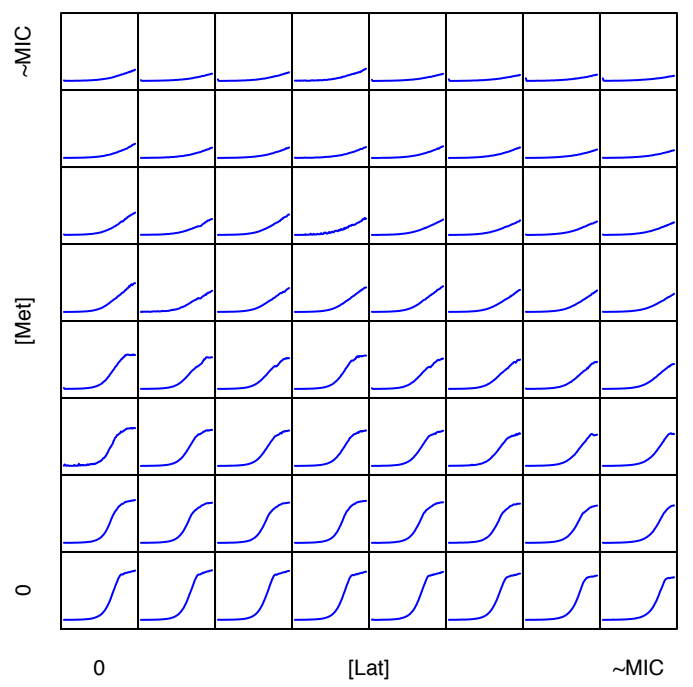
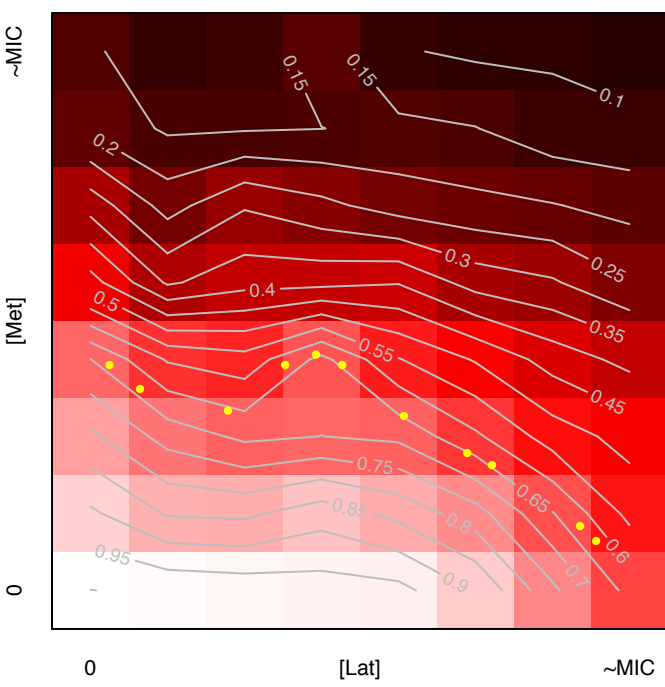
$\alpha = -0.3830895$

CXXXI



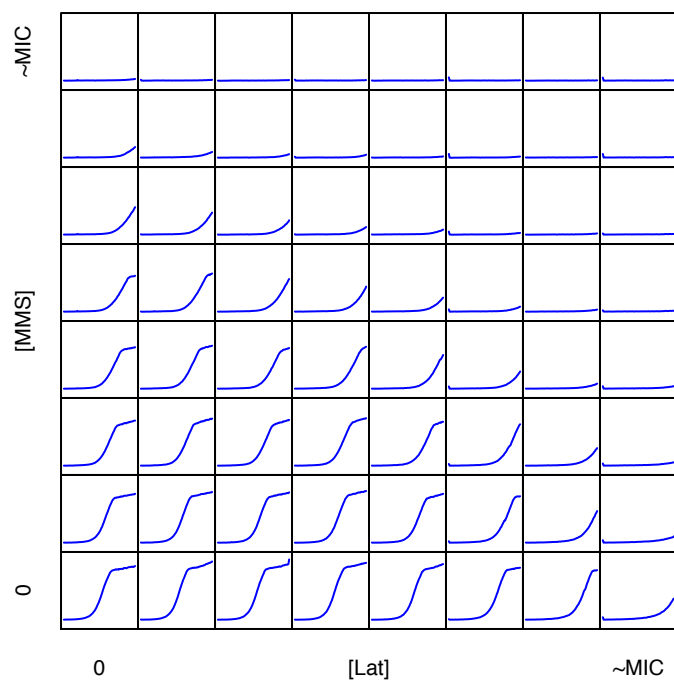
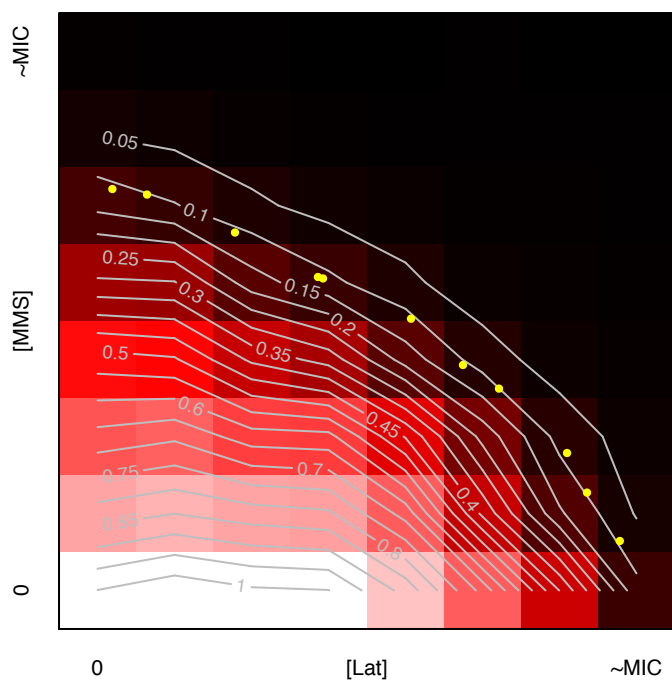
$\alpha = 1.180347$

CXXXII

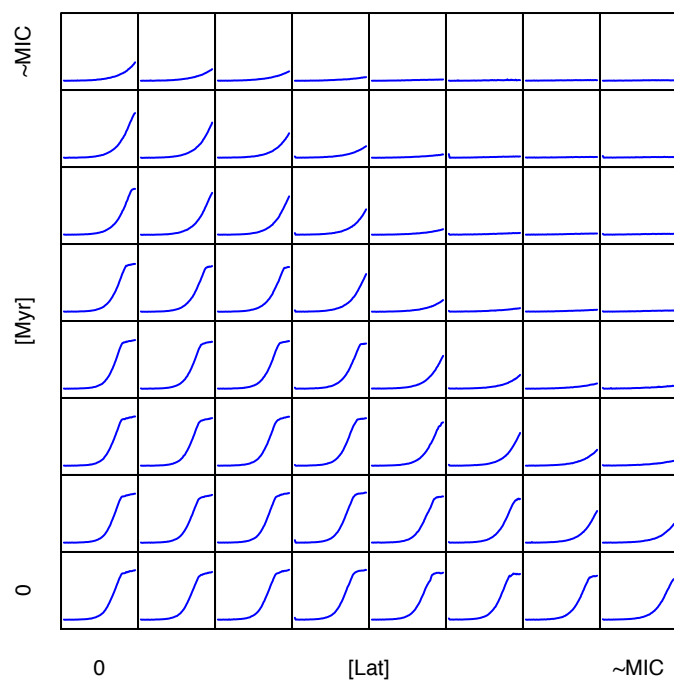
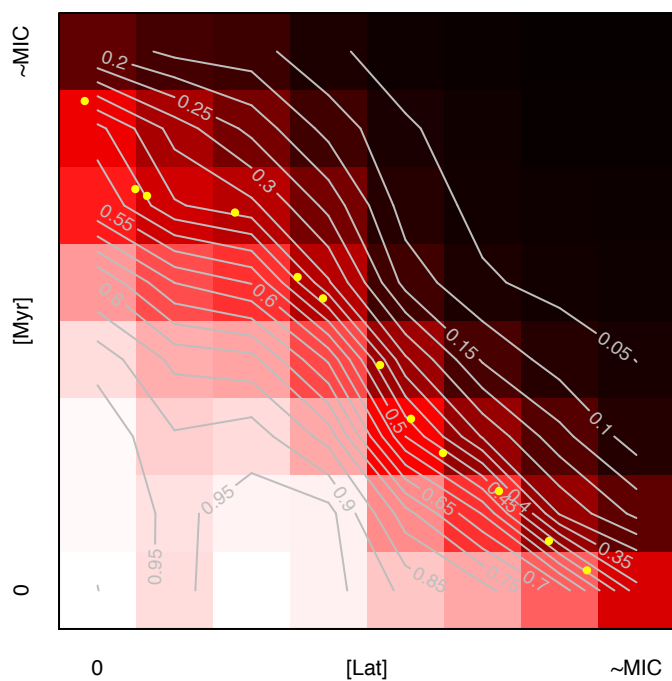


$\alpha = 0.941503$

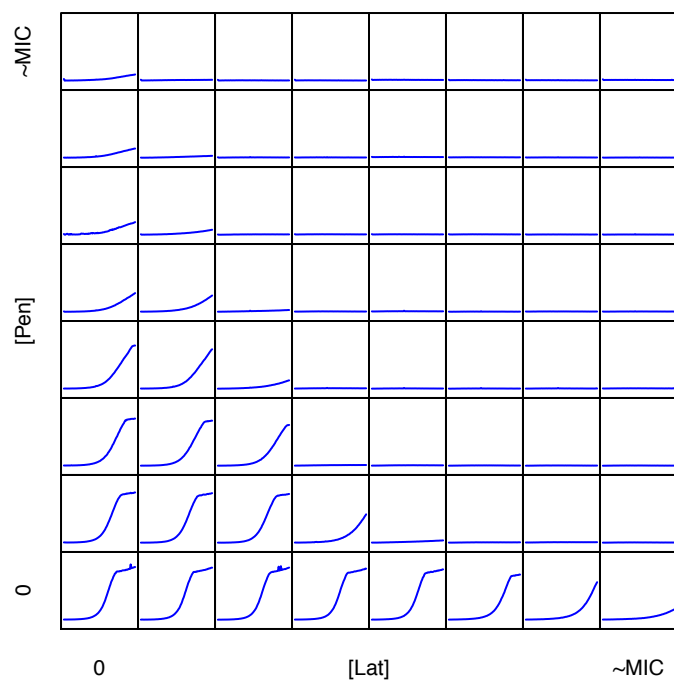
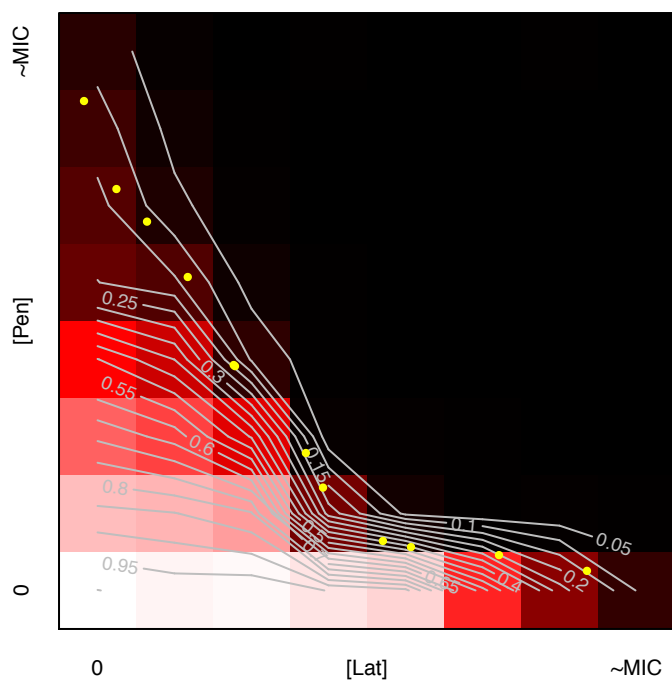
CXXXiii

 $\alpha = -0.1625229$

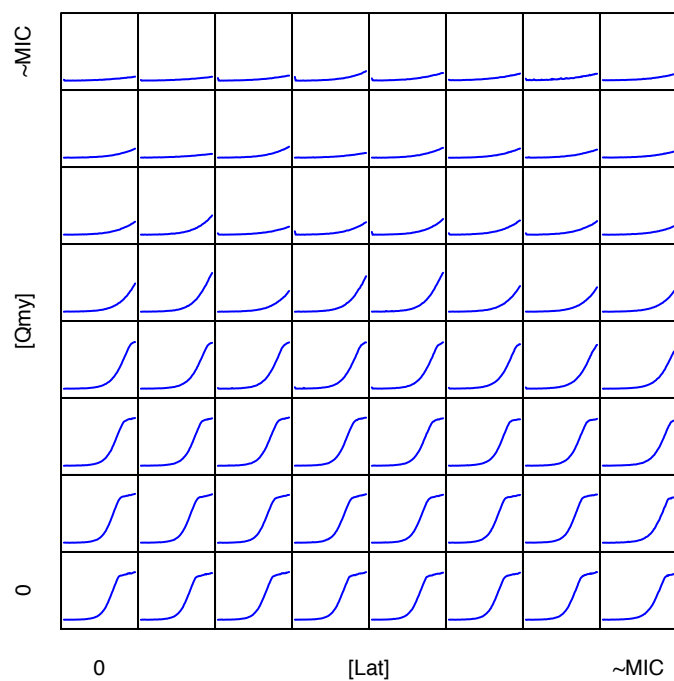
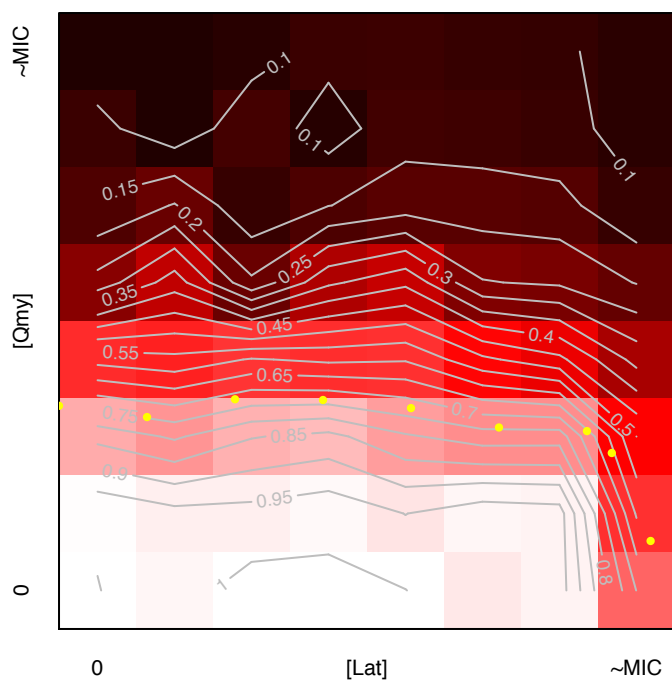
CXXXiv

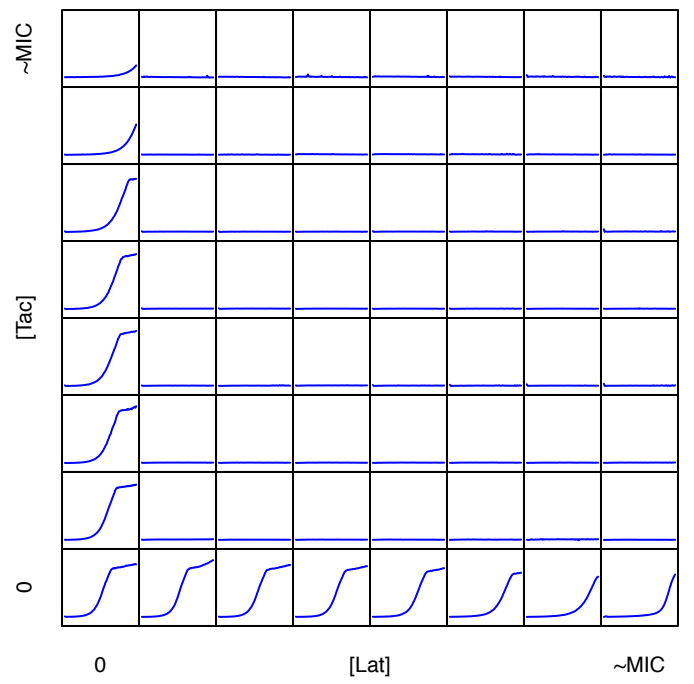
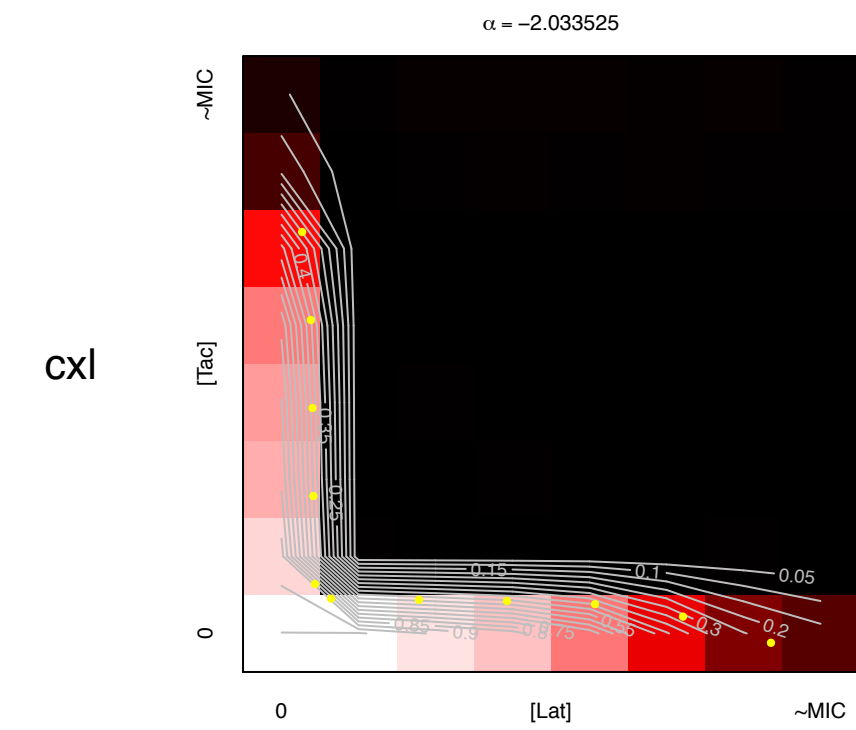
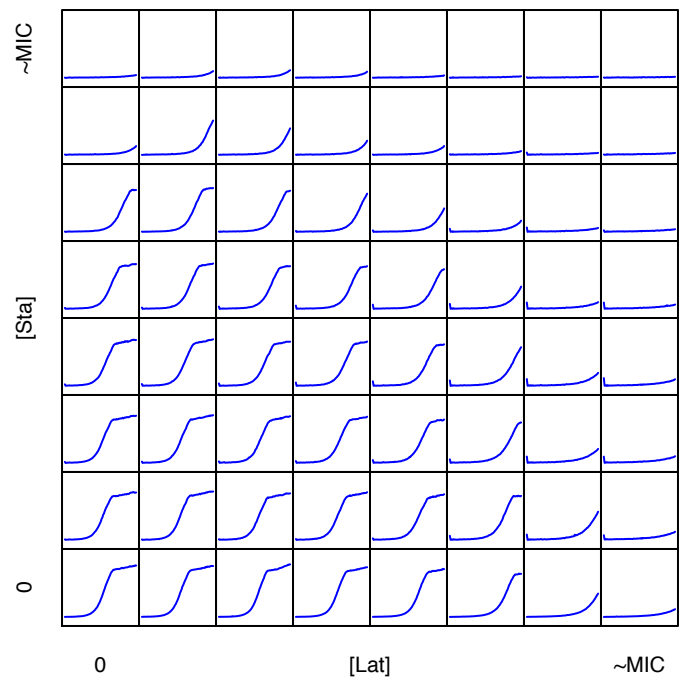
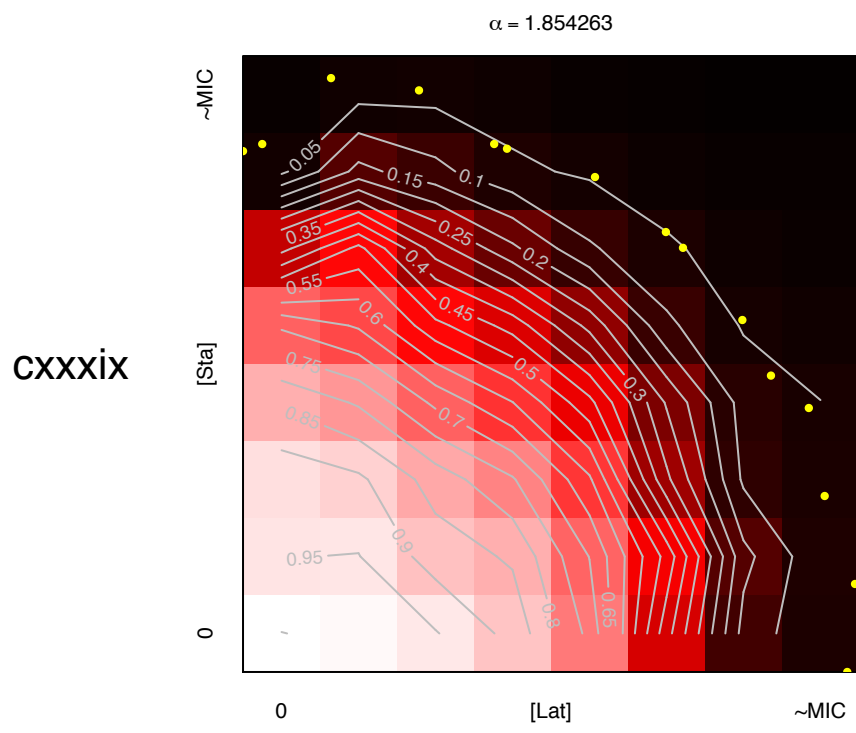
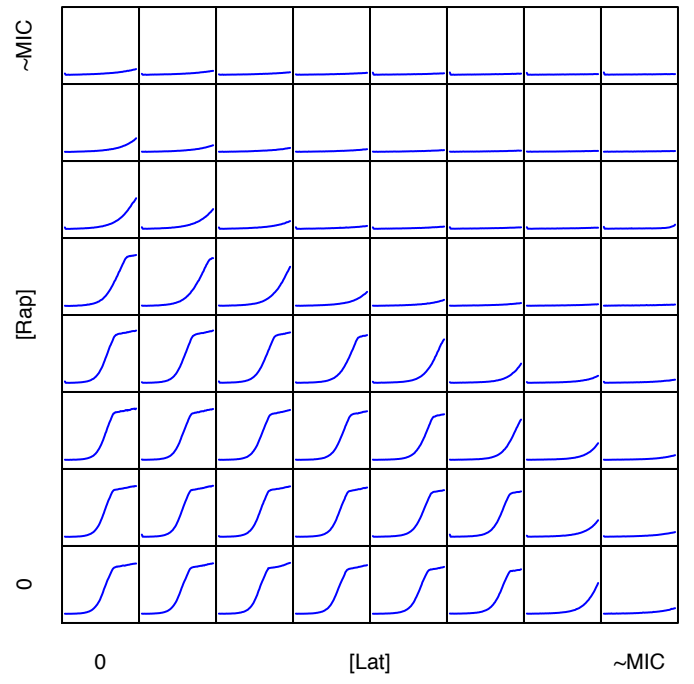
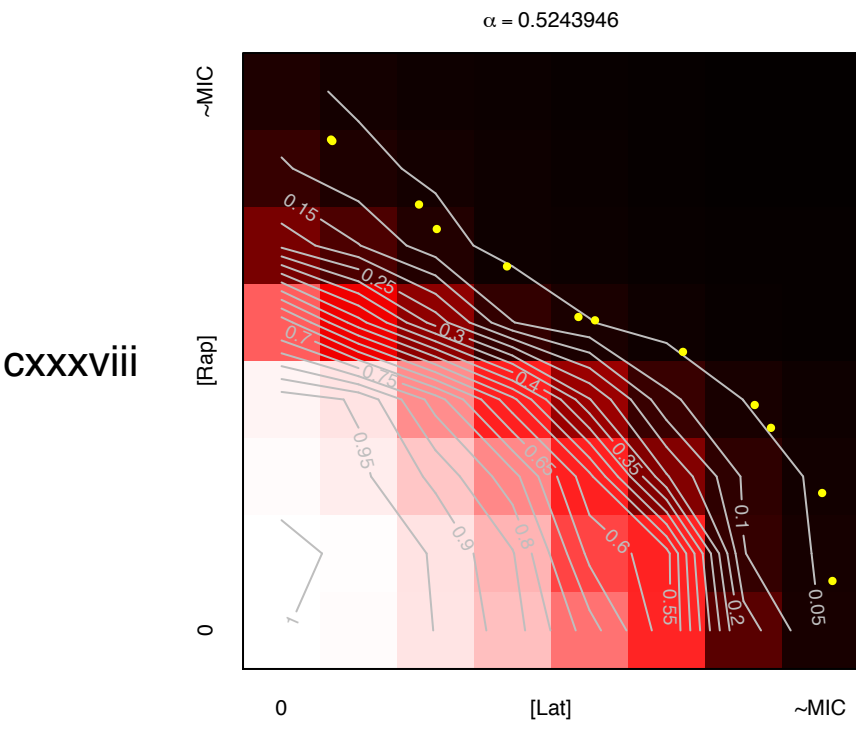
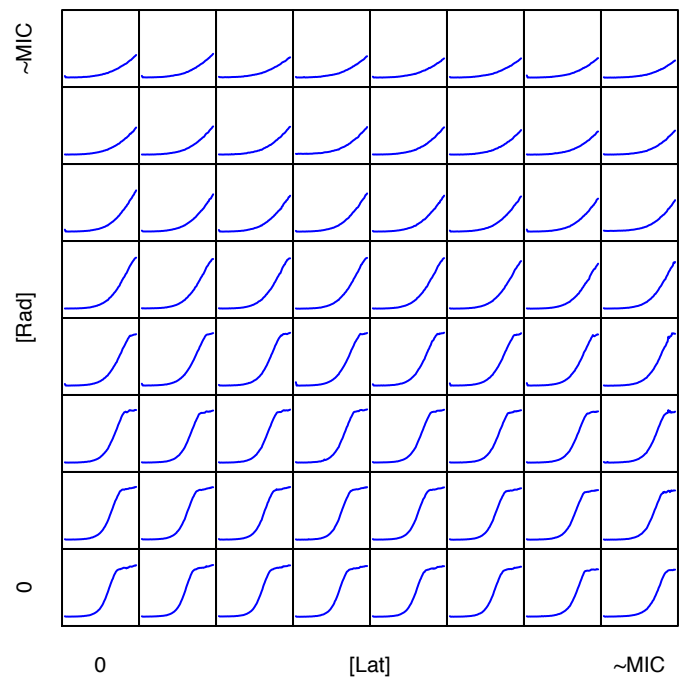
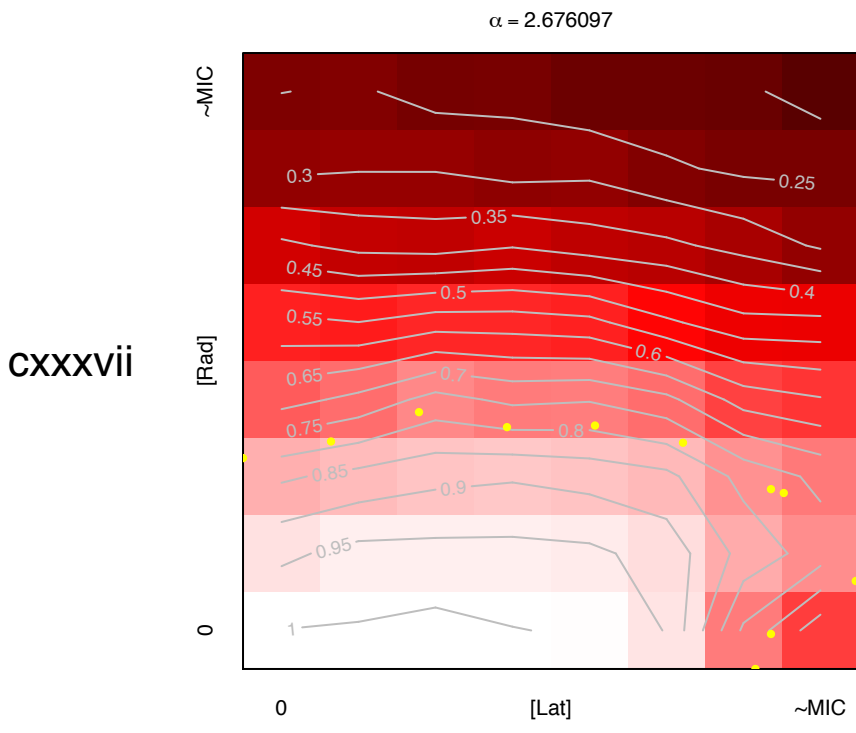
 $\alpha = -1.107596$

CXXXV

 $\alpha = 3.350255$

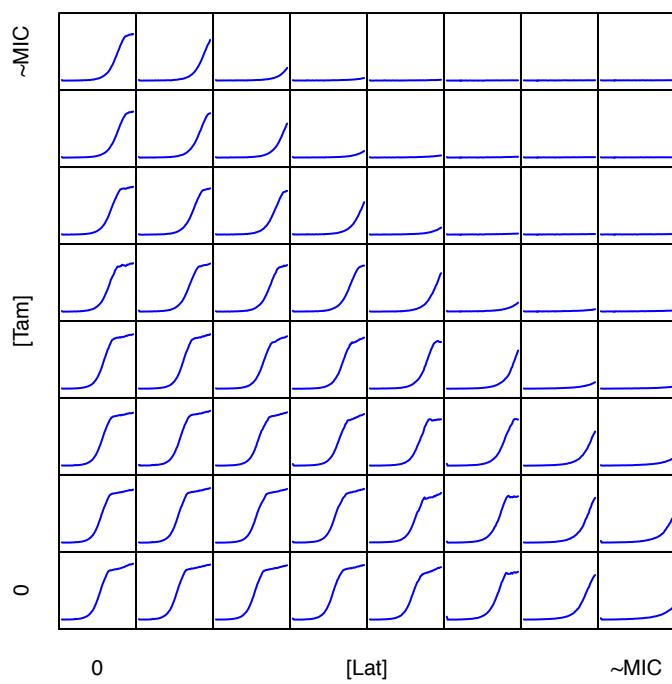
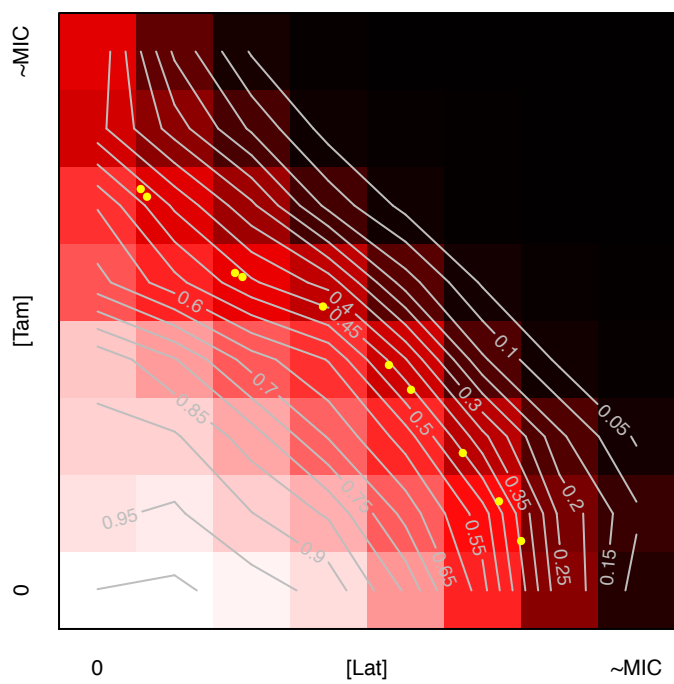
CXXXvi





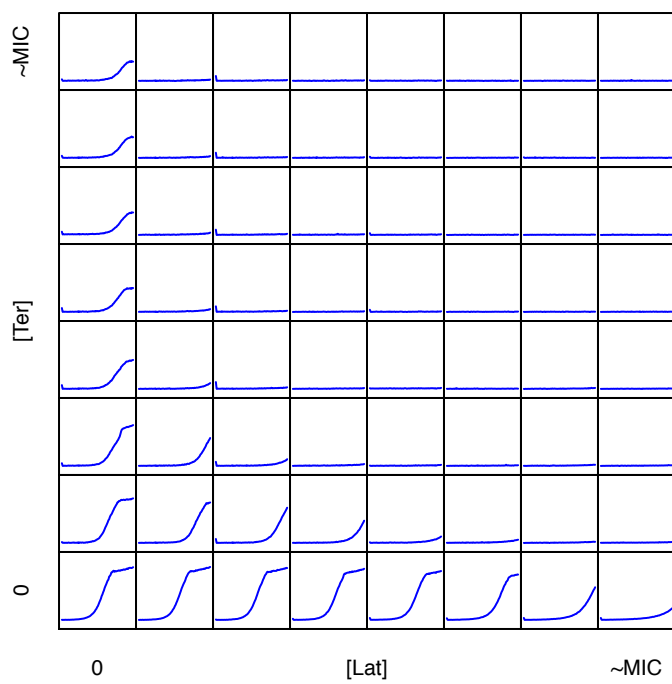
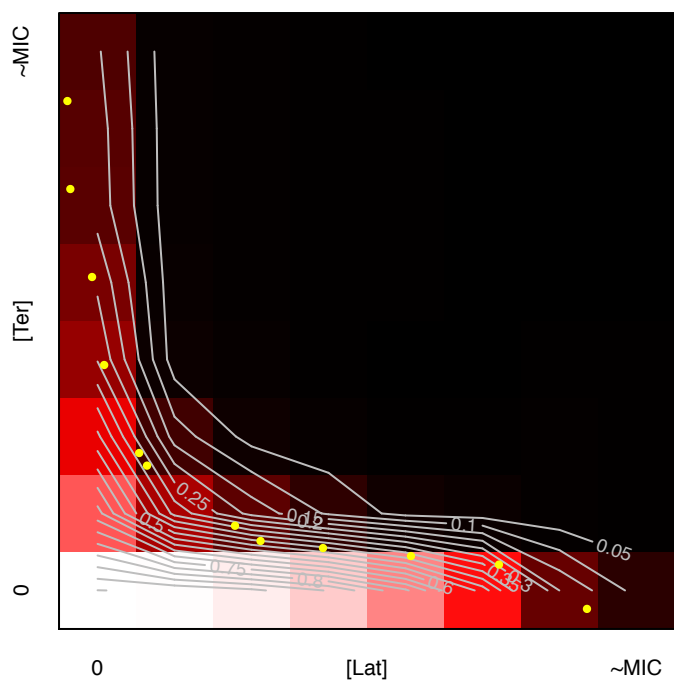
$\alpha = 0.8324194$

cxli



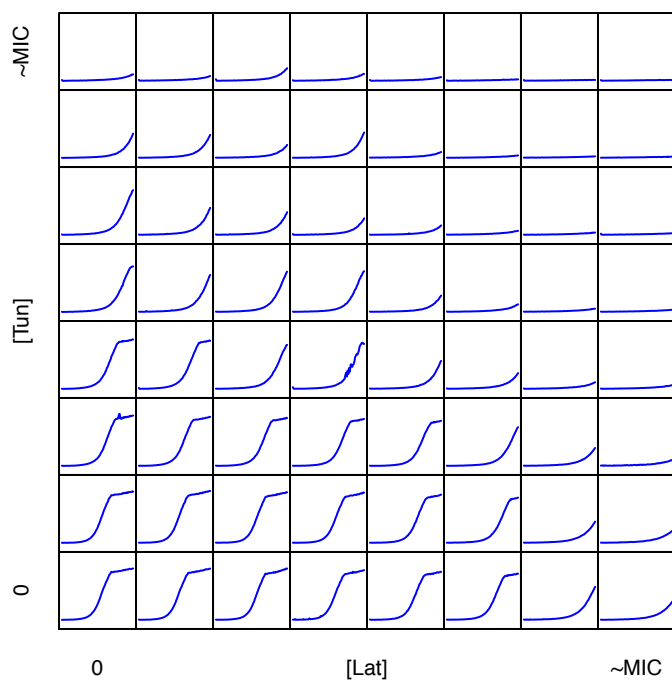
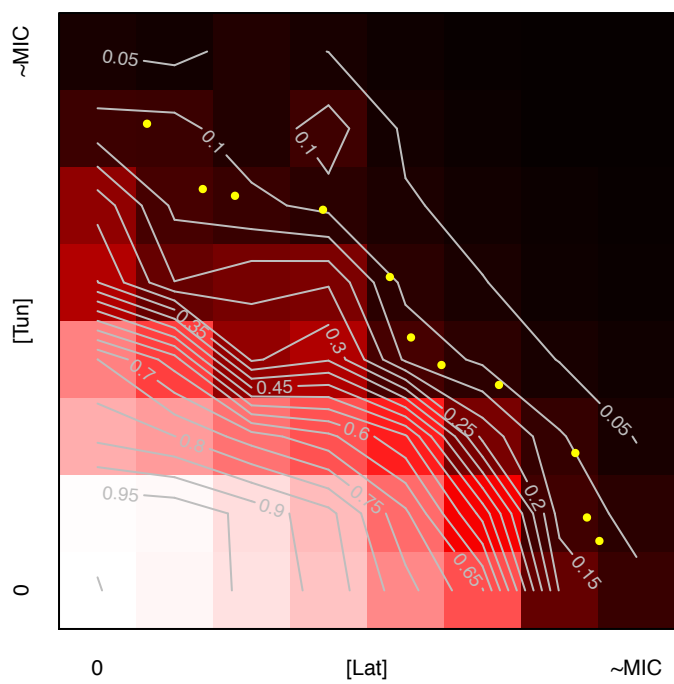
$\alpha = -2.425888$

cxlii



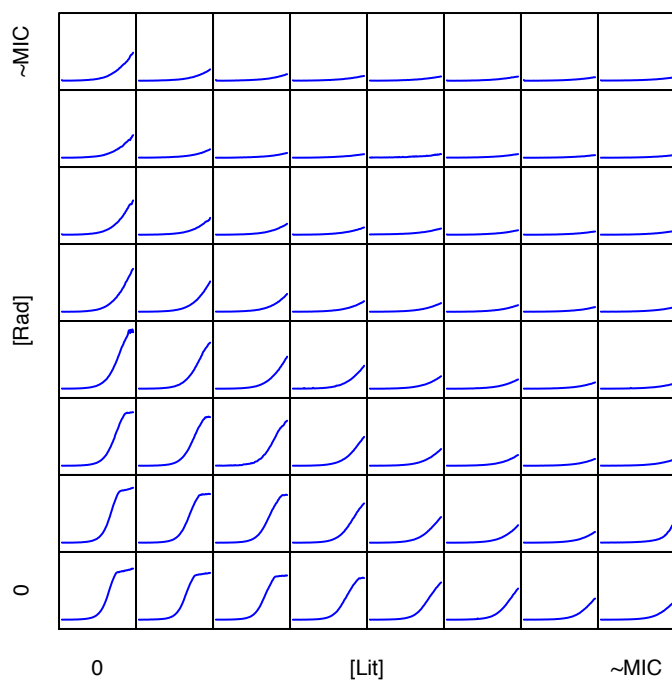
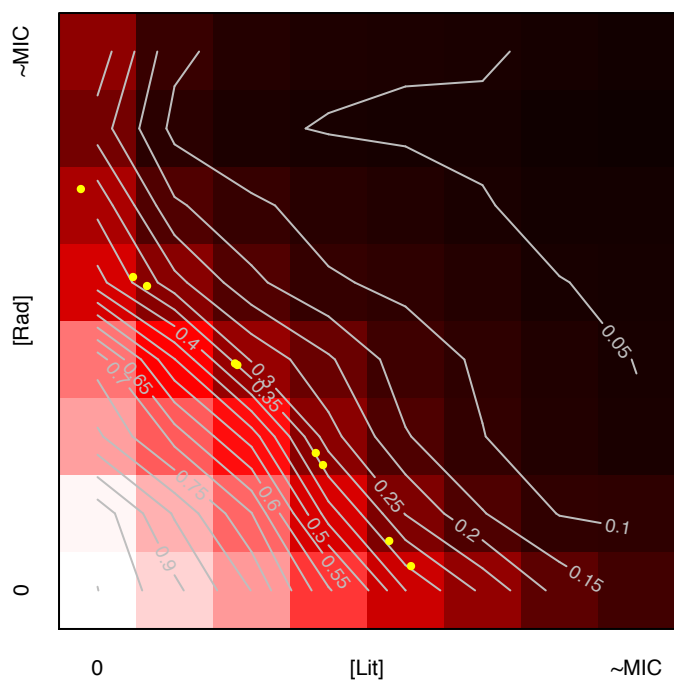
$\alpha = 0.6481033$

cxliiii



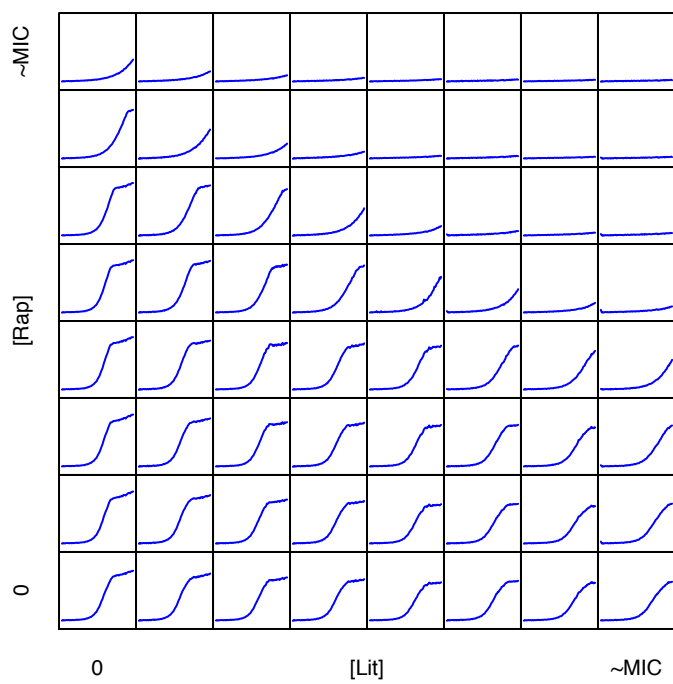
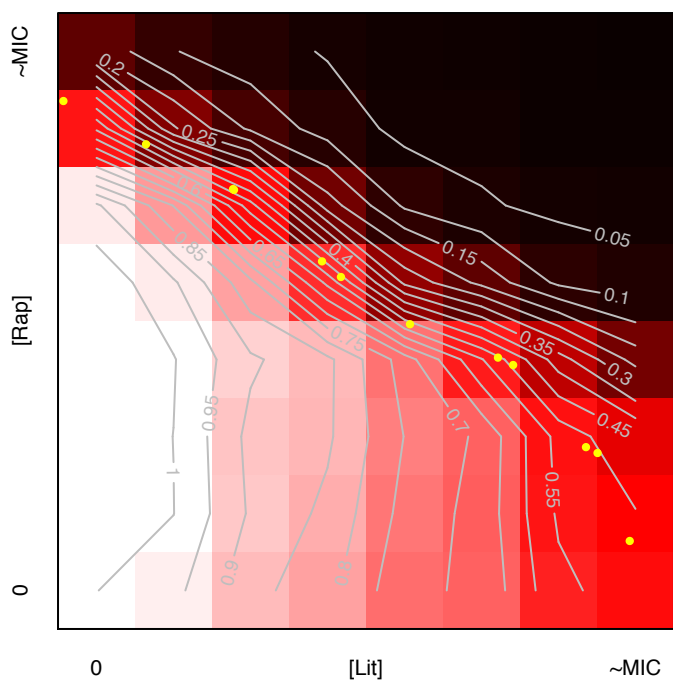
$\alpha = -0.3696332$

cxliv



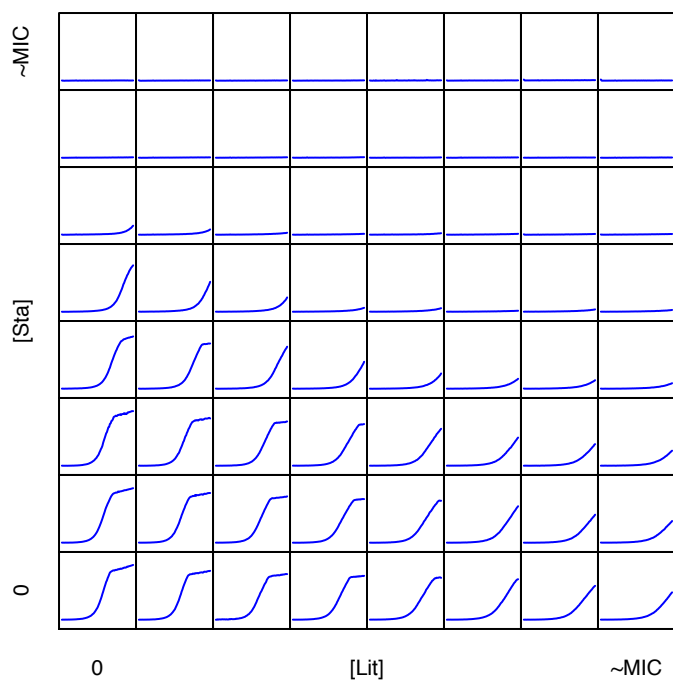
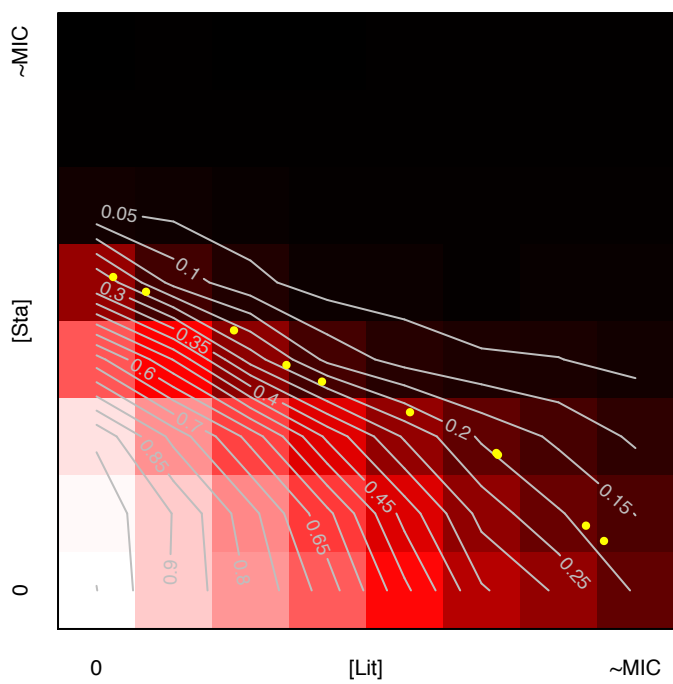
$\alpha = 0.6253137$

cxlv



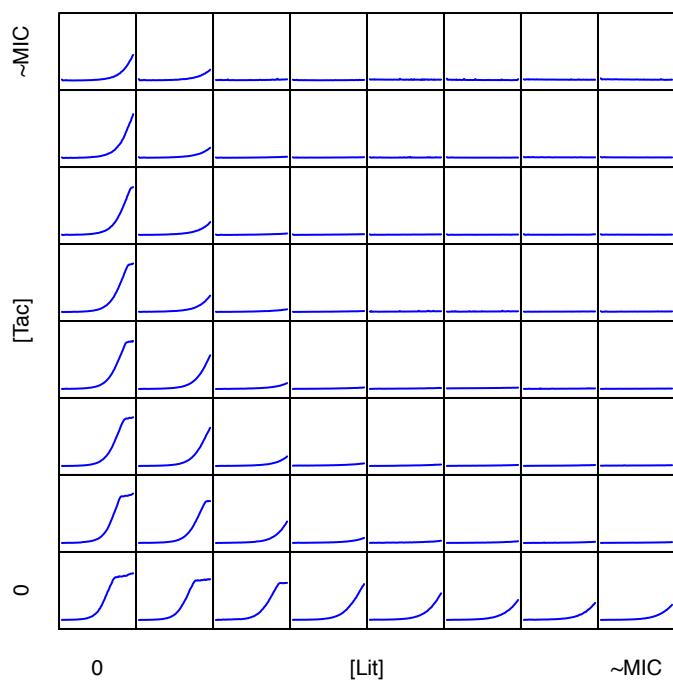
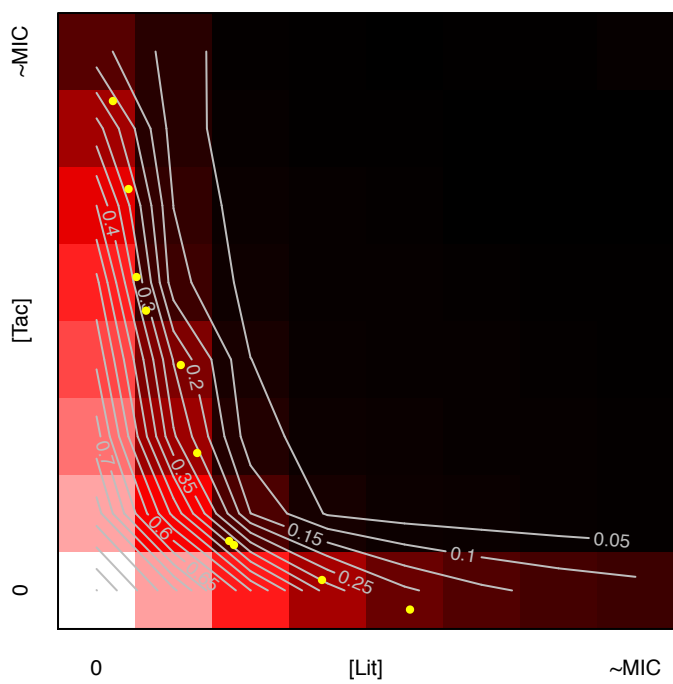
$\alpha = 0.4078372$

cxlvi



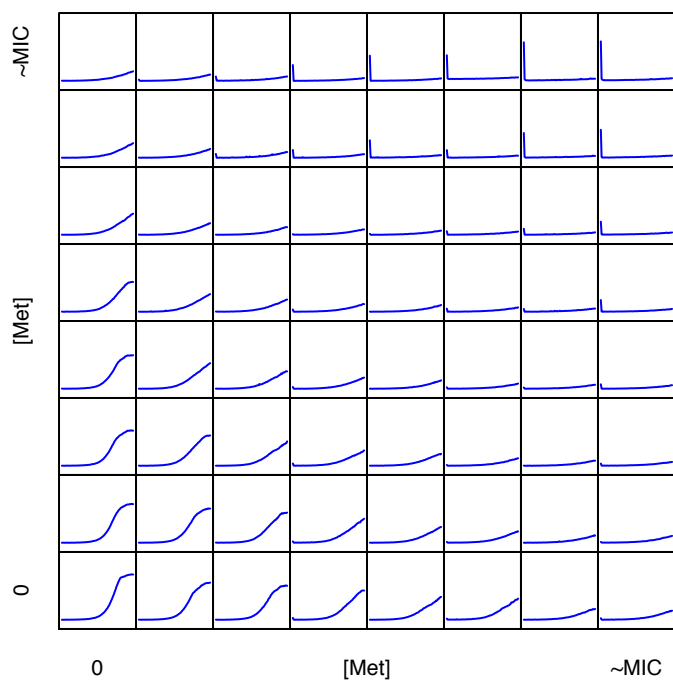
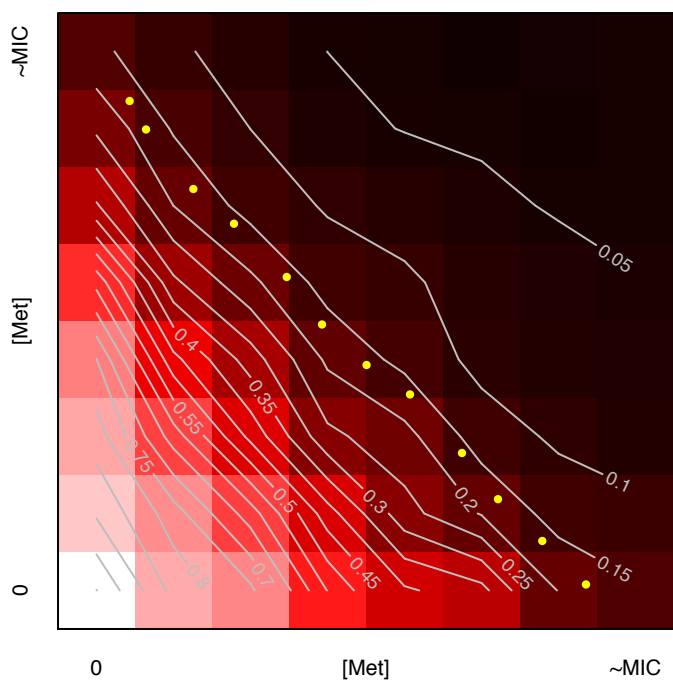
$\alpha = -1.463305$

cxlvii



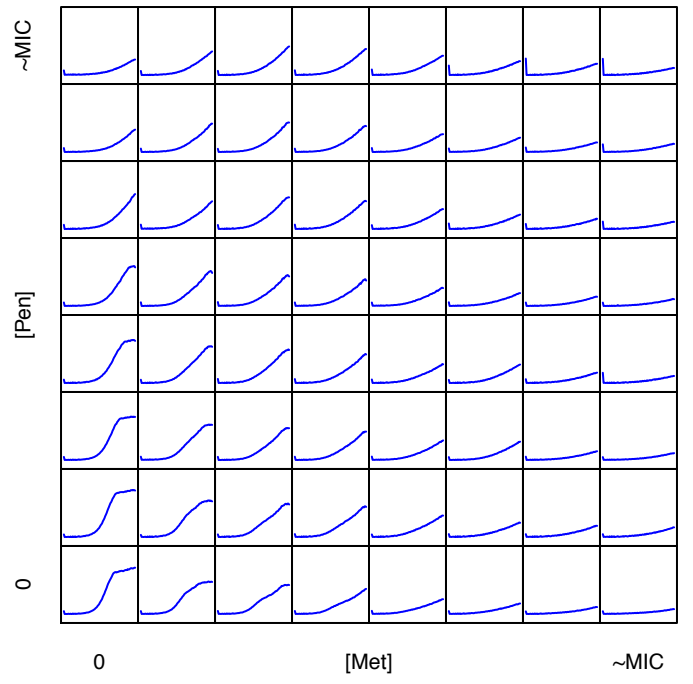
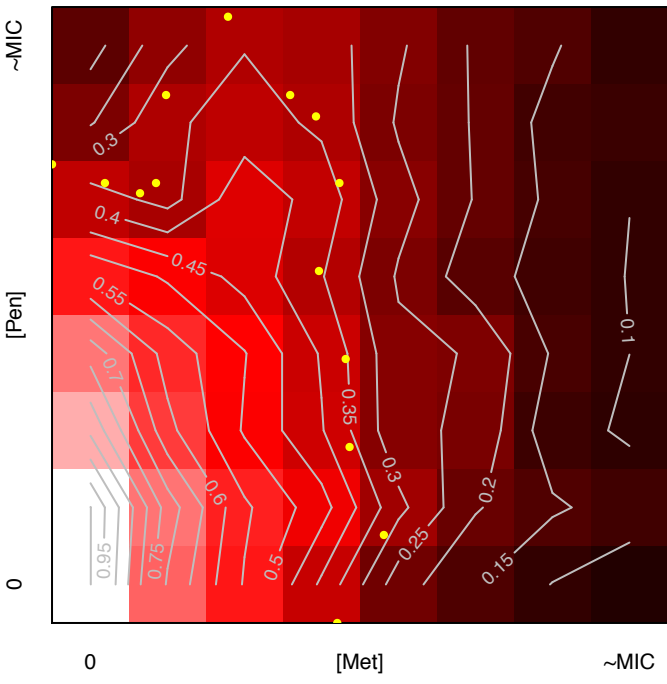
$\alpha = -0.2572479$

cxlviii



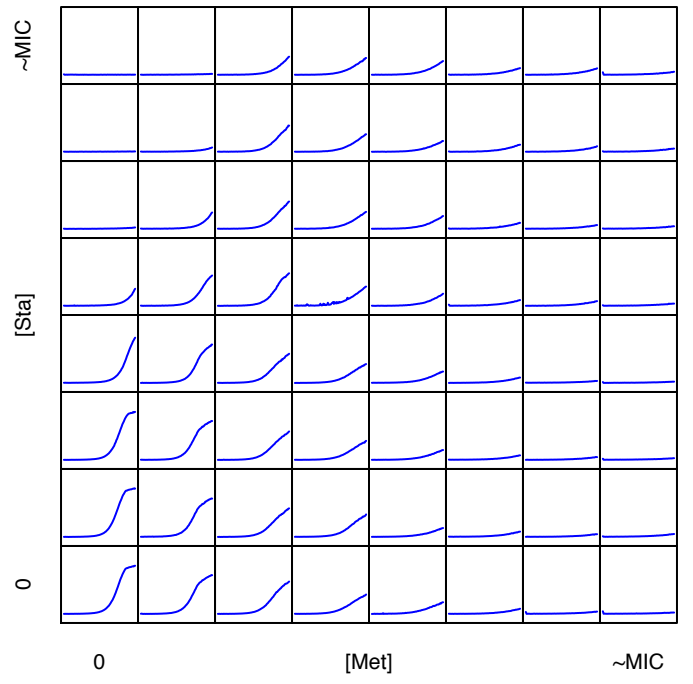
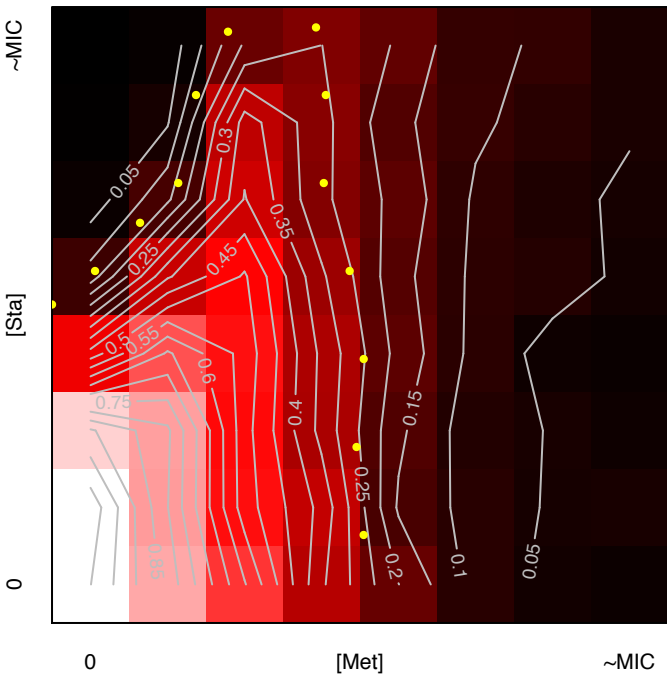
$\alpha = 1.502372$

cxlix



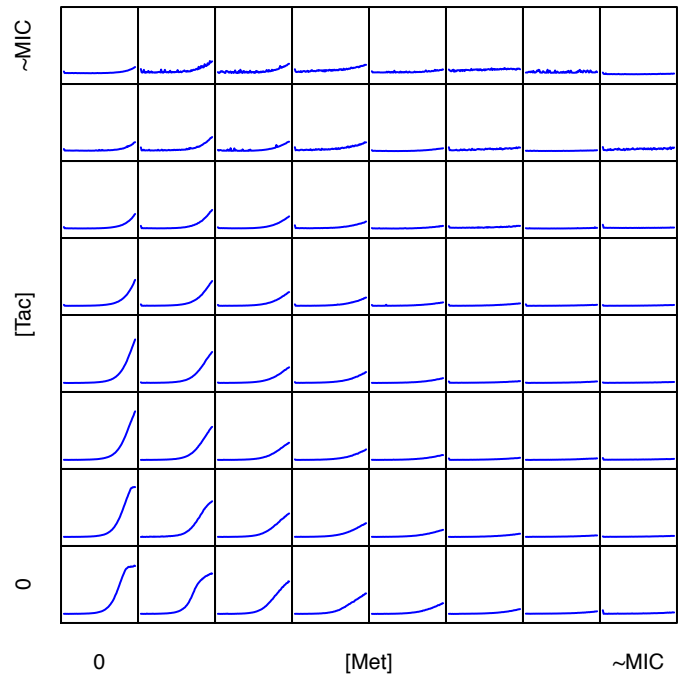
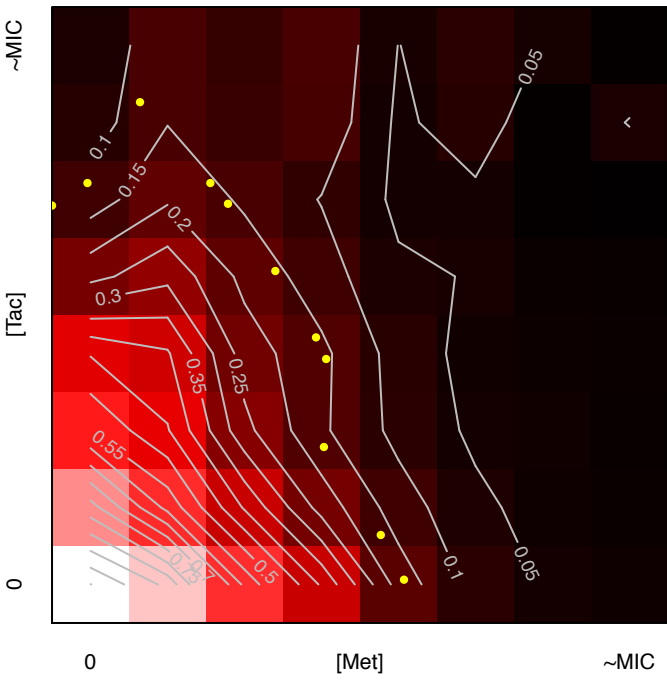
$\alpha = 1.971104$

cli



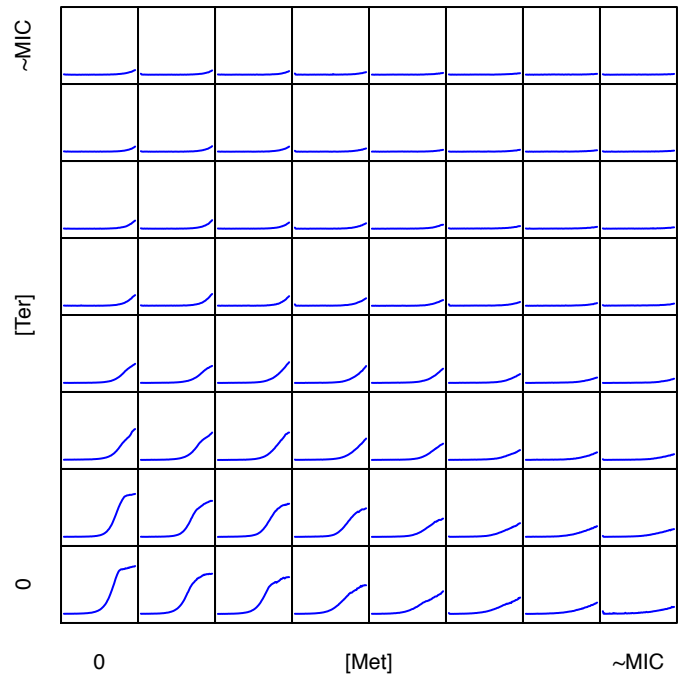
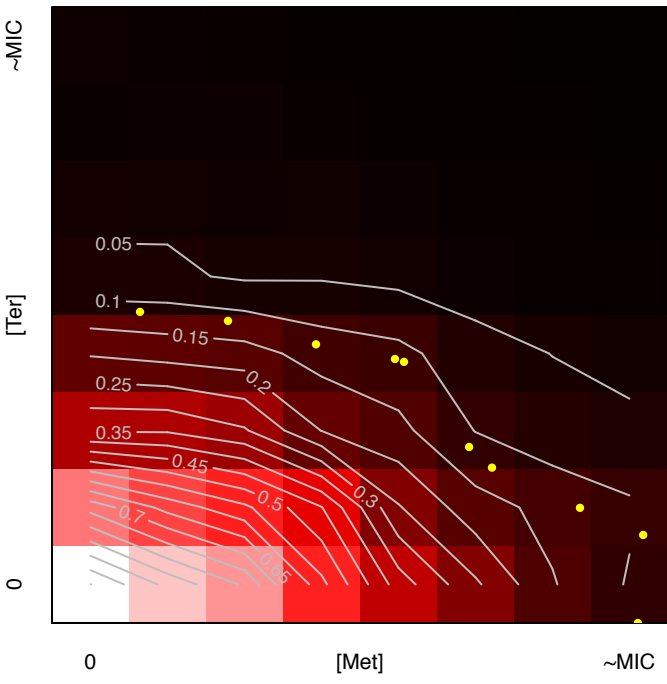
$\alpha = 1.01005$

cli



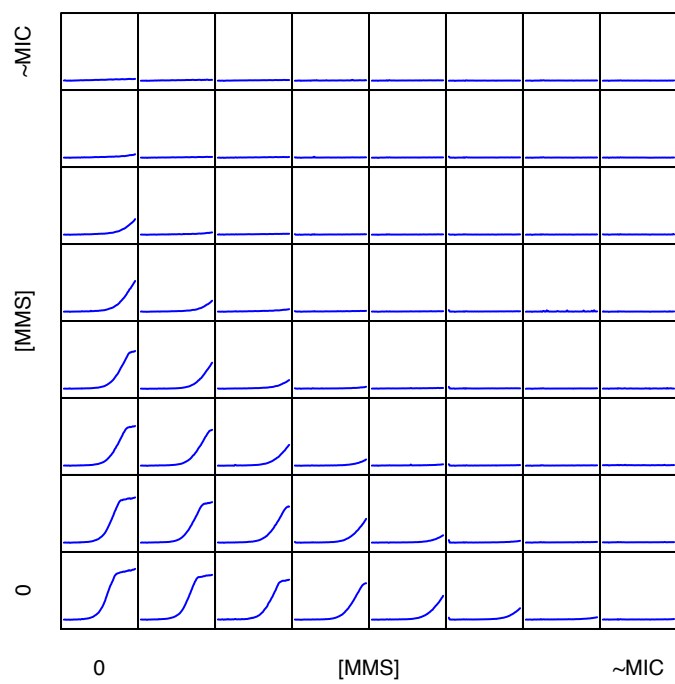
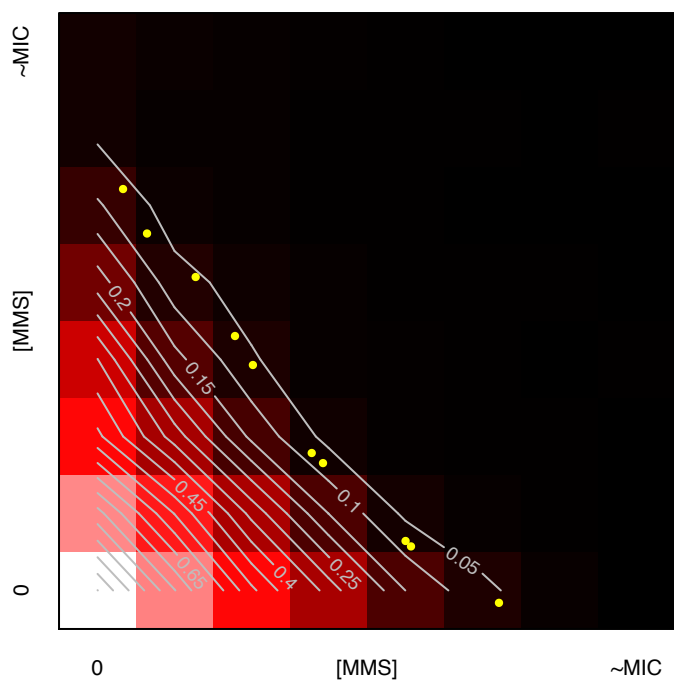
$\alpha = 1.892998$

cli



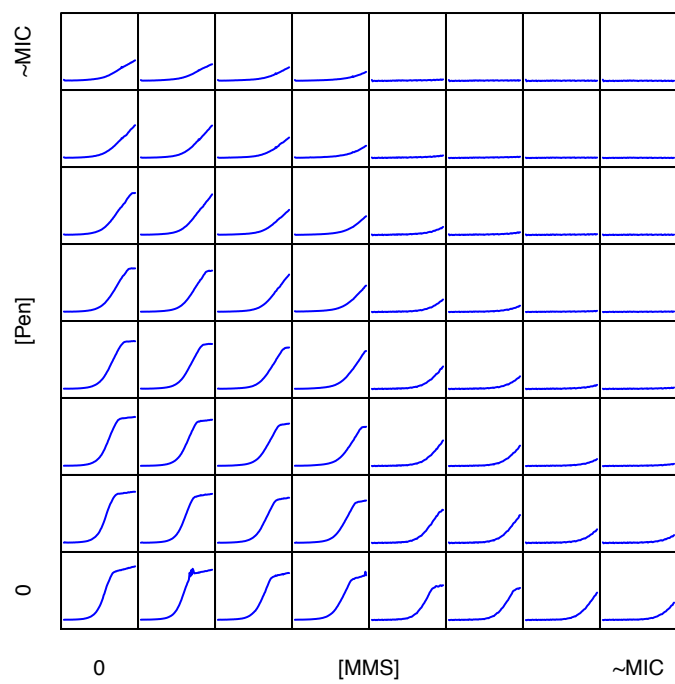
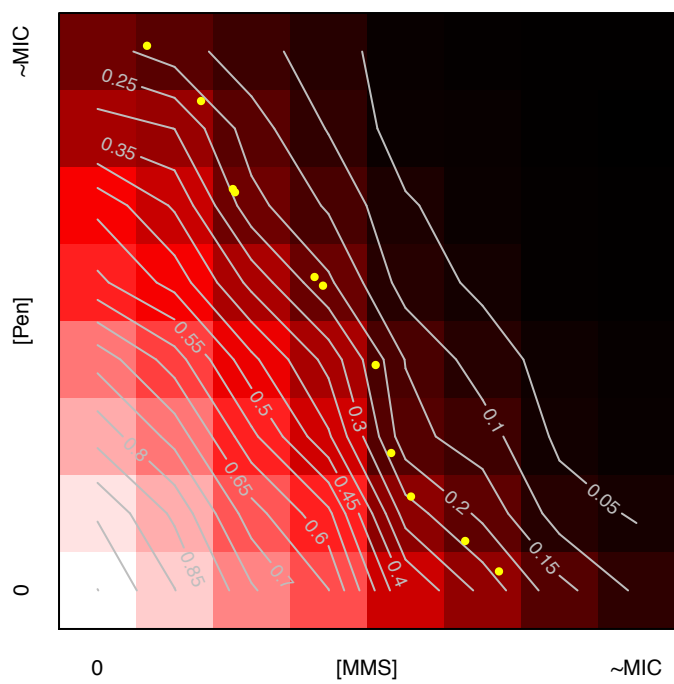
$\alpha = -0.2795345$

cliii



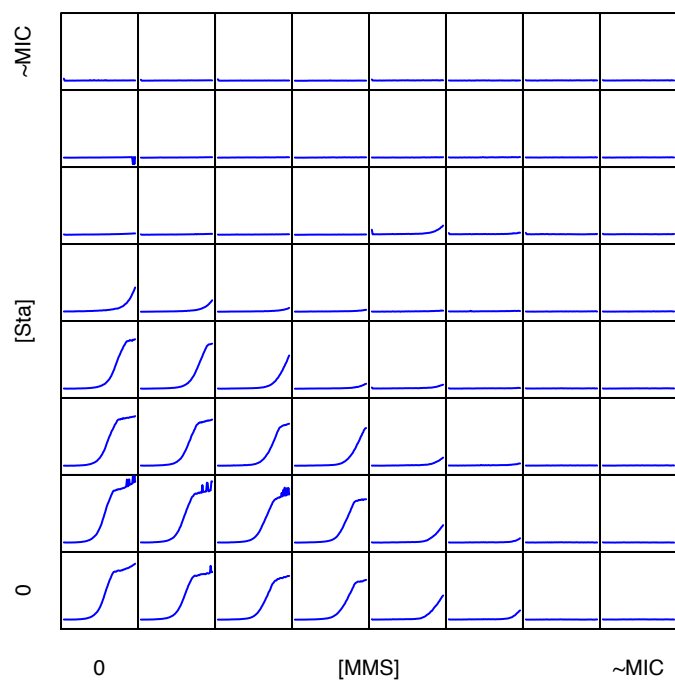
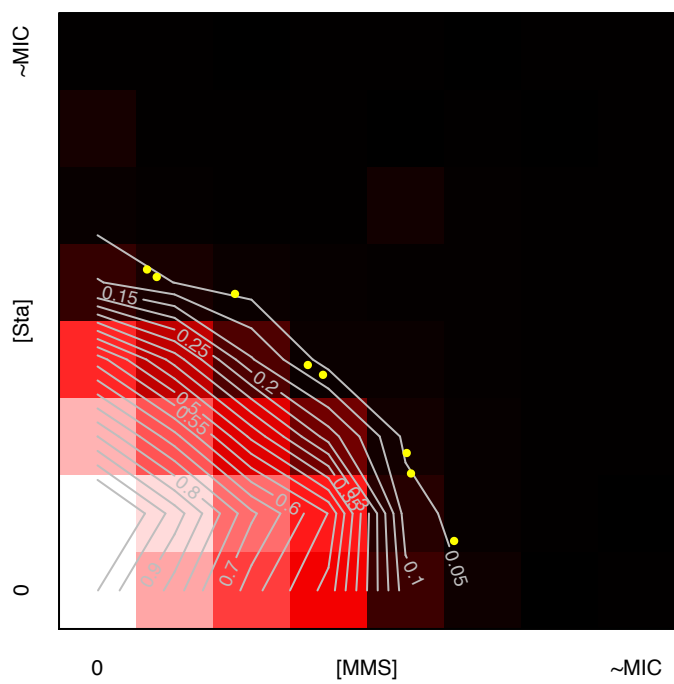
$\alpha = 0.3130769$

cliv



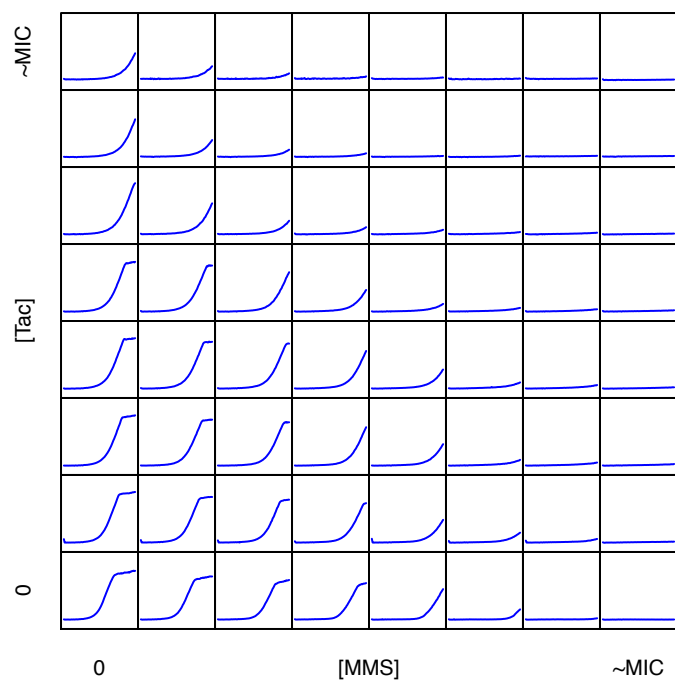
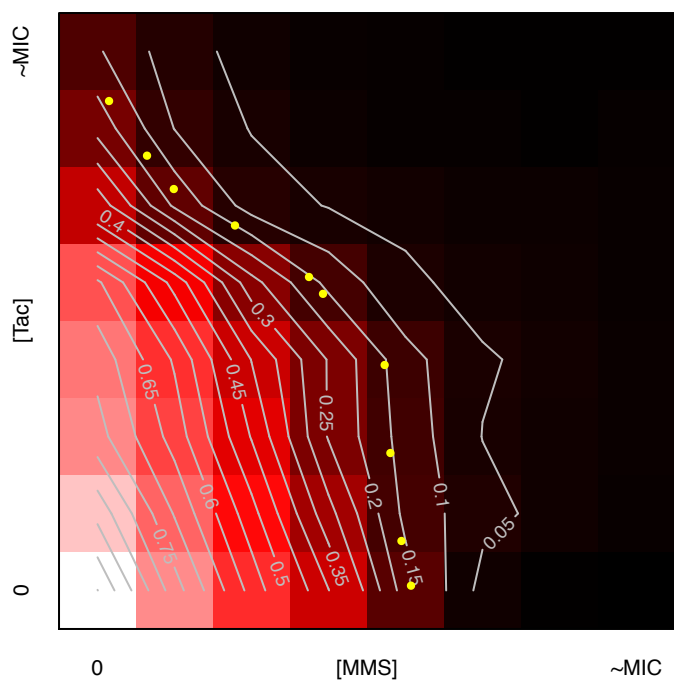
$\alpha = 1.046222$

clv



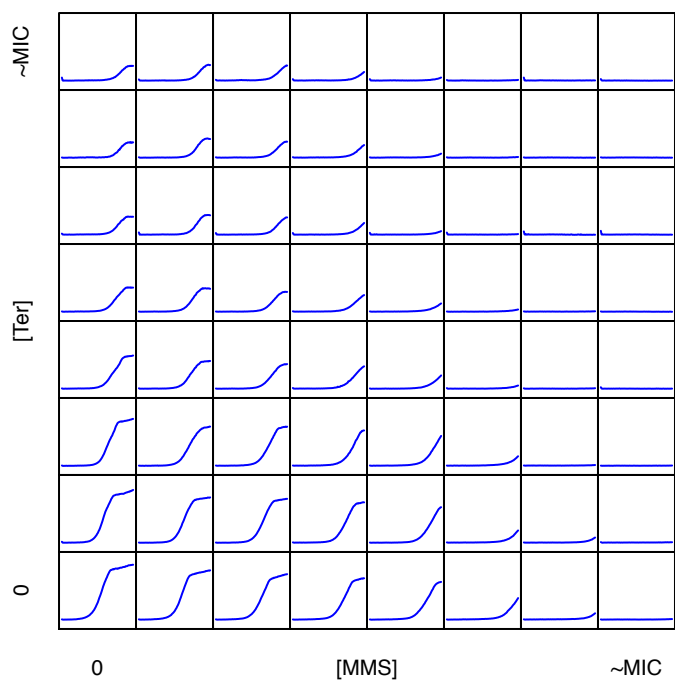
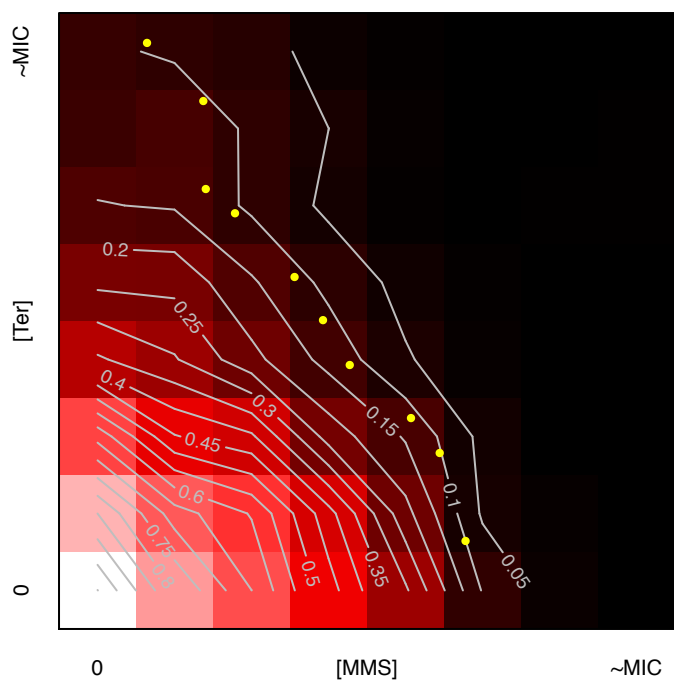
$\alpha = 0.8951513$

clvi



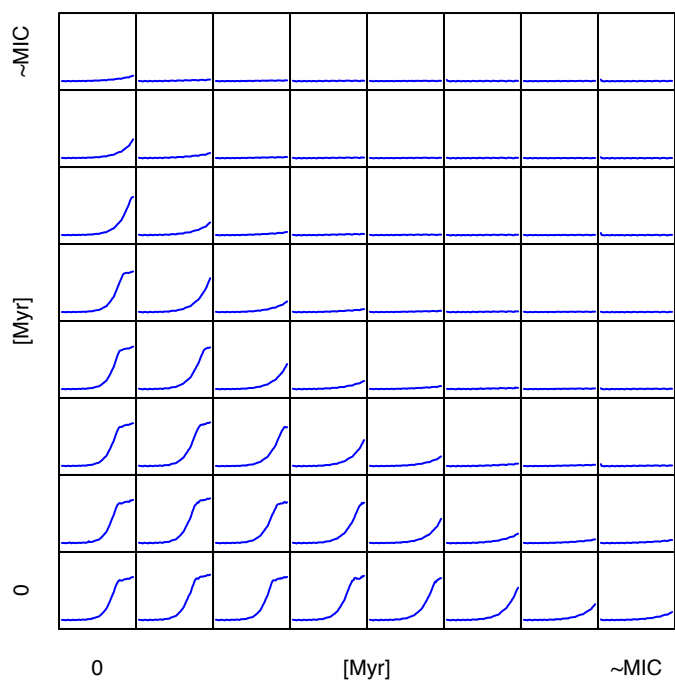
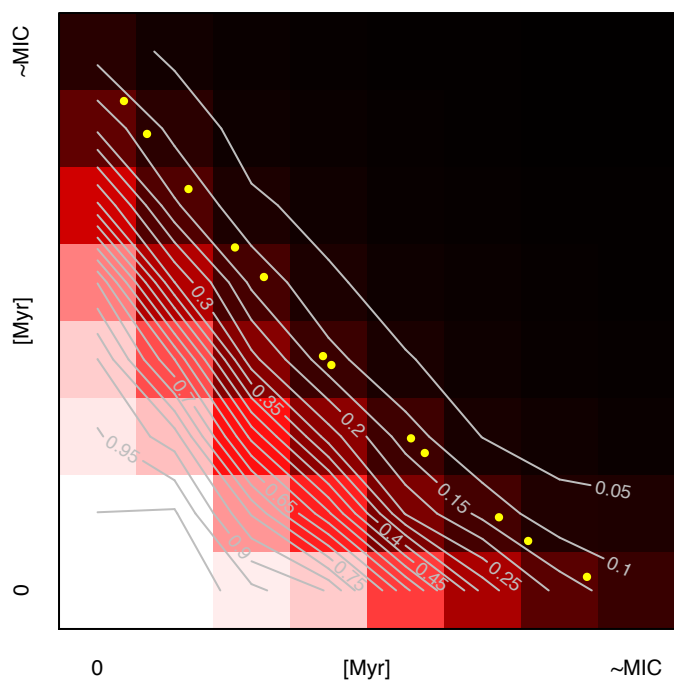
$\alpha = 0.6074653$

clvii



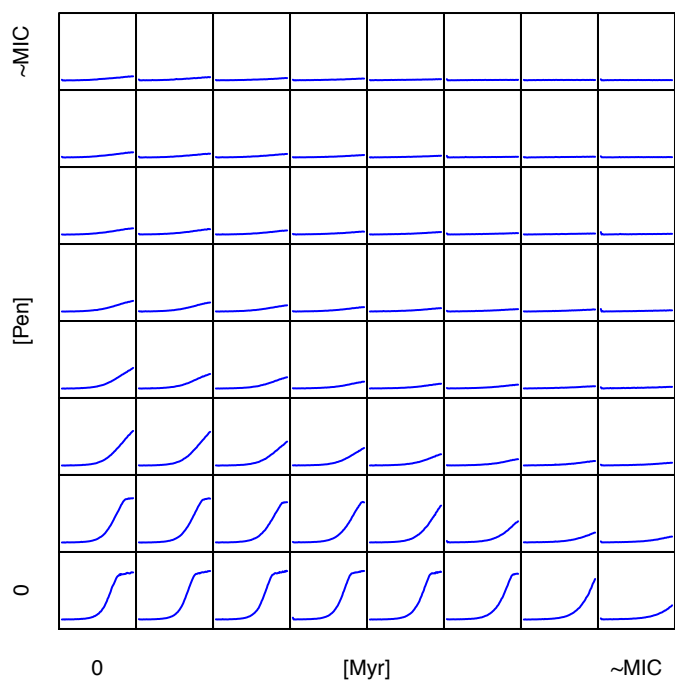
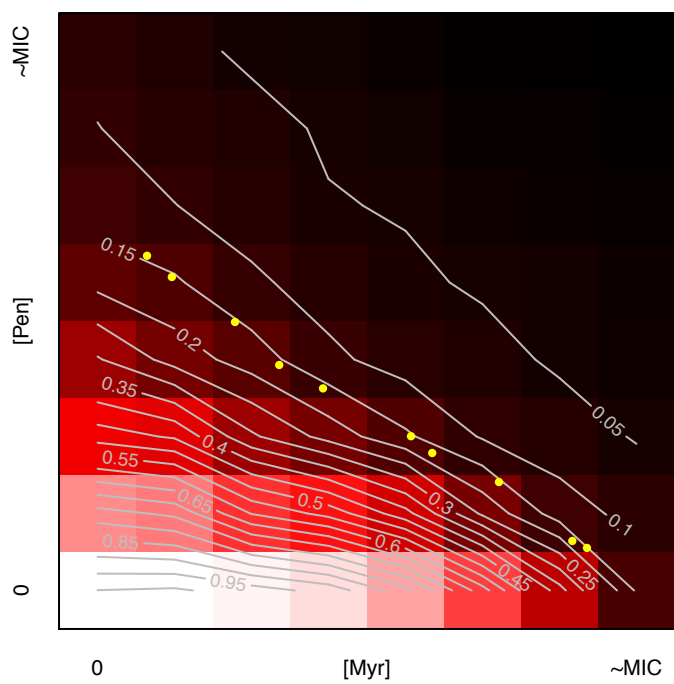
$\alpha = -0.4520904$

clviii



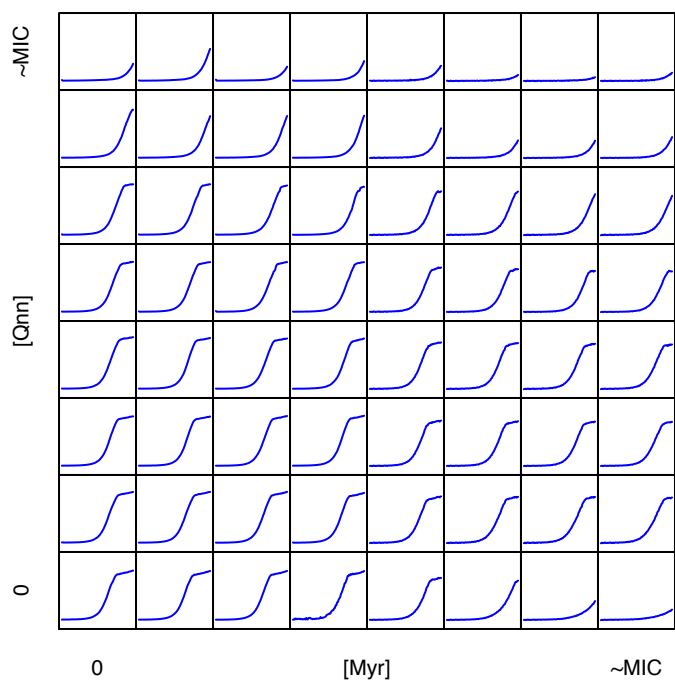
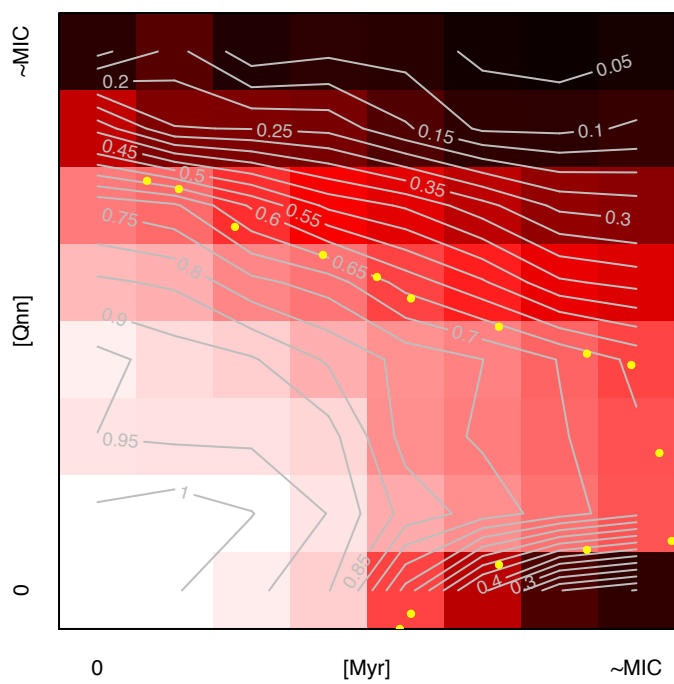
$\alpha = 0.2242276$

clix



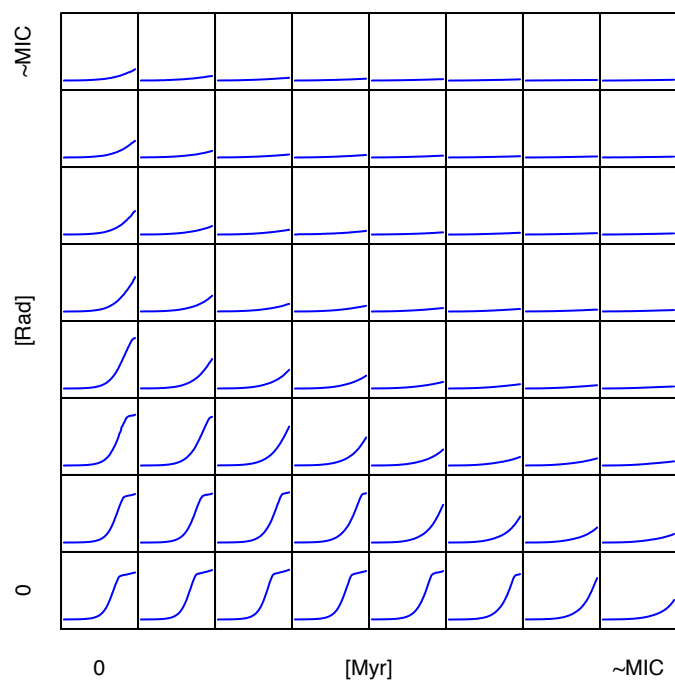
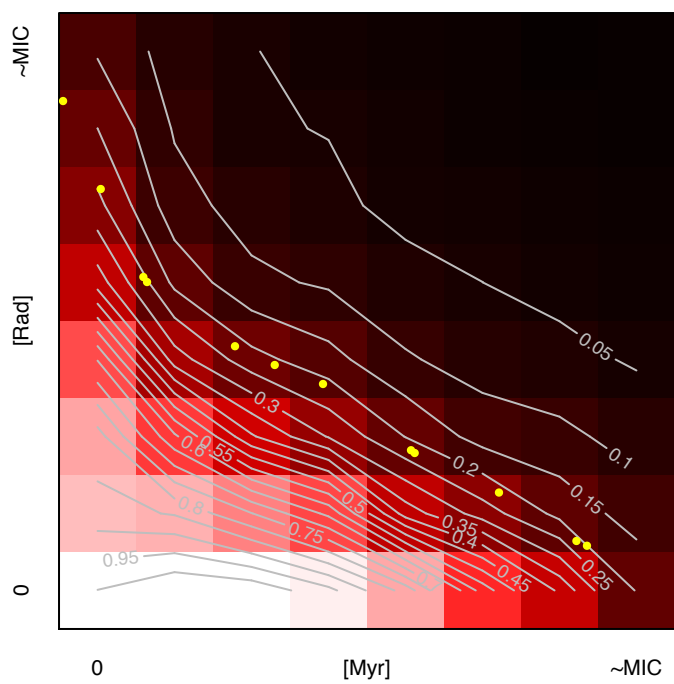
$\alpha = 1.276457$

clx



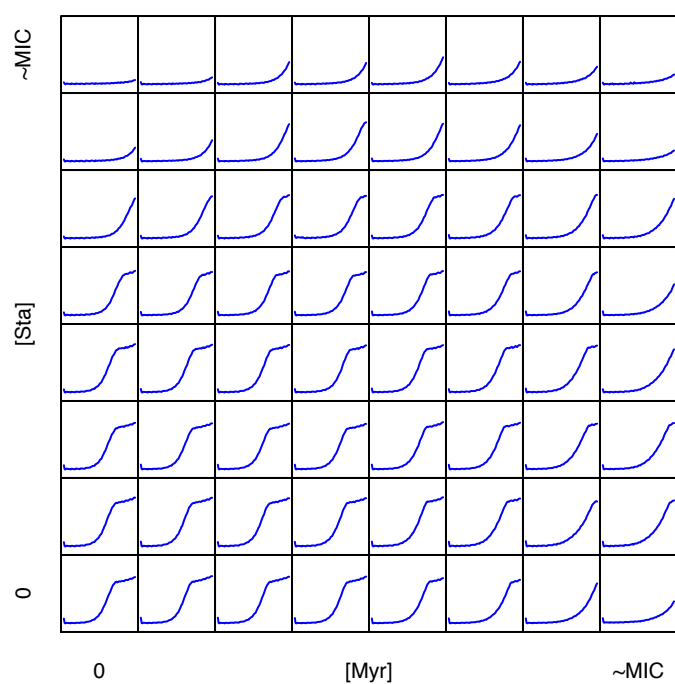
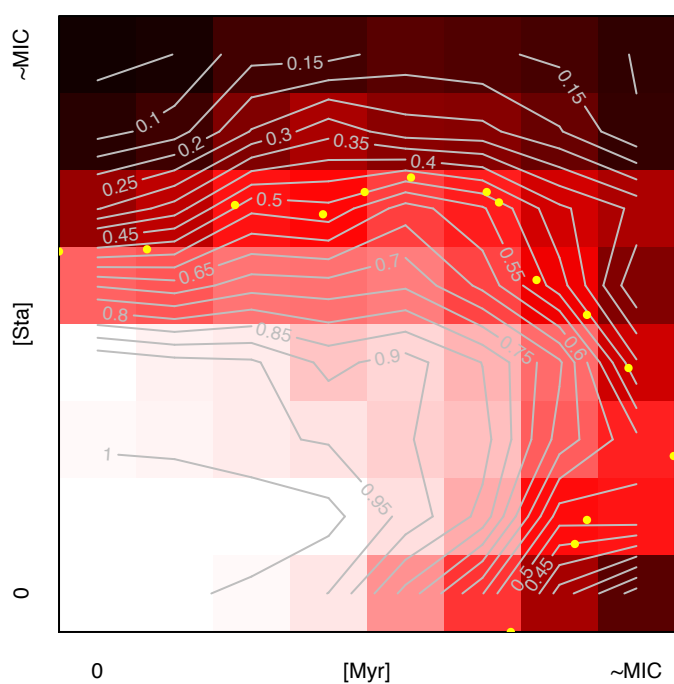
$\alpha = -0.5575599$

clxi



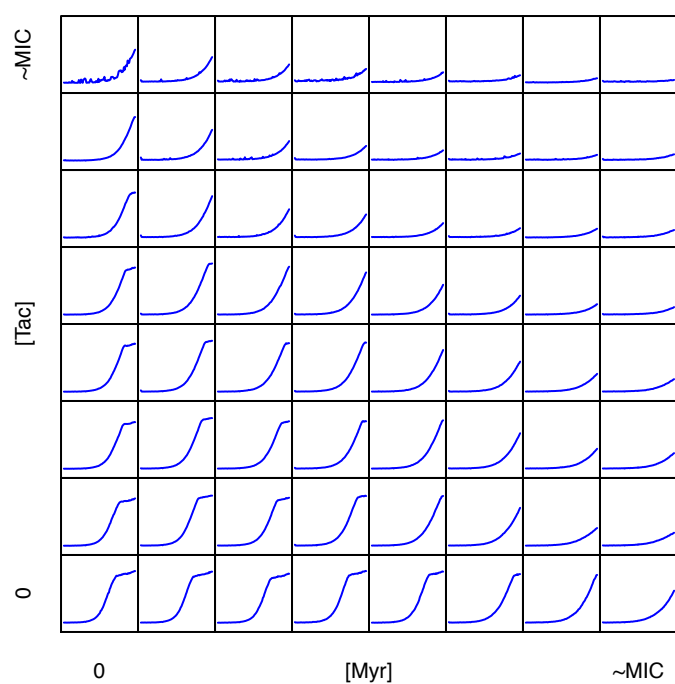
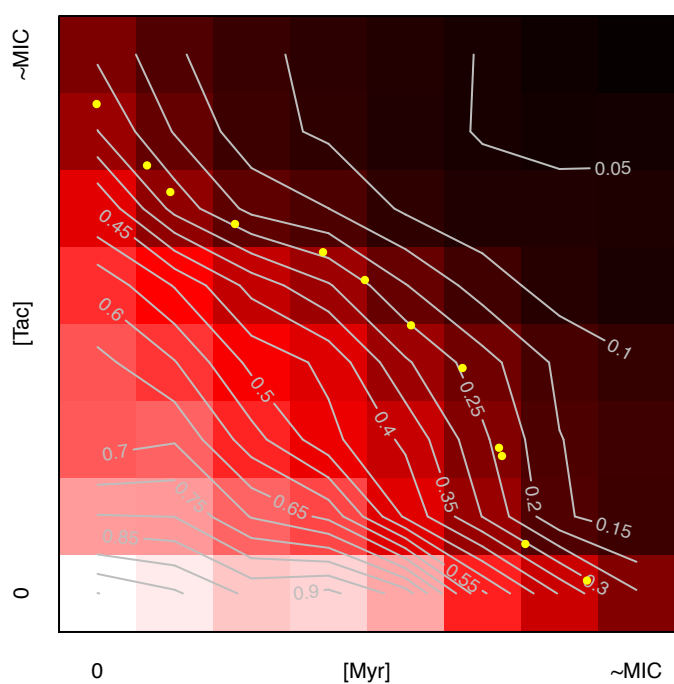
$\alpha = 2.480298$

clxii



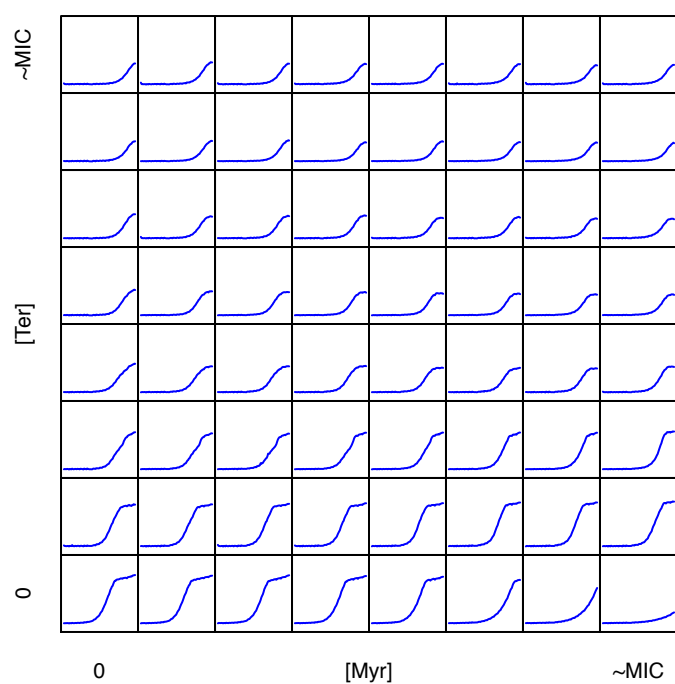
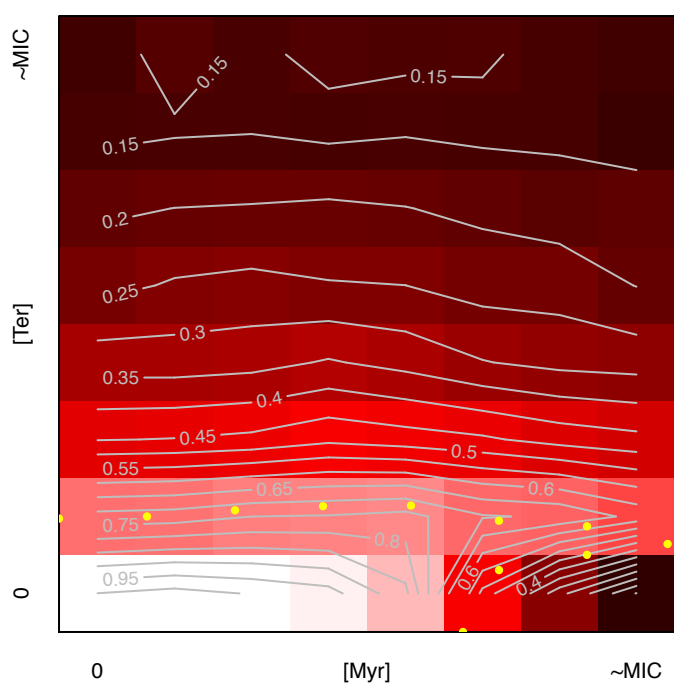
$\alpha = -0.03383627$

clxiii



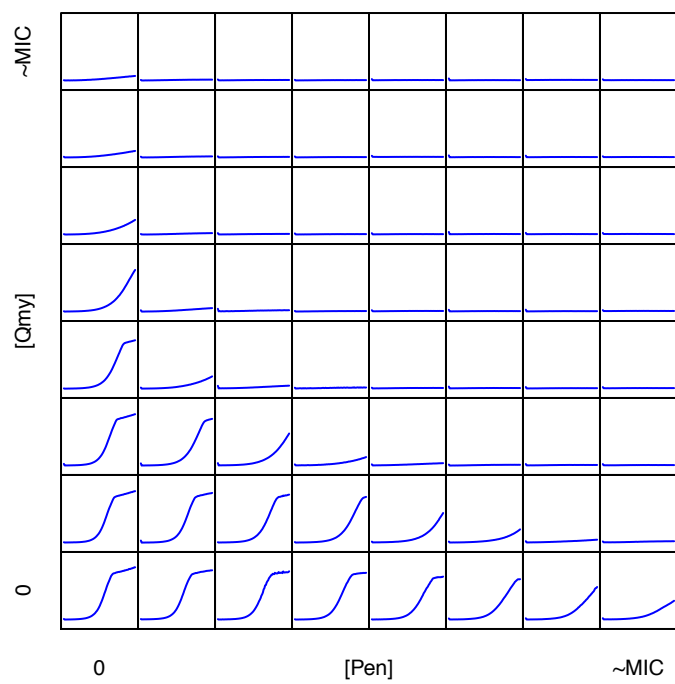
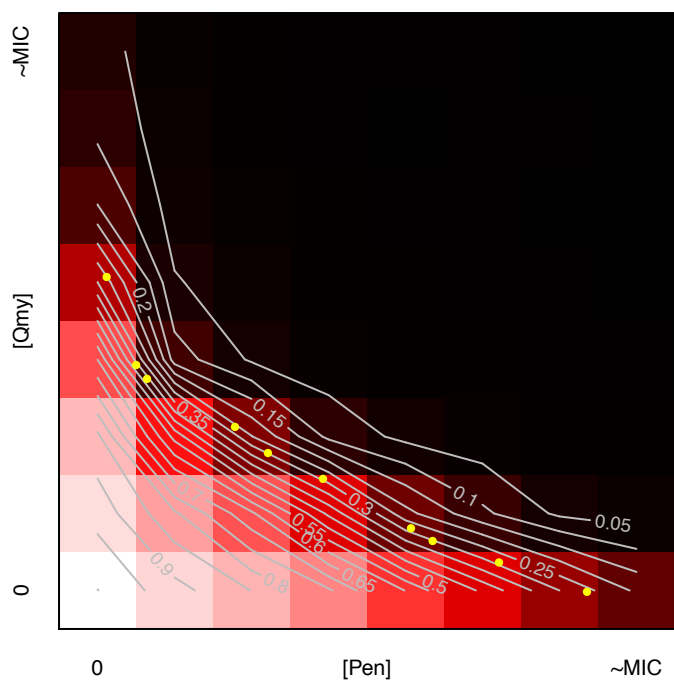
$\alpha = 2.348202$

clxiv



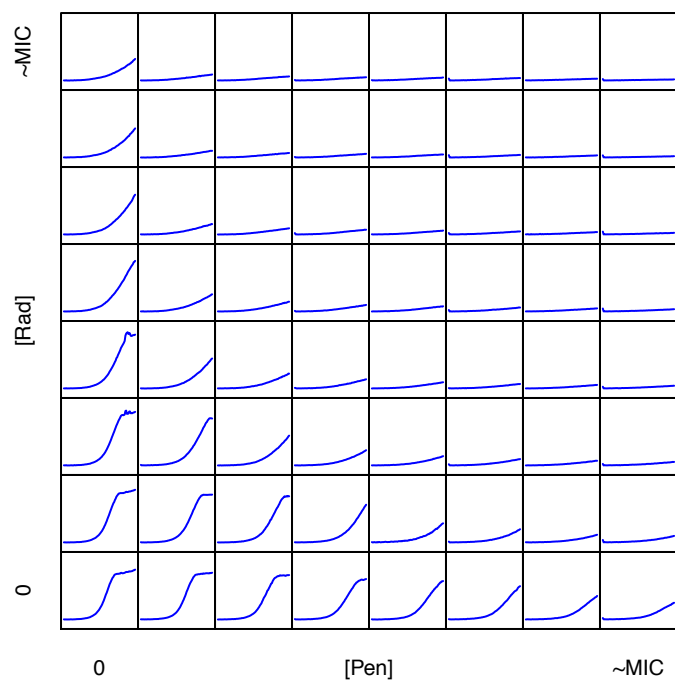
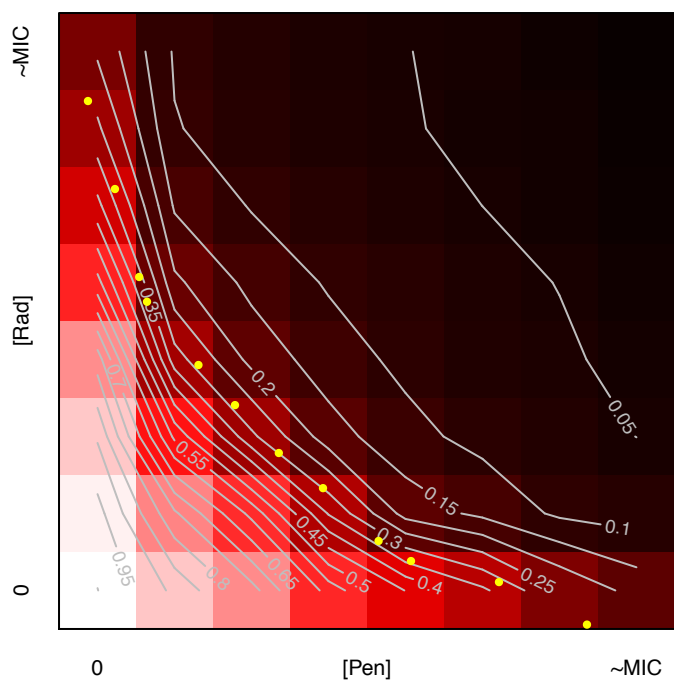
$\alpha = -0.897911$

clxv



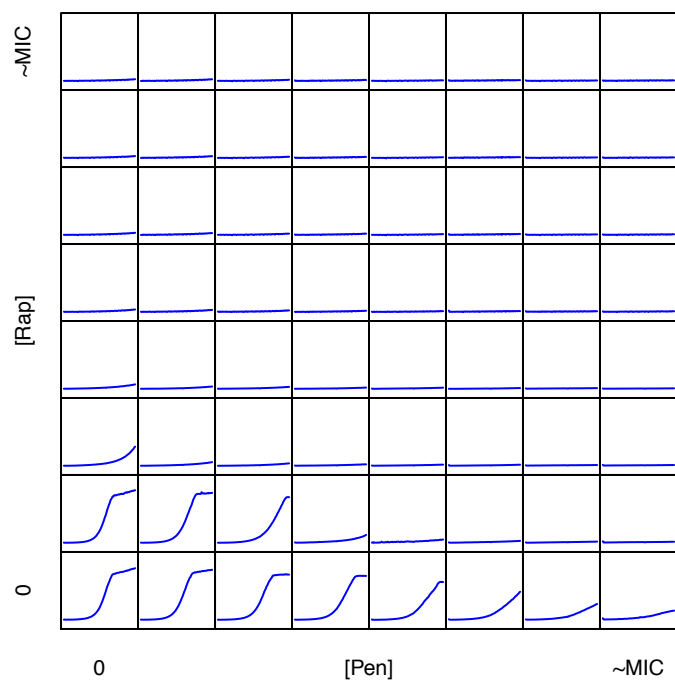
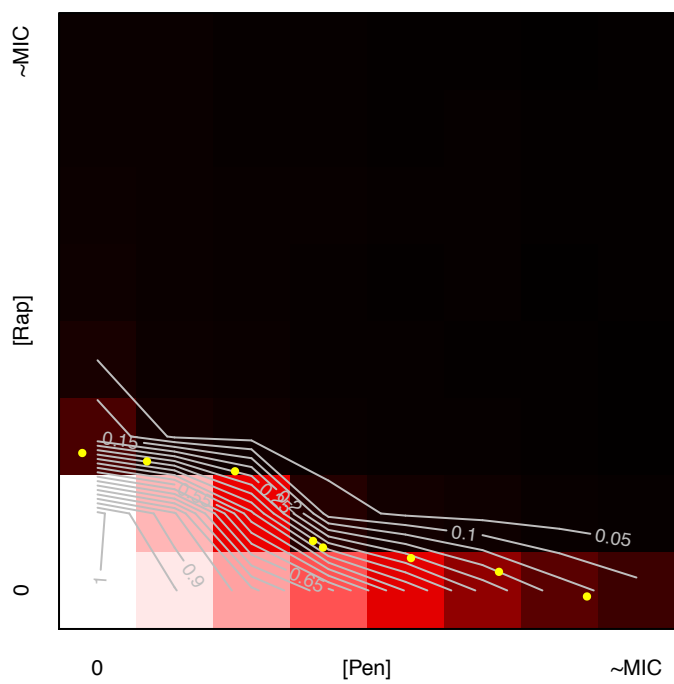
$\alpha = -1.286947$

clxvi



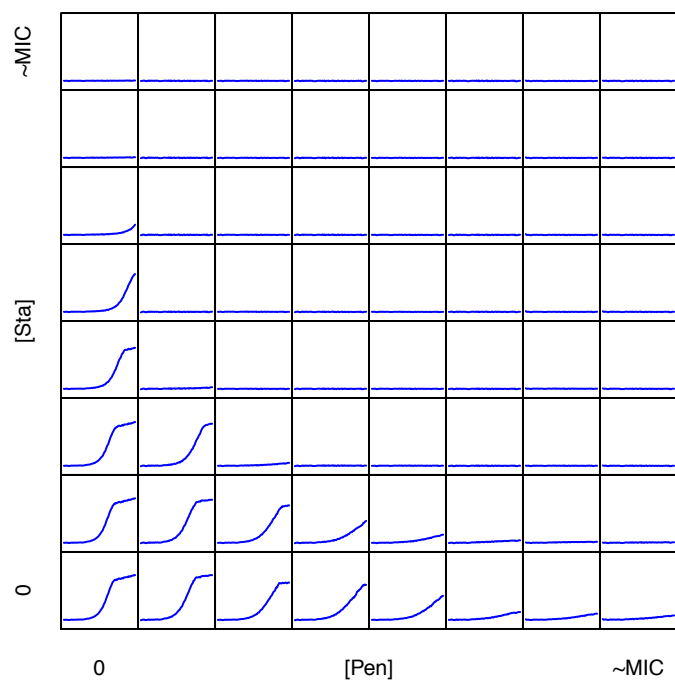
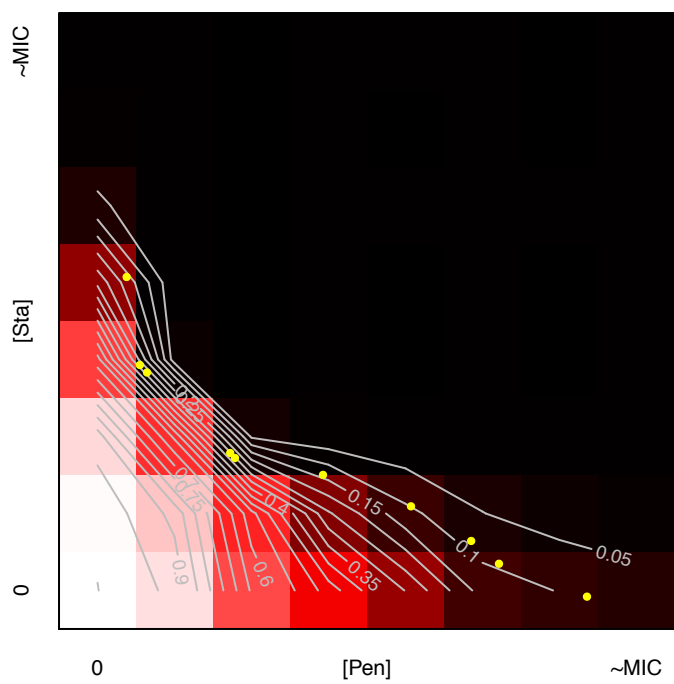
$\alpha = -0.2656607$

clxvii



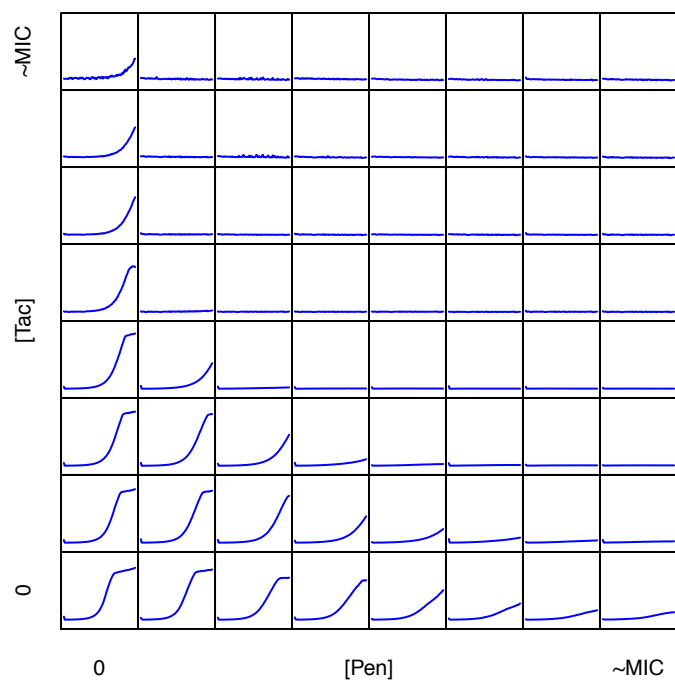
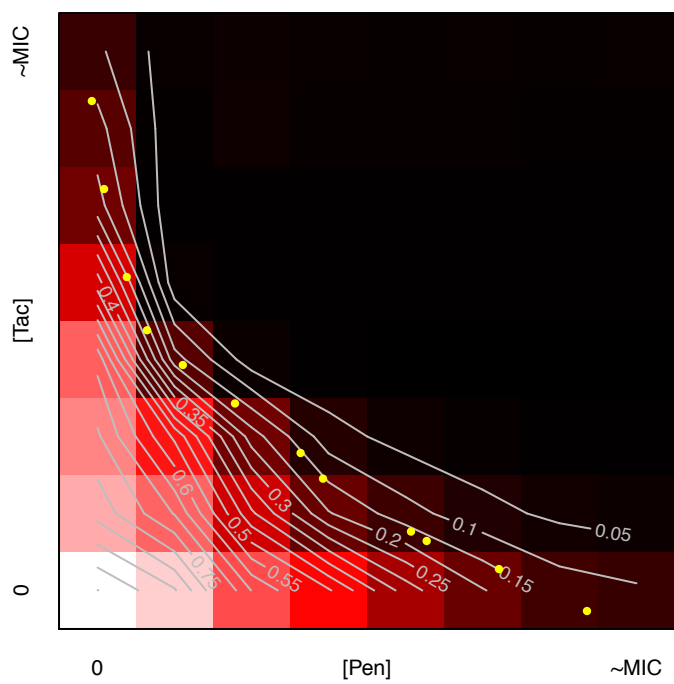
$\alpha = -0.8713384$

clxviii



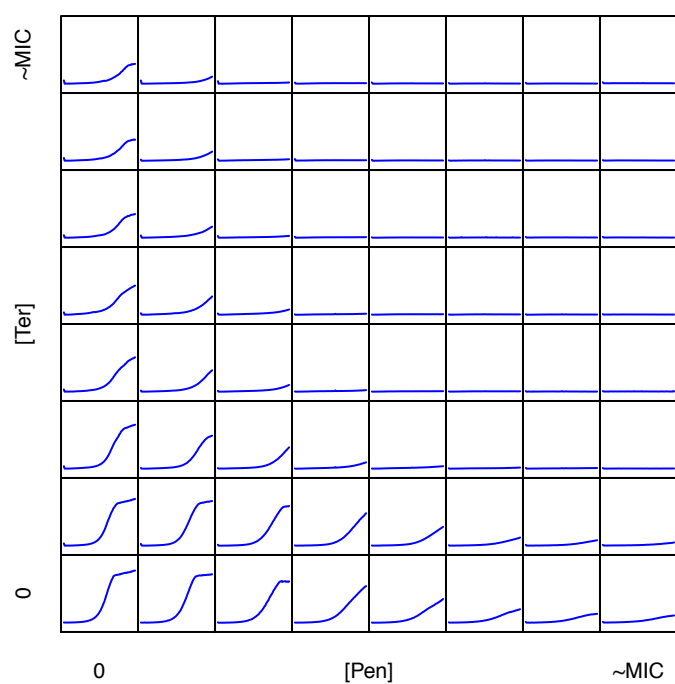
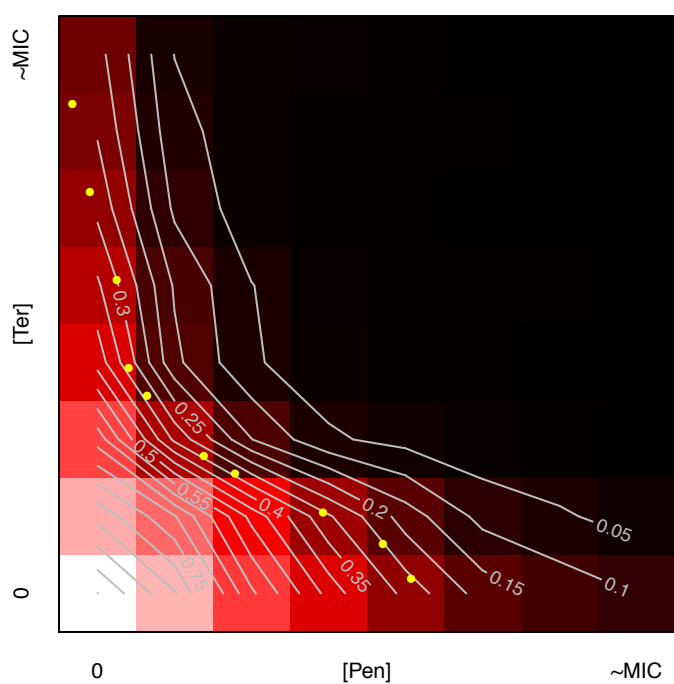
$\alpha = -1.423424$

clxix



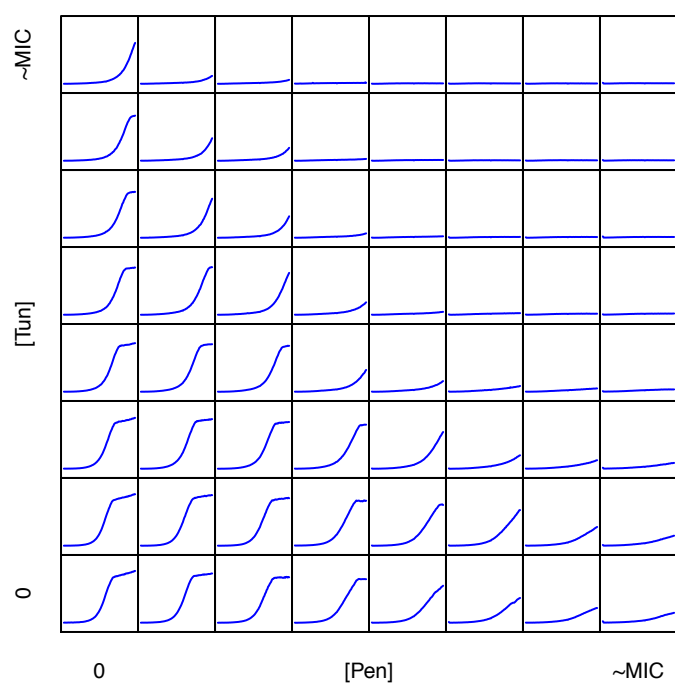
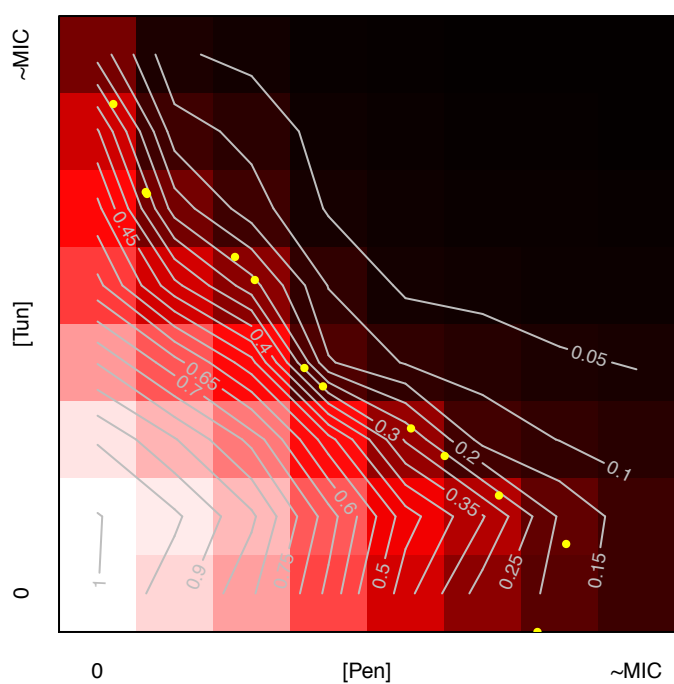
$\alpha = -1.516180$

clxx



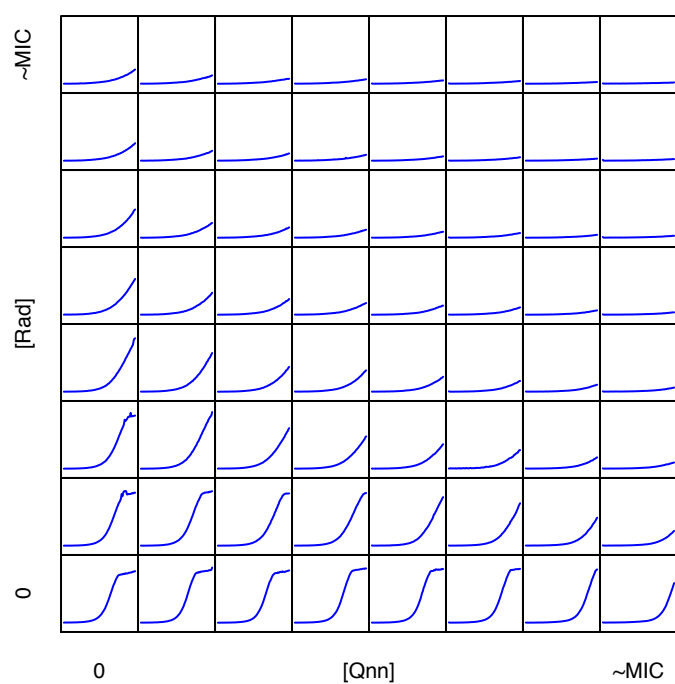
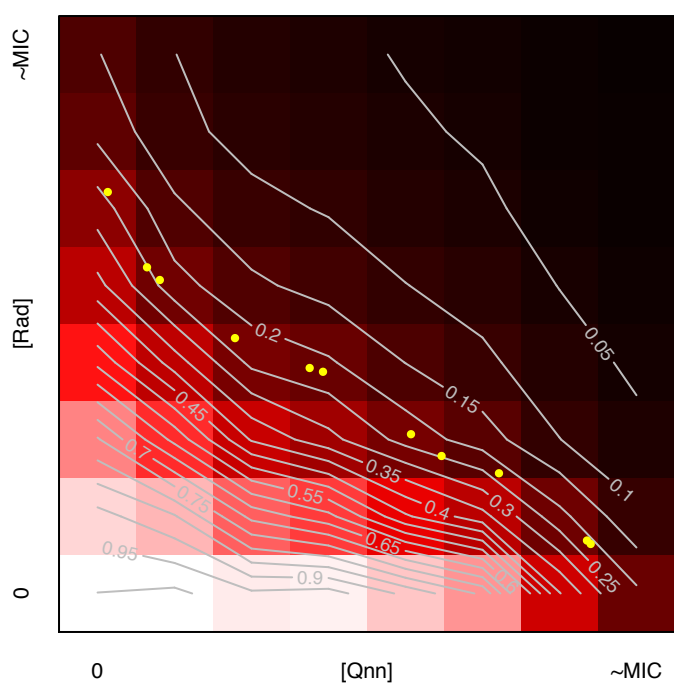
$\alpha = -0.2614573$

clxxi



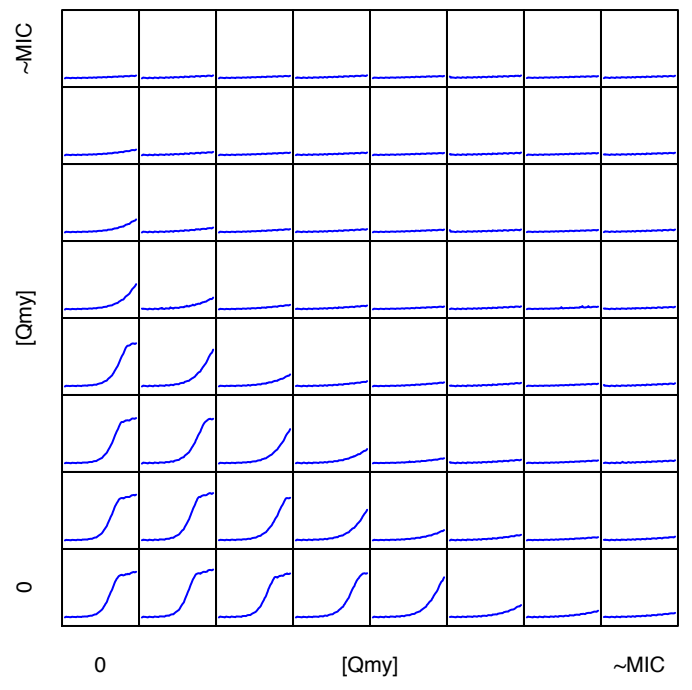
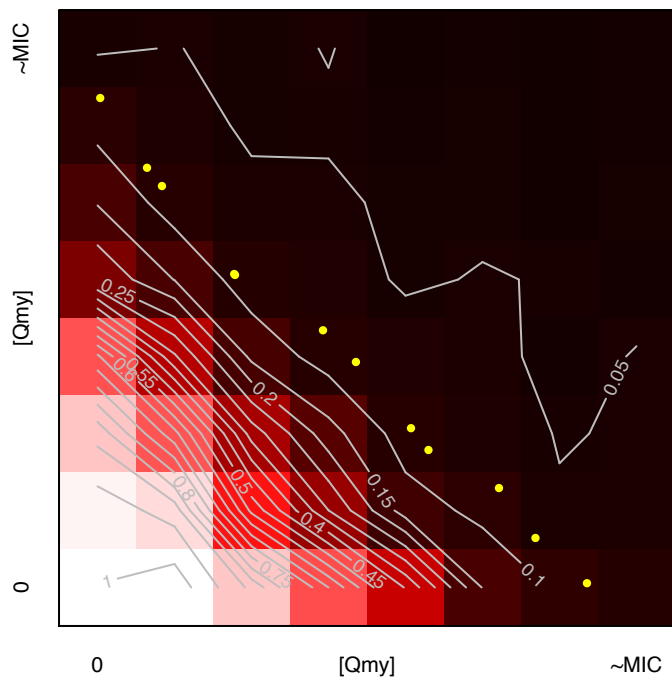
$\alpha = -0.2214206$

clxxii

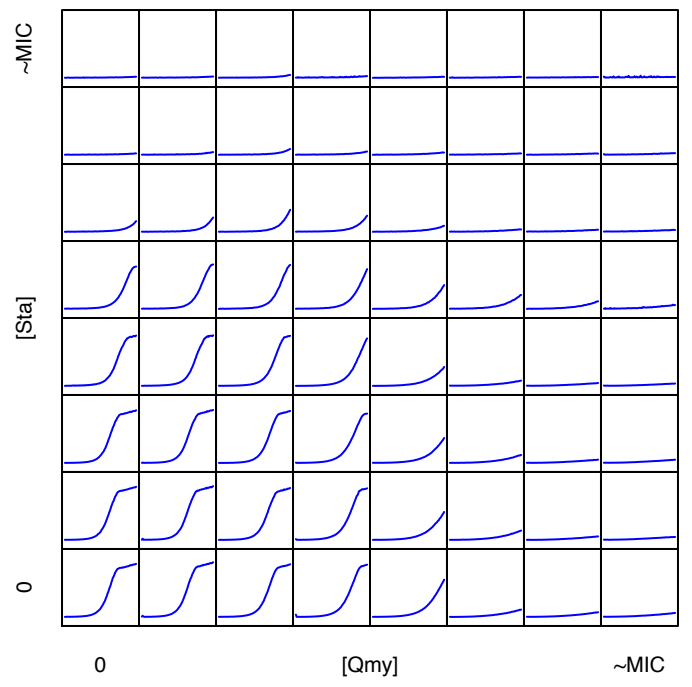
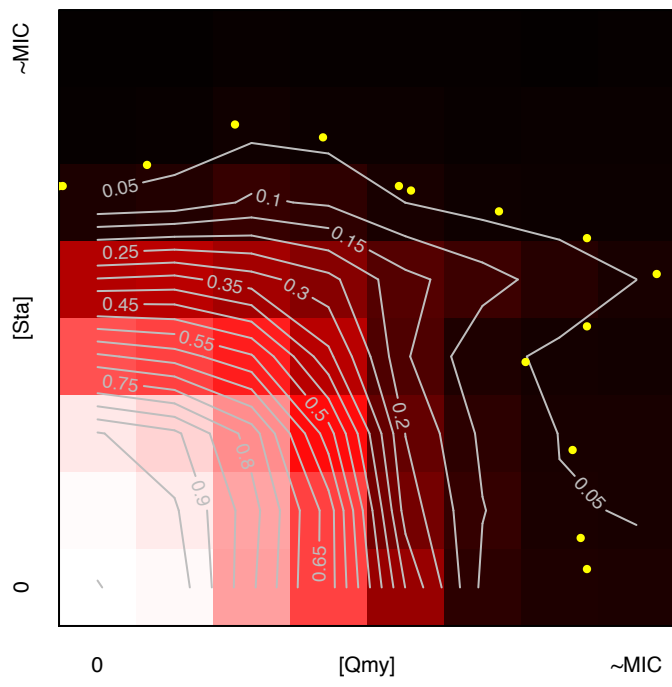


$\alpha = -0.3110584$

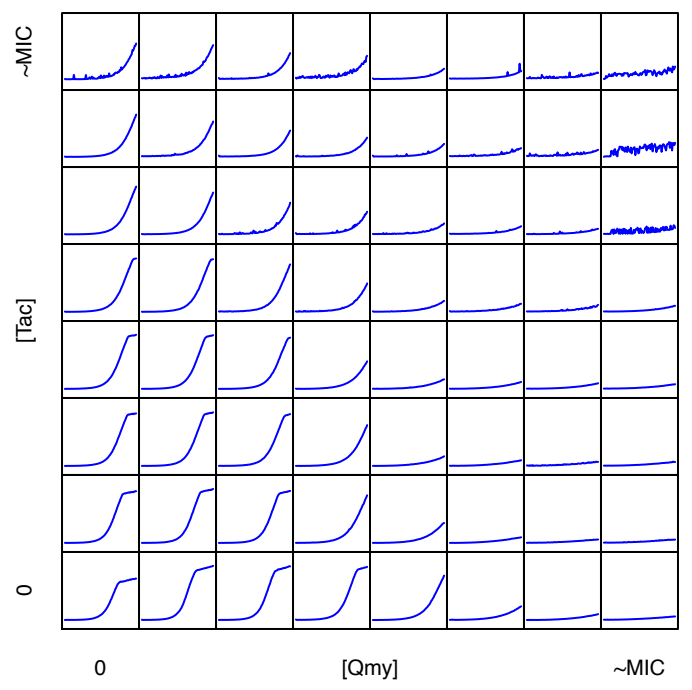
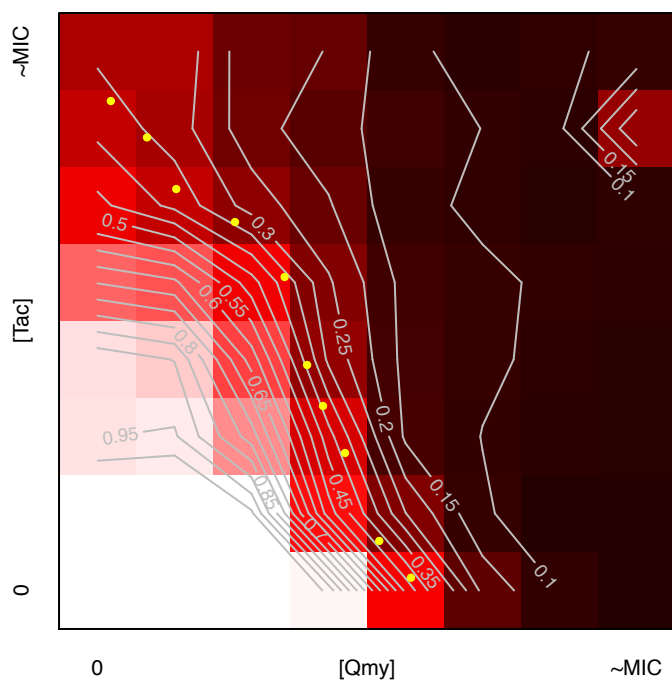
clxxiii

 $\alpha = 2.147222$

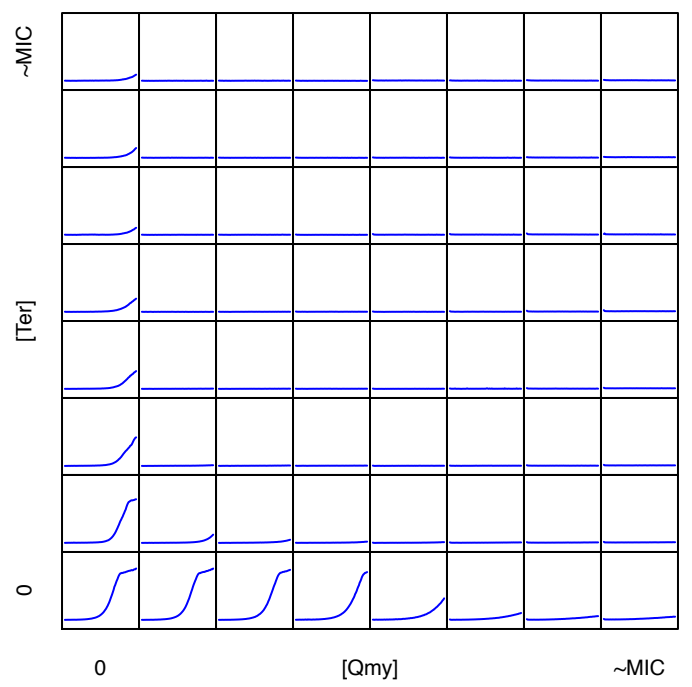
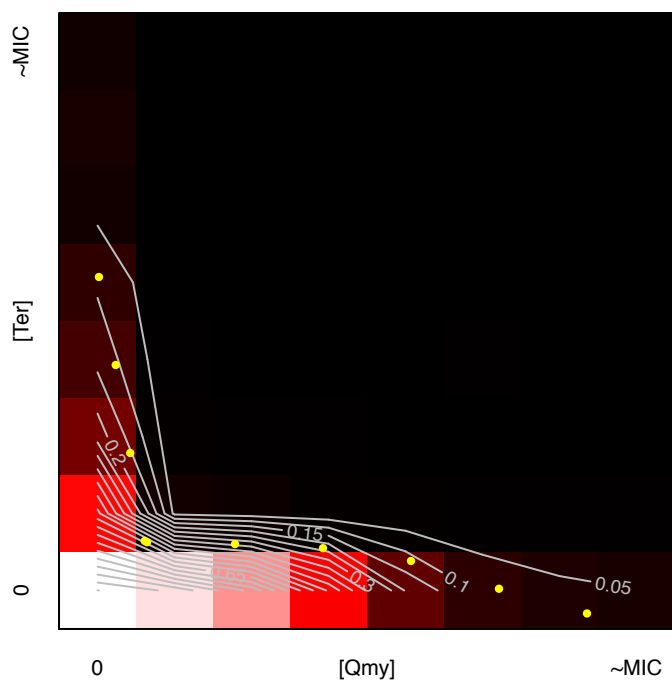
clxxiv

 $\alpha = 0.1918958$

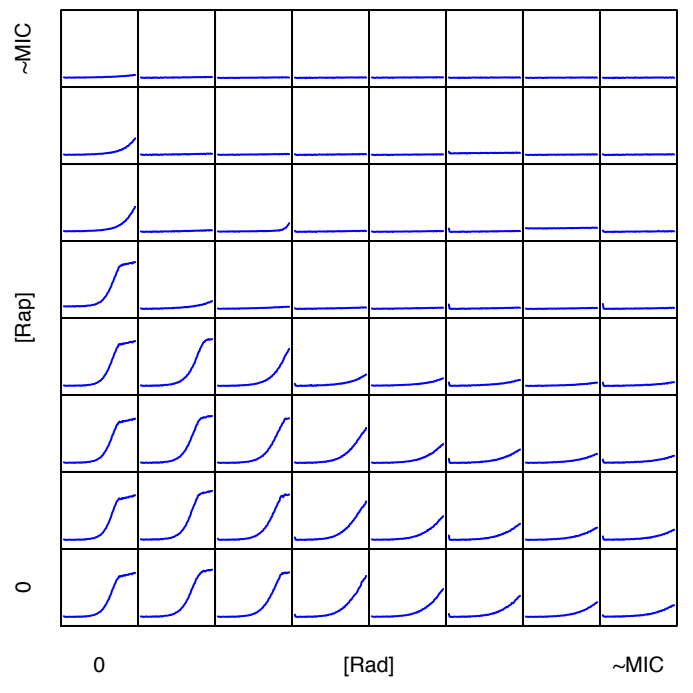
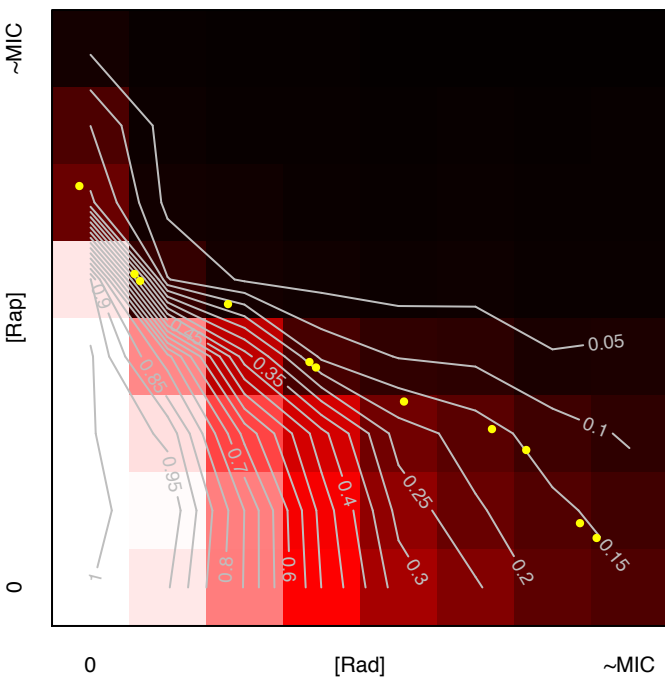
clxxv

 $\alpha = -1.739079$

clxxvi

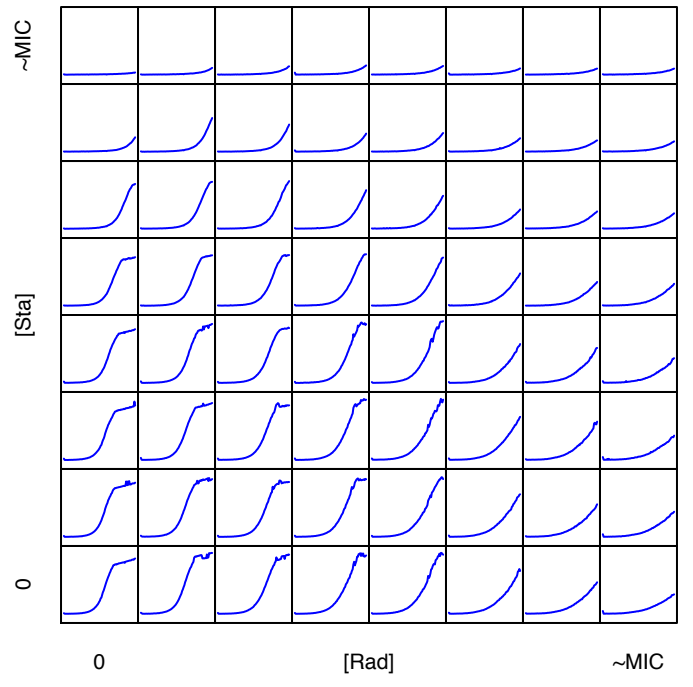
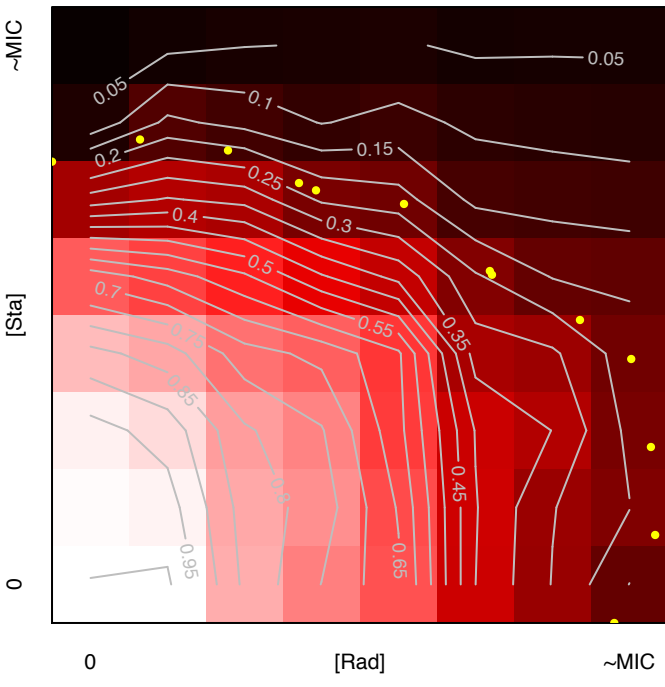


$\alpha = -0.3095396$



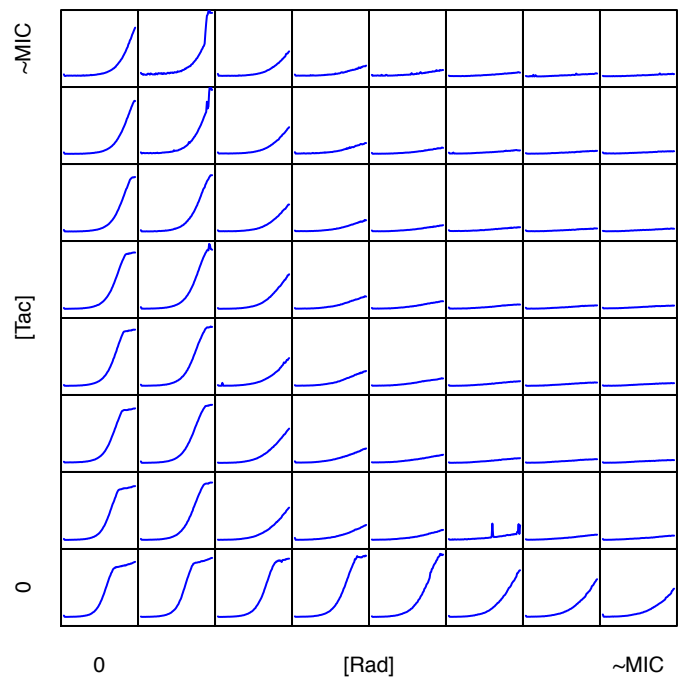
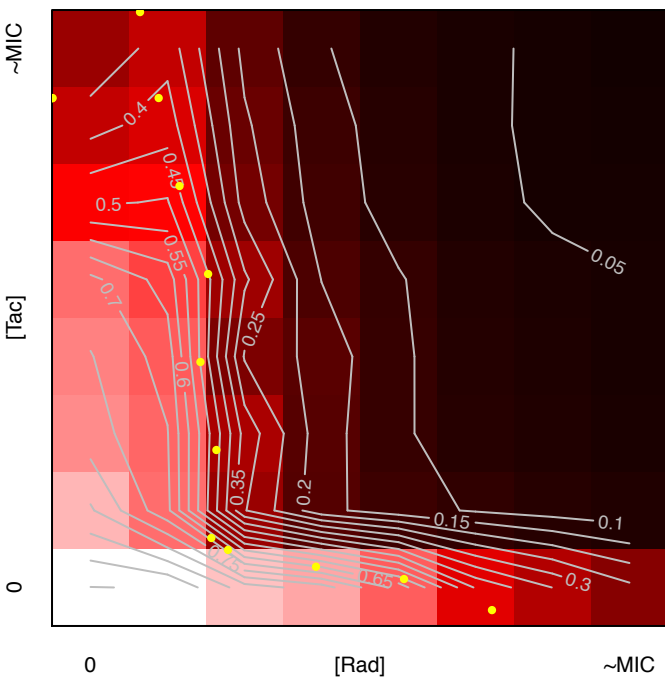
clxxvii

$\alpha = 2.20863$



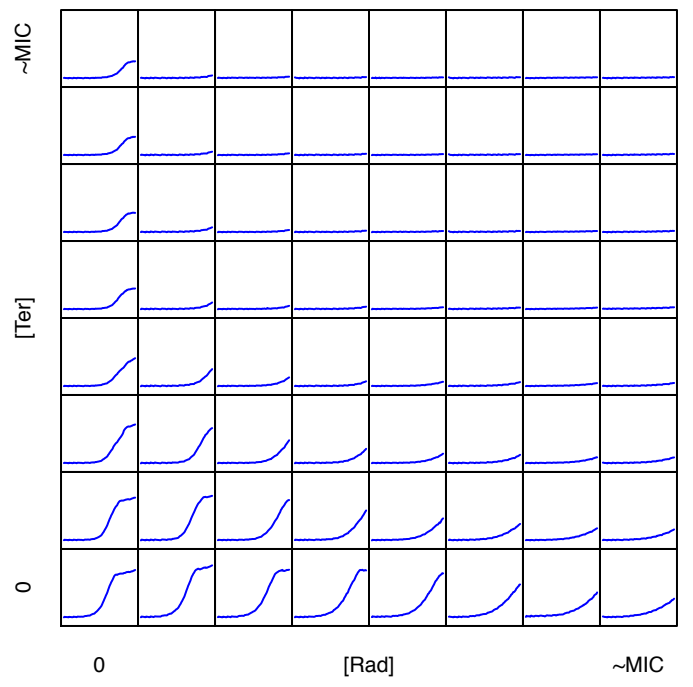
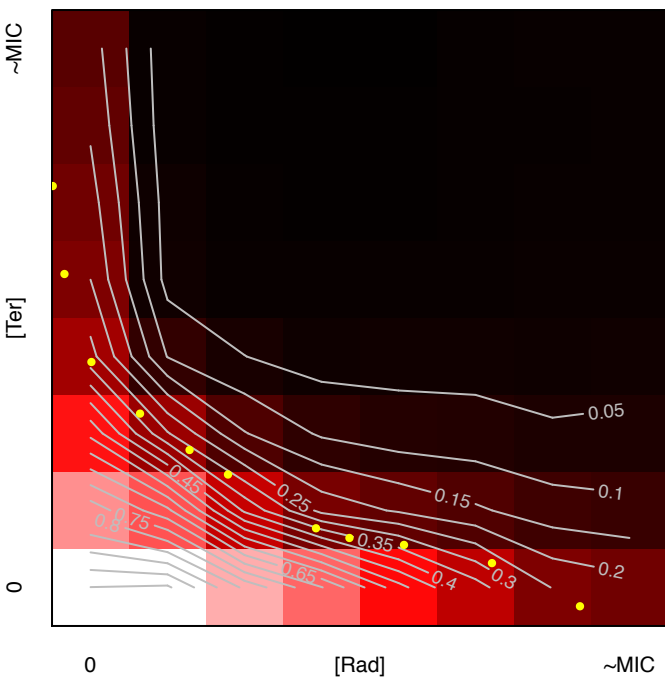
clxxviii

$\alpha = -1.613384$



clxxix

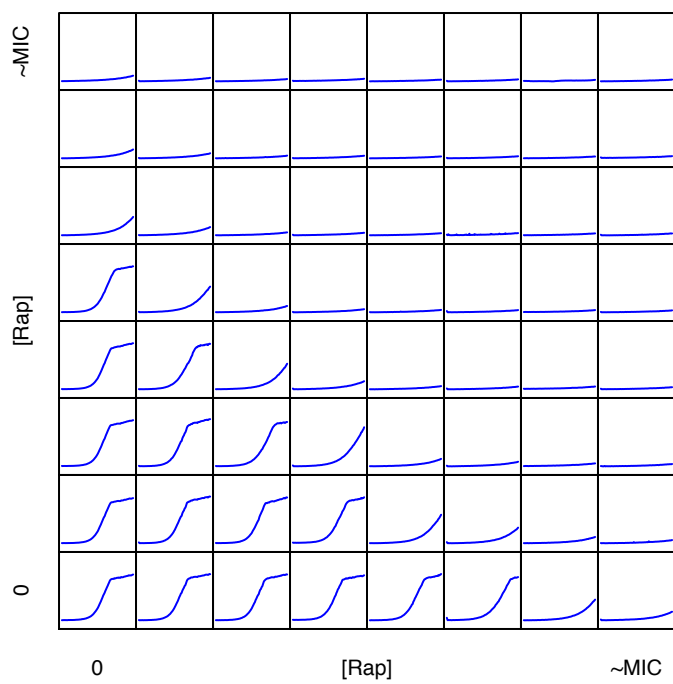
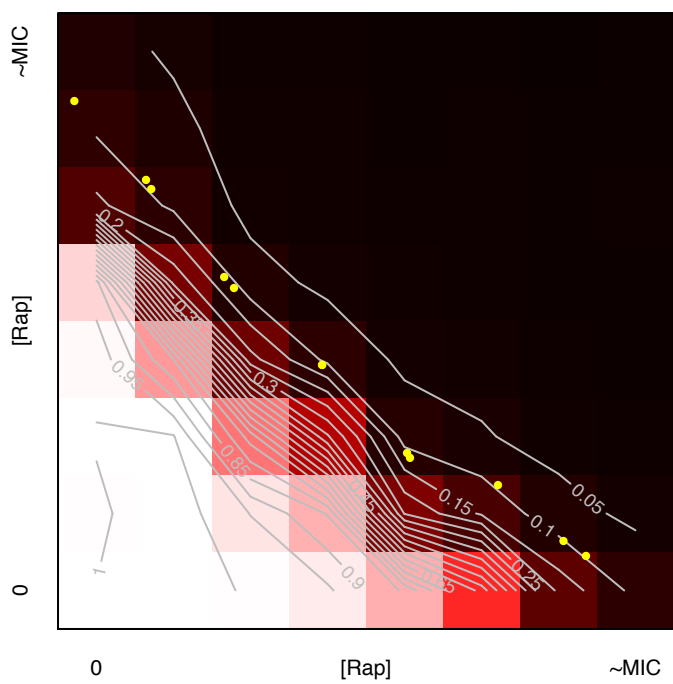
$\alpha = -1.581874$



clxxx

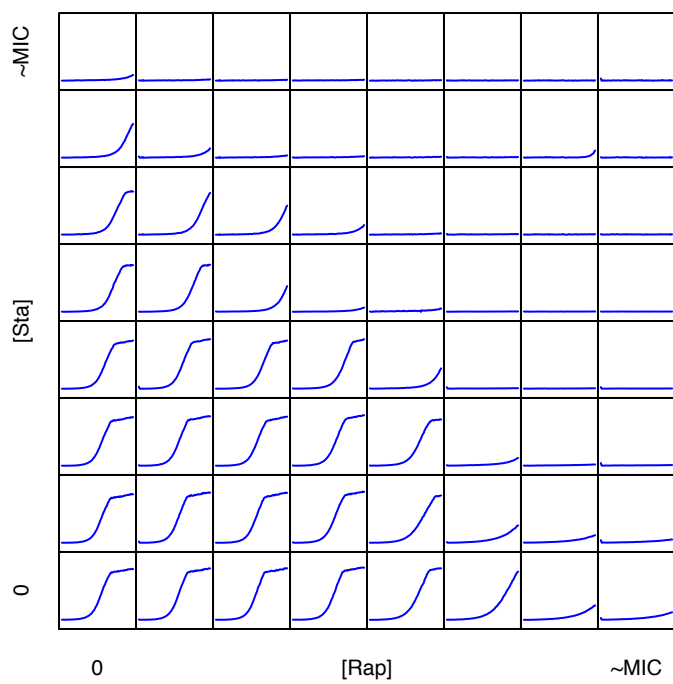
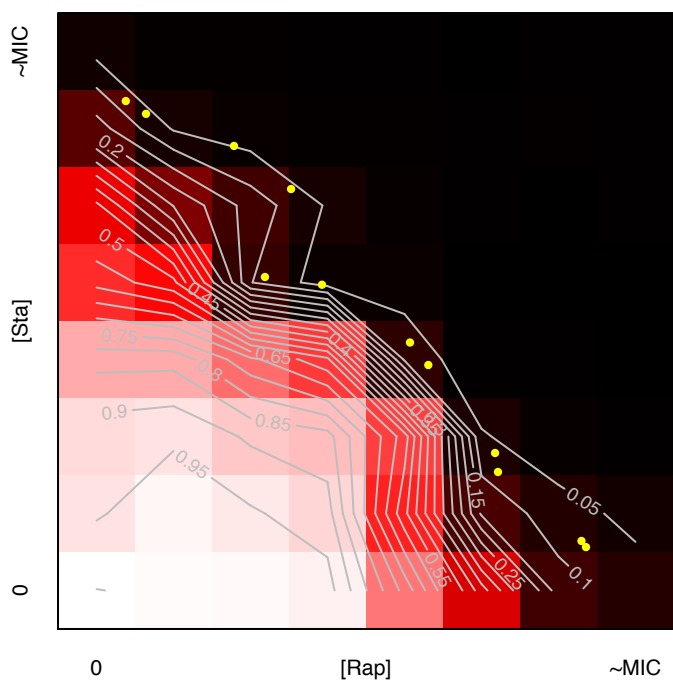
$\alpha = -0.3348748$

clxxxxi



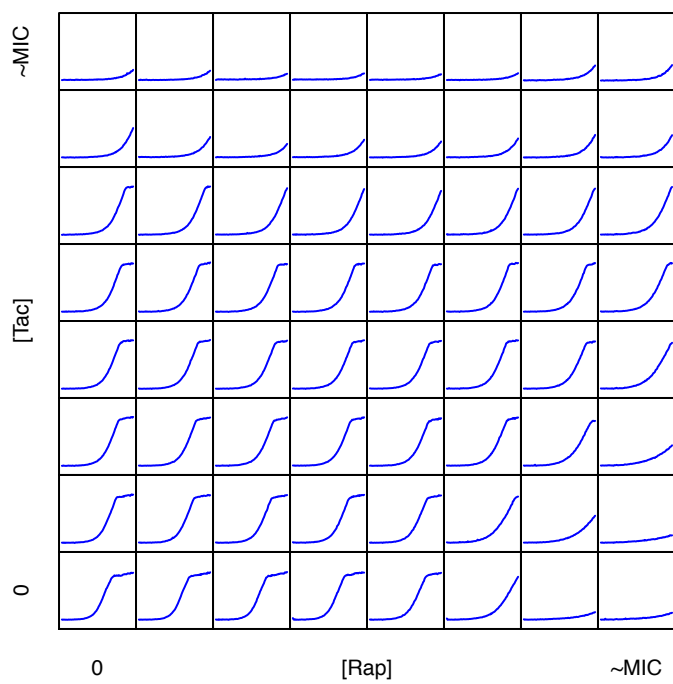
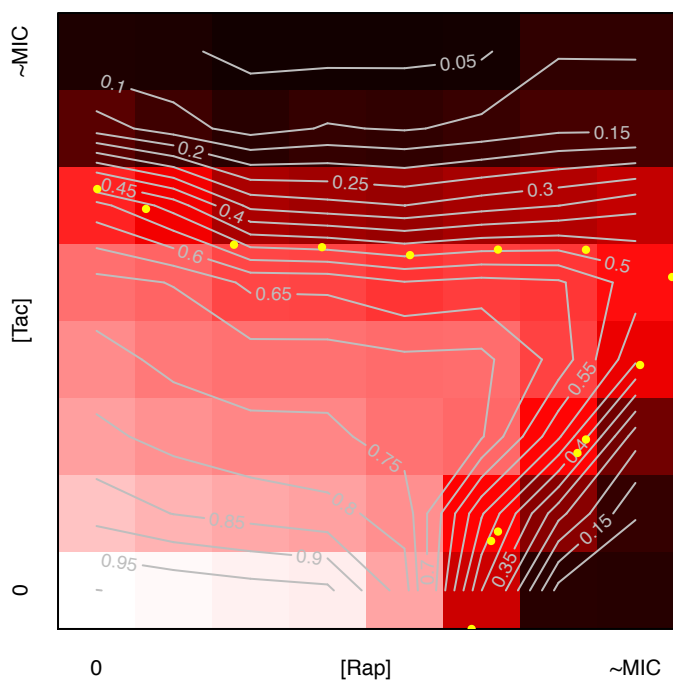
$\alpha = 0.035708$

clxxxii



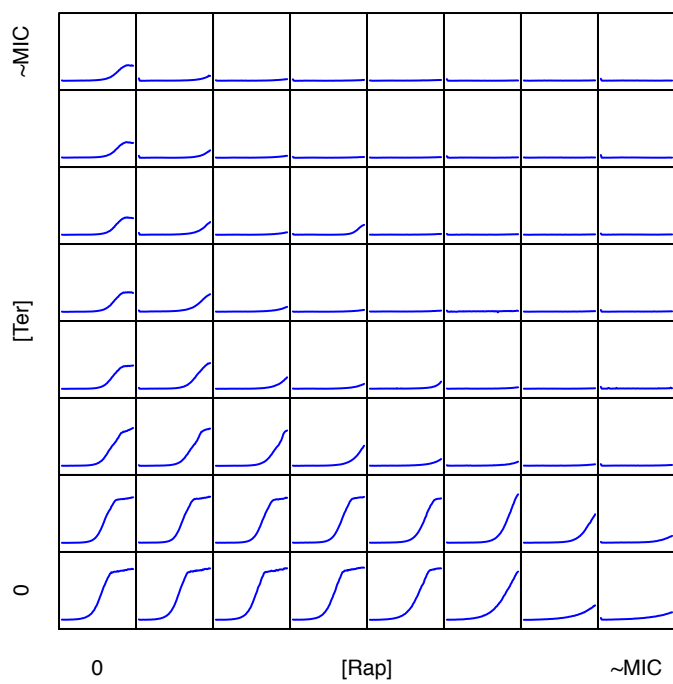
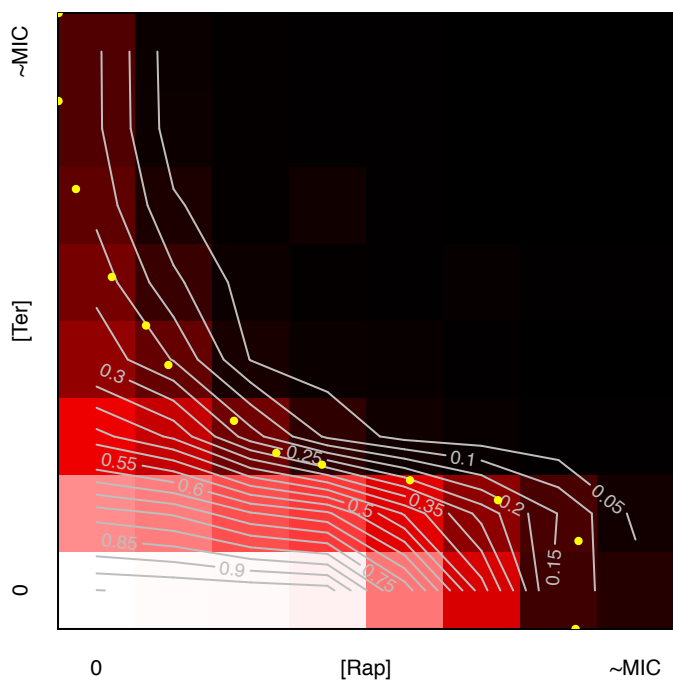
$\alpha = 1.35882$

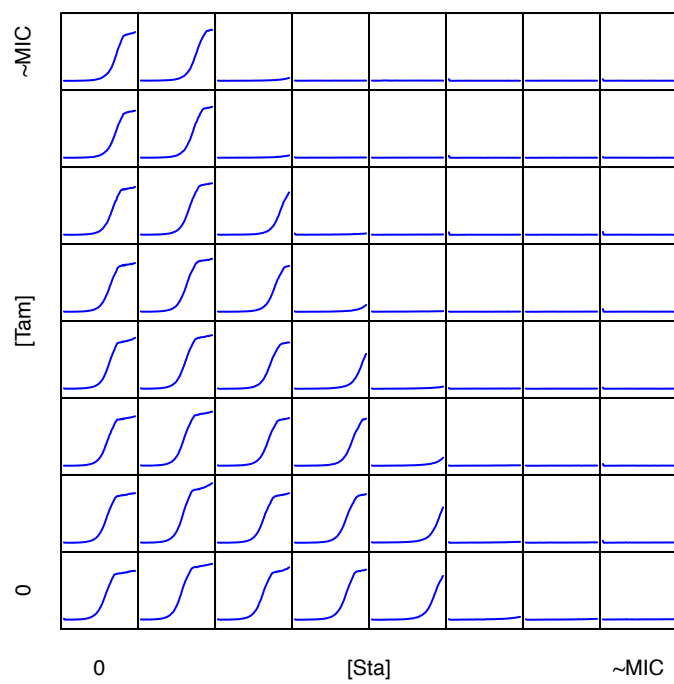
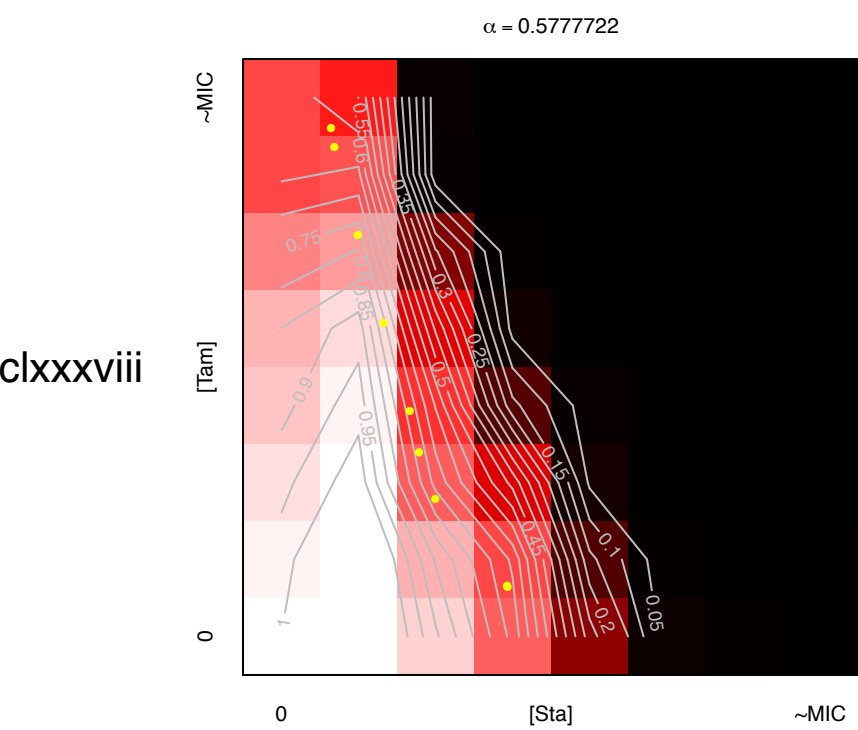
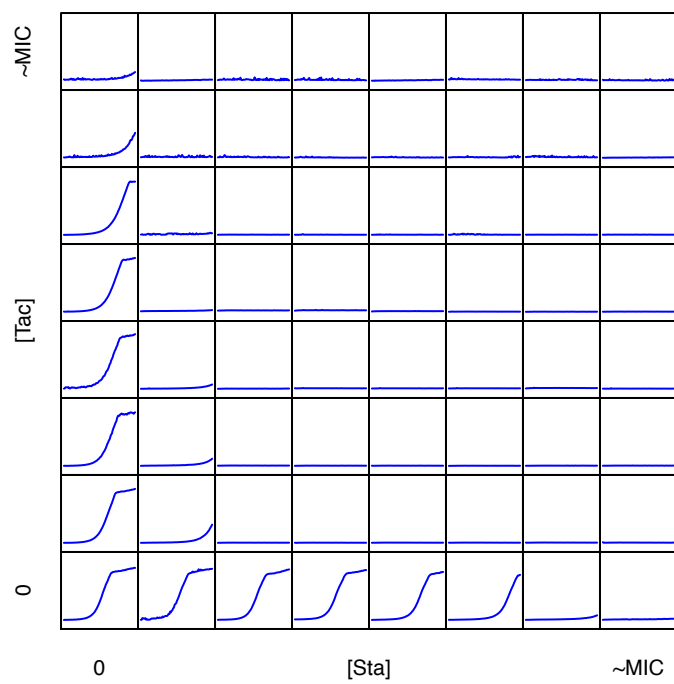
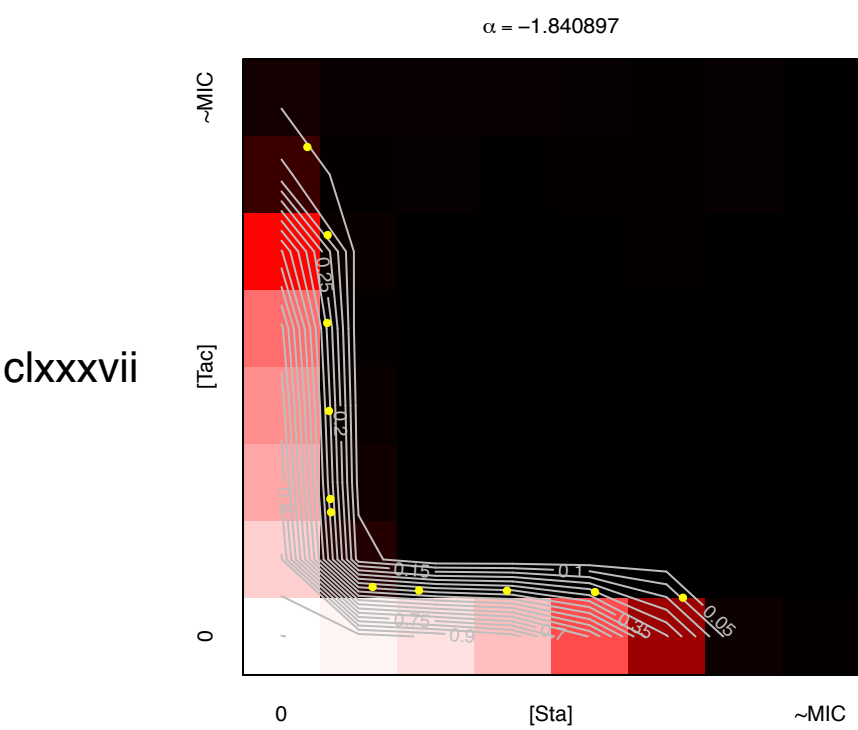
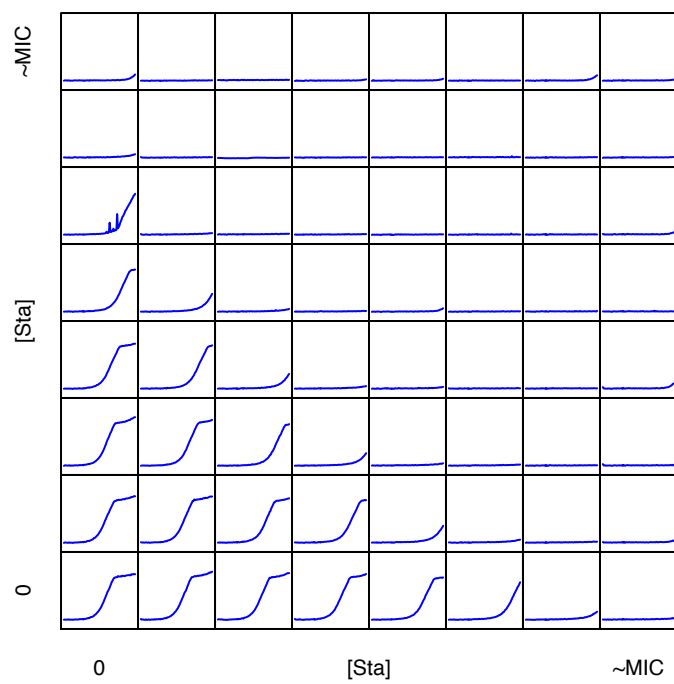
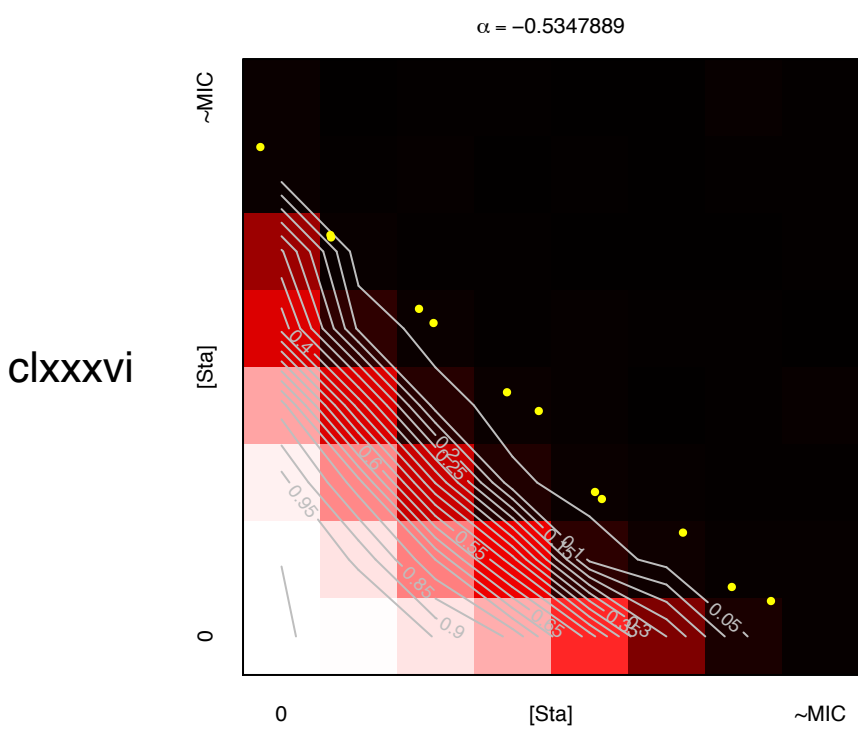
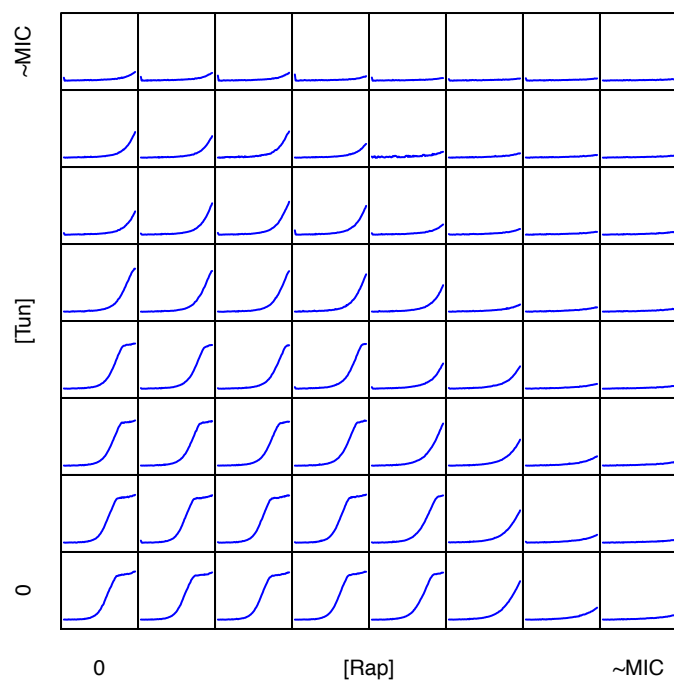
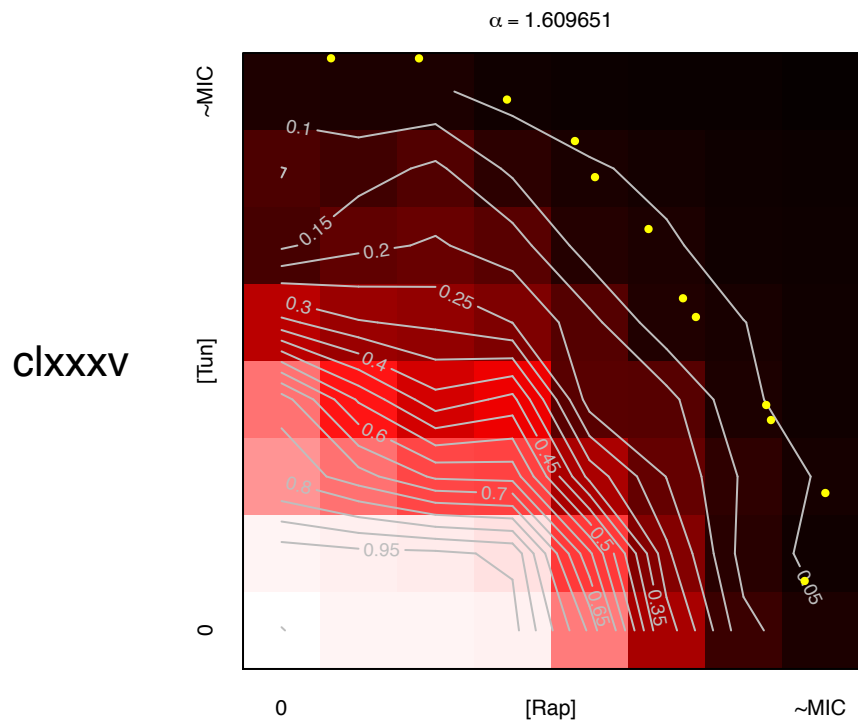
clxxxiii



$\alpha = -1.346862$

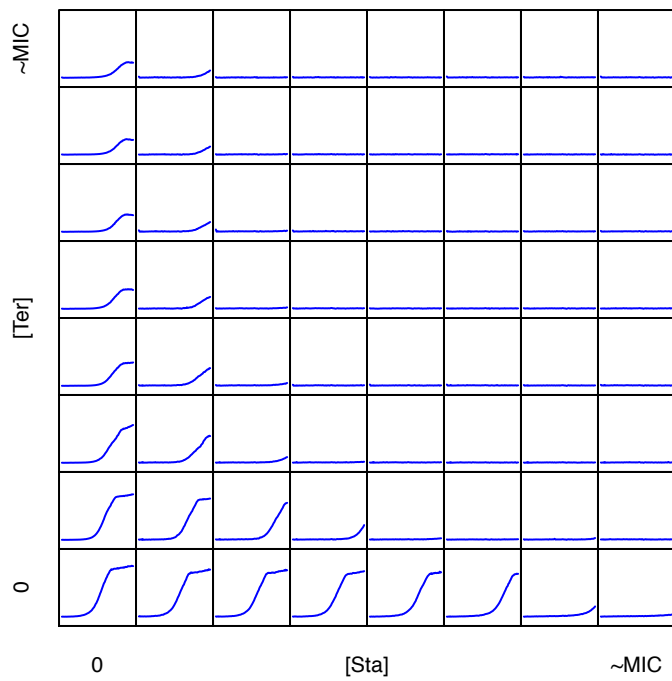
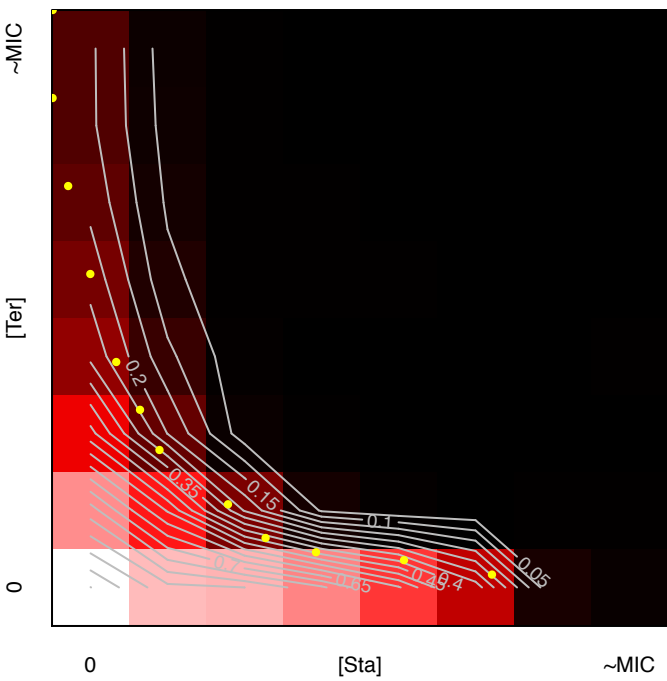
clxxxiv





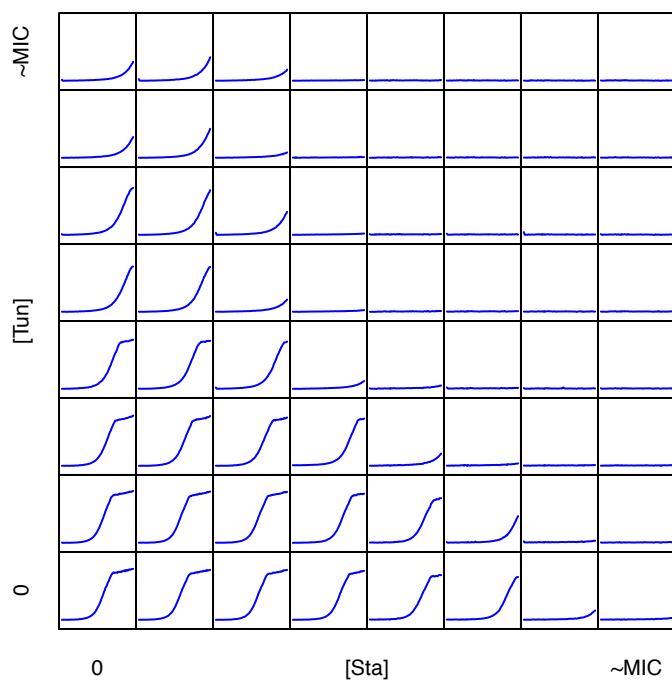
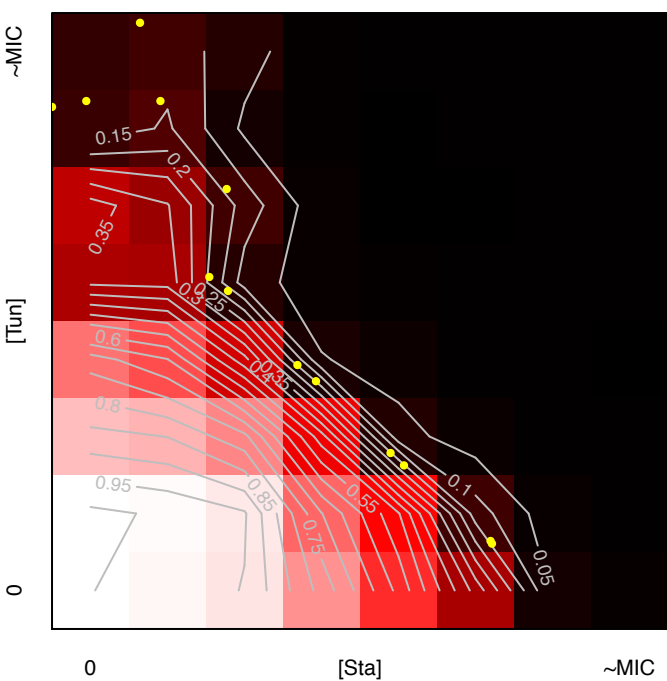
$\alpha = -2.121236$

clxxxix



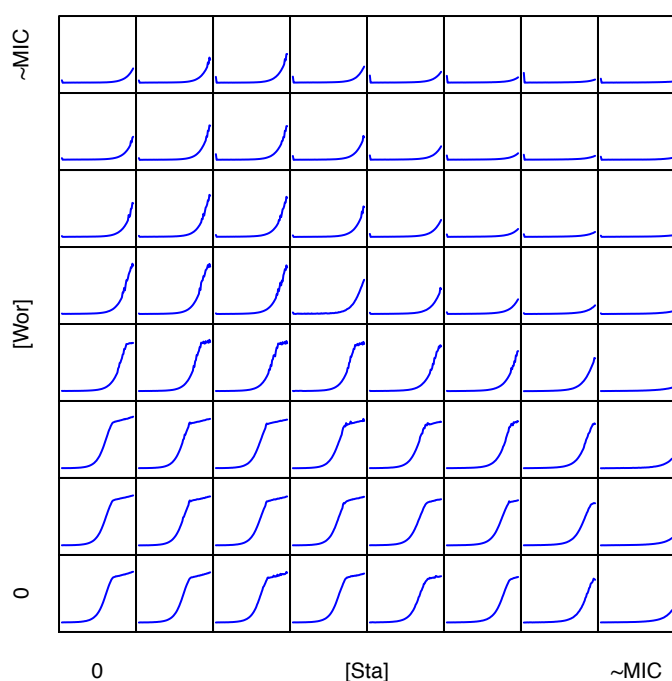
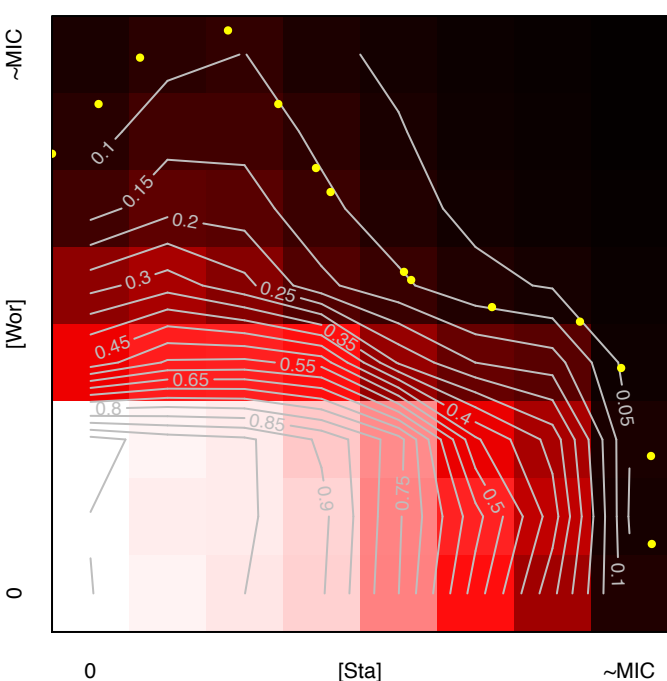
$\alpha = -0.1613496$

CXC



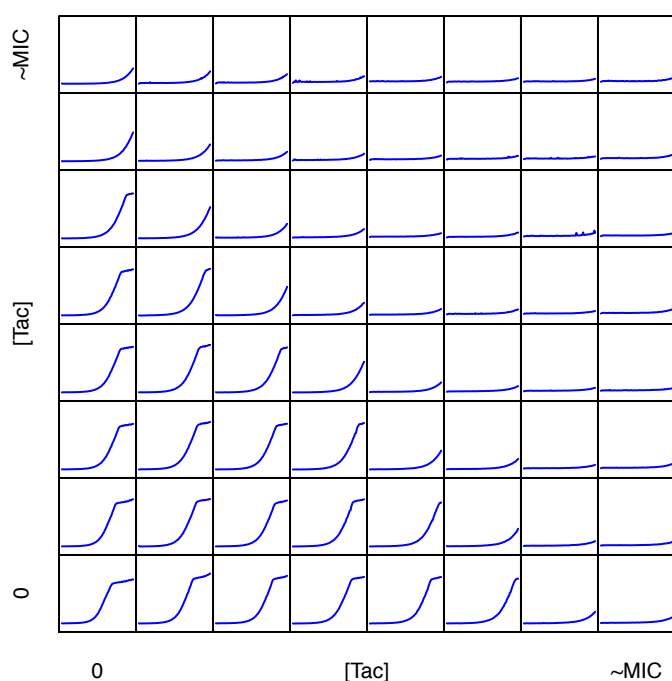
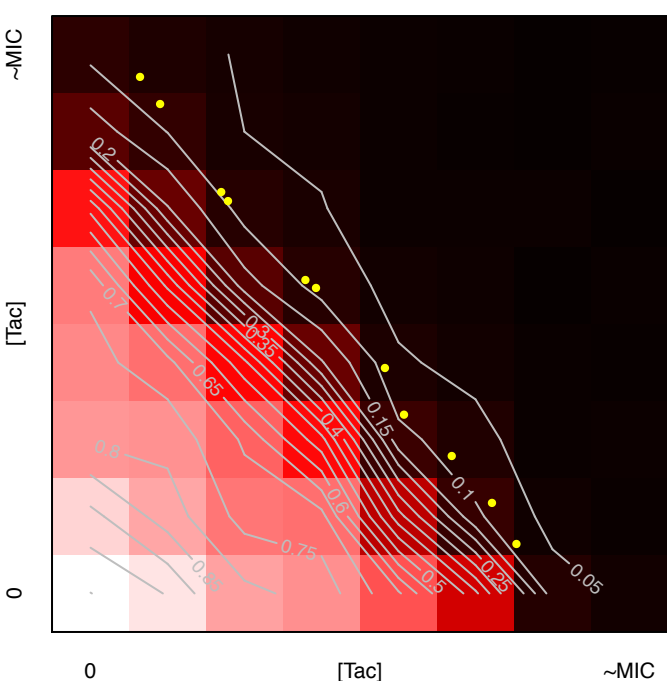
$\alpha = 1.221477$

CXCI



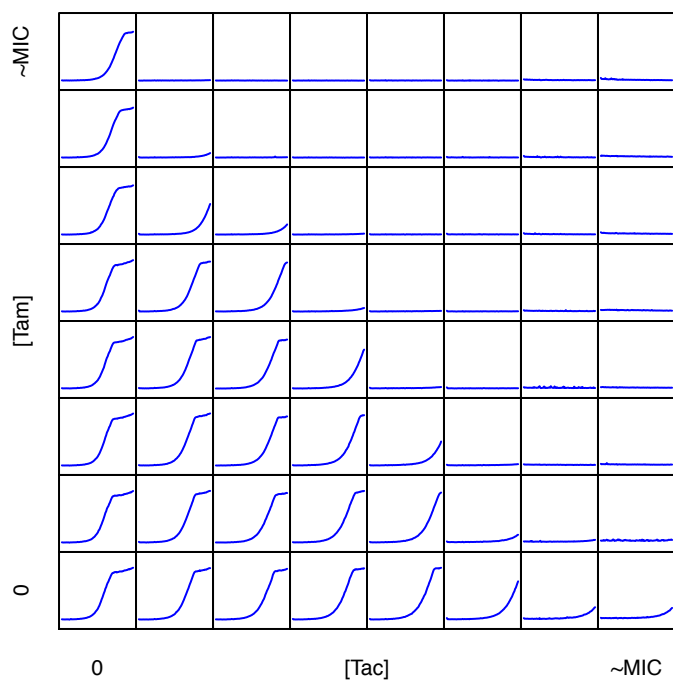
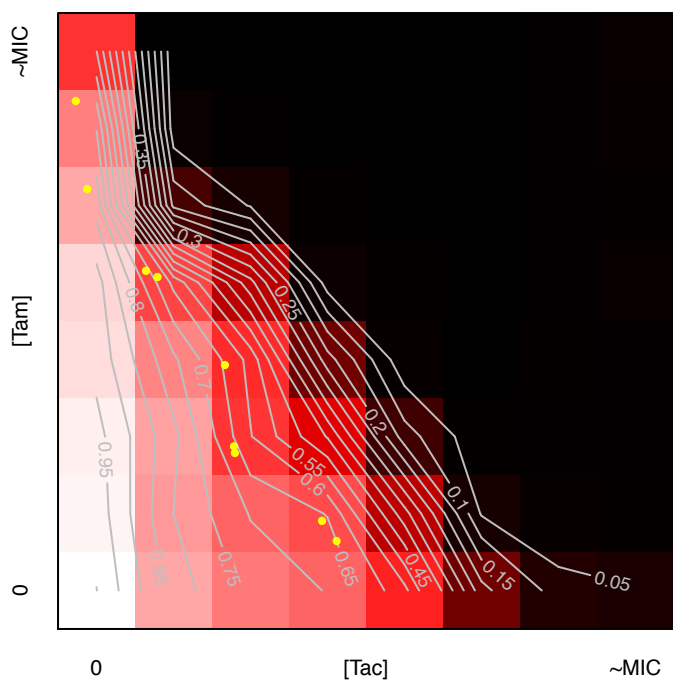
$\alpha = 0.2409603$

CXCII



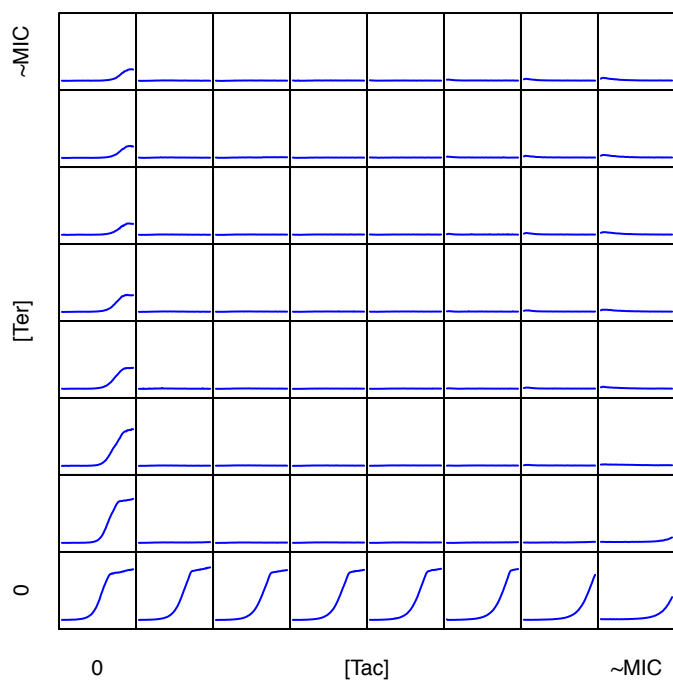
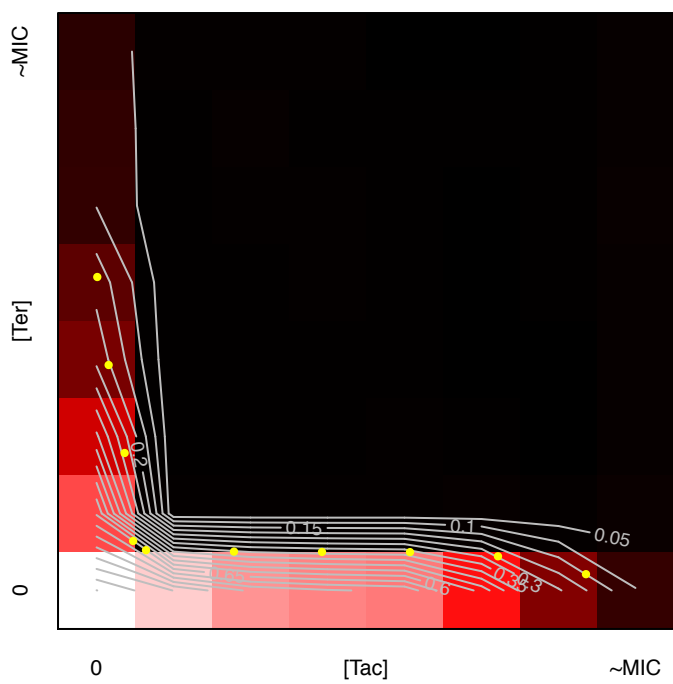
$\alpha = -0.6762134$

CXCiii



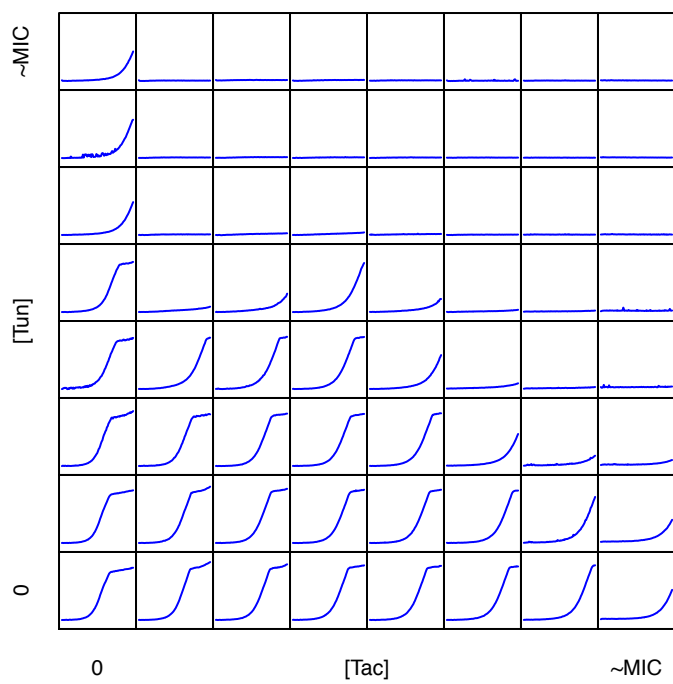
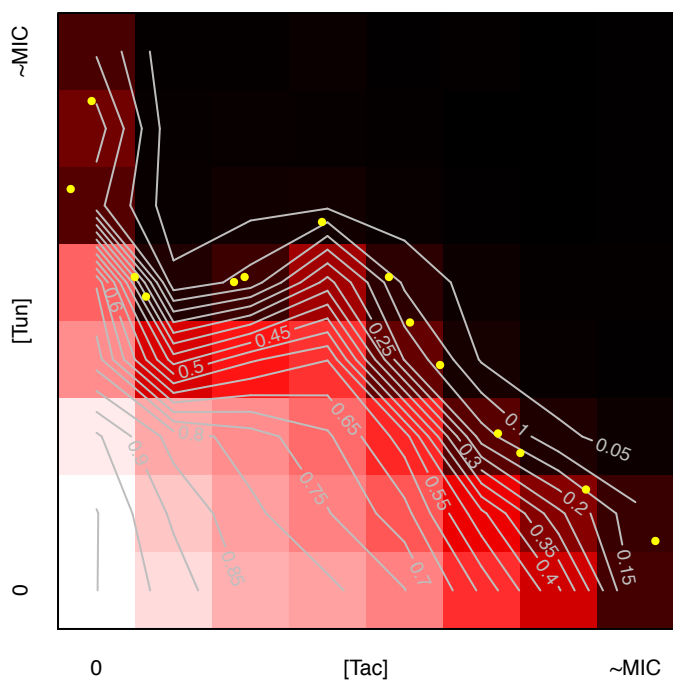
$\alpha = -1.908800$

CXCiv



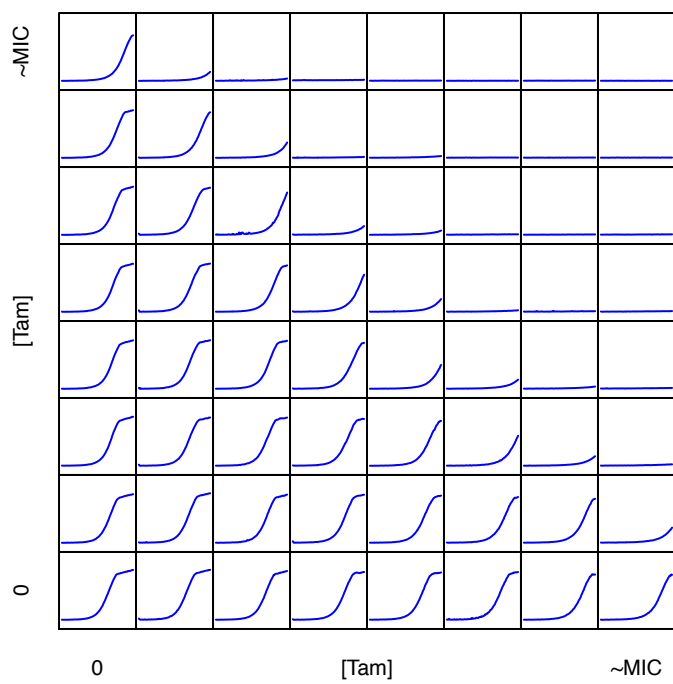
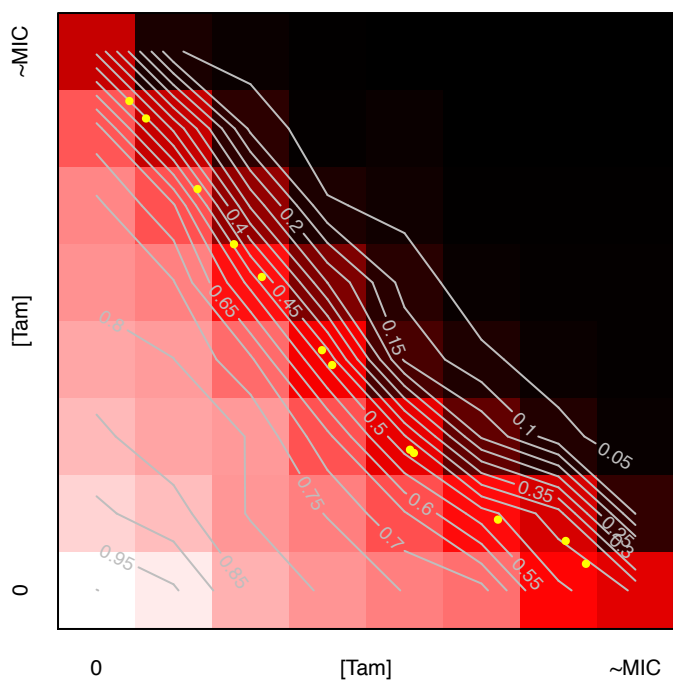
$\alpha = 0.1846954$

CXCV



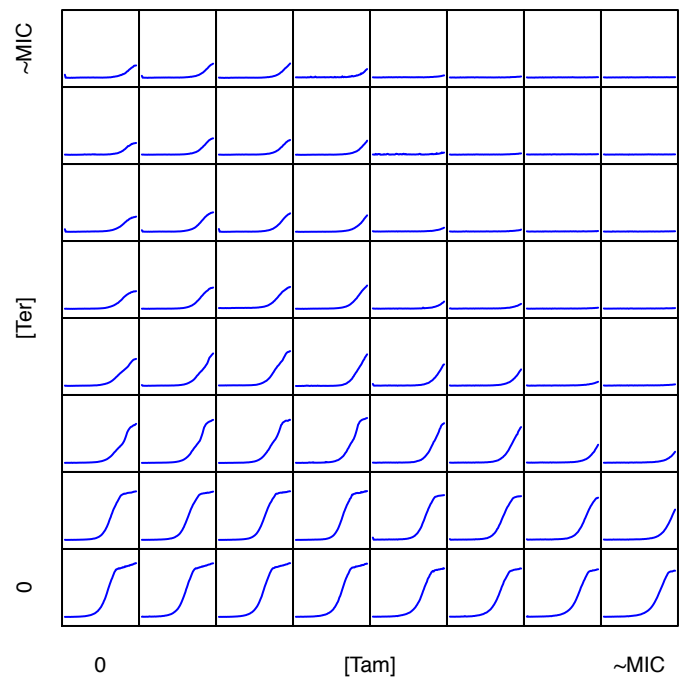
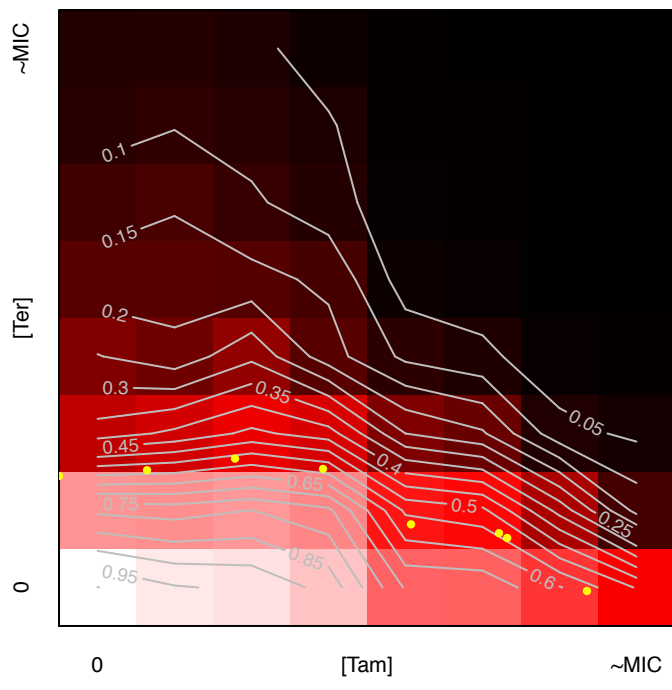
$\alpha = -0.341303$

CXCVi



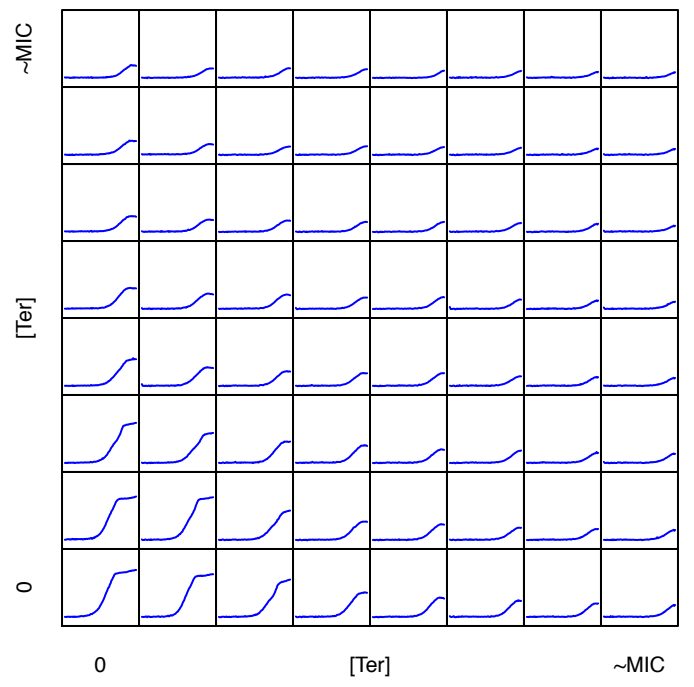
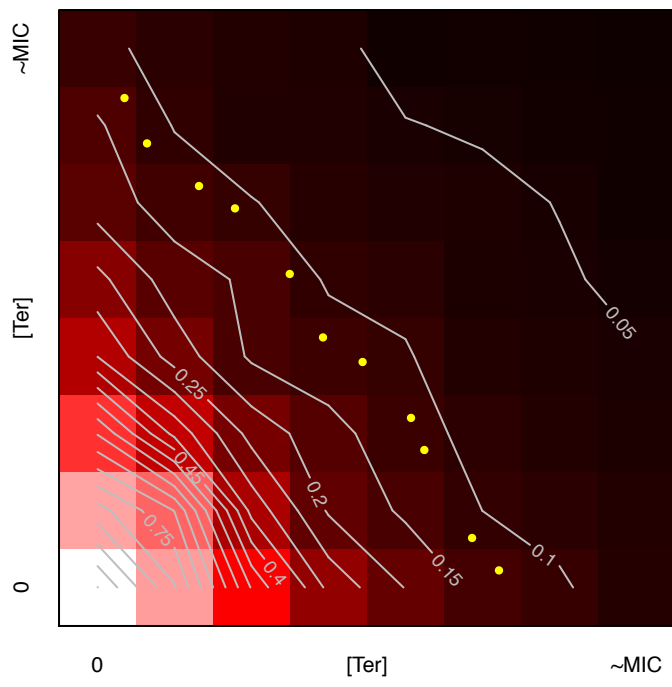
$\alpha = 0.945474$

CXCVii



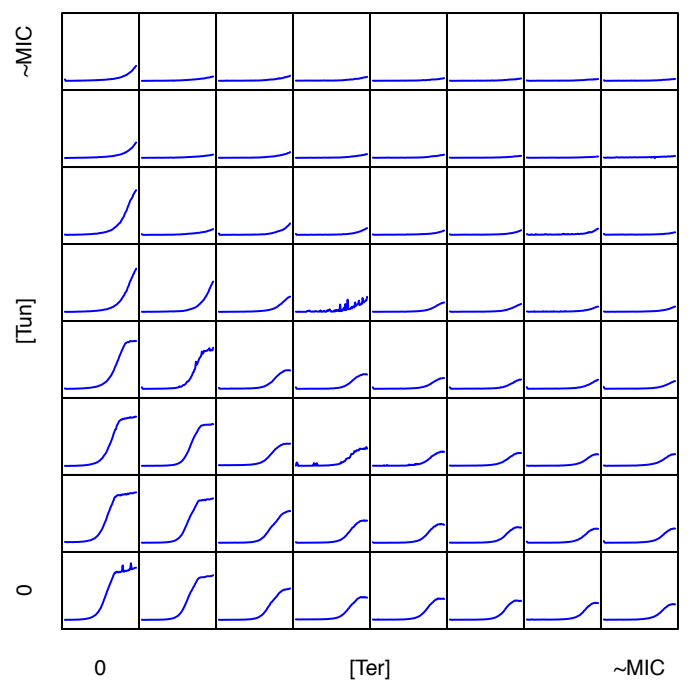
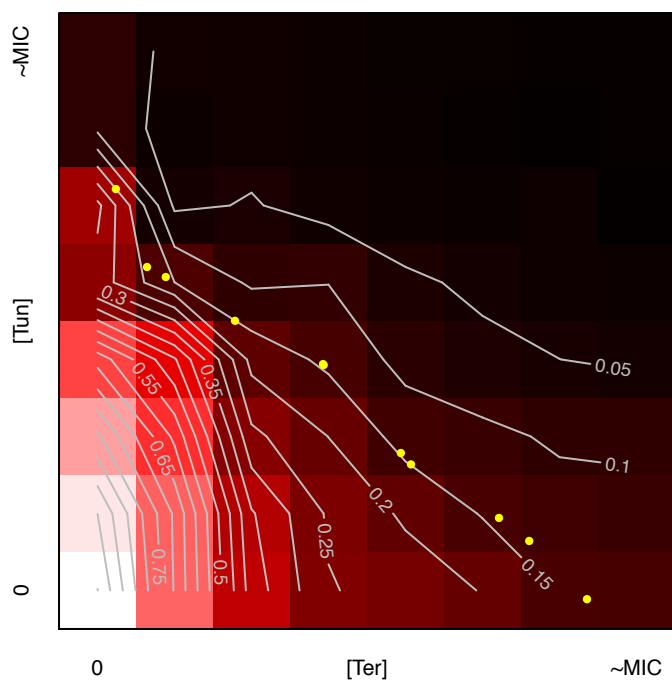
$\alpha = -0.06051851$

CXCViii



$\alpha = -0.4351235$

CXCix



$\alpha = -0.4553879$

CC

