Contents

1 Introduction

This document contains all of the figures and tables of the results from our simulation study. Our simulation study used a factorial using the following features as factors:

- The choice of response function (linear or non-linear)
- n, the number of observations (50, 200, and 1000),
- p, the number of predictors (10, 100, and 2000),
- σ, the standard deviation of the random error (1, 3, and 6),
- The correlation matrix structure (independent, symmetric compound, autoregressive, and blockwise), and
- ρ, the correlation between predictors (0.2, 0.5, and 0.9)

The differences among the last three factors can be displayed in a single figure or table. However, each figure only uses a particular value for n and p; furthermore, each figure only shows the results for one metric for either the linear or non-linear response function.

The four metrics we computed were the **training mean squared error**, **test mean squared error**, β**-sensitivity** and β**-specificity**. The training mean squared error measures how well each model can make predictions using data that was used to train the model. The test mean squared error assesses how well each model makes predictions on data that was not used to train the model. β-sensitivity measures the ability for a model that performs variable selection to recognize predictors that are actually related to the response, while β-specificity measures how well models can recognize predictors that are not related to the response.

The models that were fitted using a linear response used the function

$$\mathbf{y} = 1 + 2\mathbf{X}_1 - 2\mathbf{X}_2 + 0.5\mathbf{X}_5 + 3\mathbf{X}_6 + \mathbf{e} \tag{1}$$

where $\mathbf{e}$ is a random error with mean 0 and standard deviation σ (recall that σ is one of our factors).

Our non-linear response function used

$$\mathbf{y} = 6 \times 1_{\mathbf{X}_1 > 0} + \mathbf{X}_2^2 + 0.5\mathbf{X}_6 + 3\mathbf{X}_7 + 2 \times 1_{\mathbf{X}_8 > 0} \times 1_{\mathbf{X}_9 > 0} + \mathbf{e} \tag{2}$$

where $1_{\mathbf{X}_i > 0}$ is the index function defined by

$$1_{\mathbf{X}_i > 0} = \begin{cases} 0, & \mathbf{X}_i \leq 0 \\ 1, & \mathbf{X}_i > 0 \end{cases} \tag{3}$$

All of the figures appear in this document before any tables. Each section contains the figures or tables for one type of response function, while each subsection contains the figures or tables from one of the metrics we considered. The caption for each figure has a hyperlink to the corresponding table, while each table has a link back to the figure it refers to.

2 Figures from the linear simulations

2.1 Figures for the average training MSE of the linear simulations

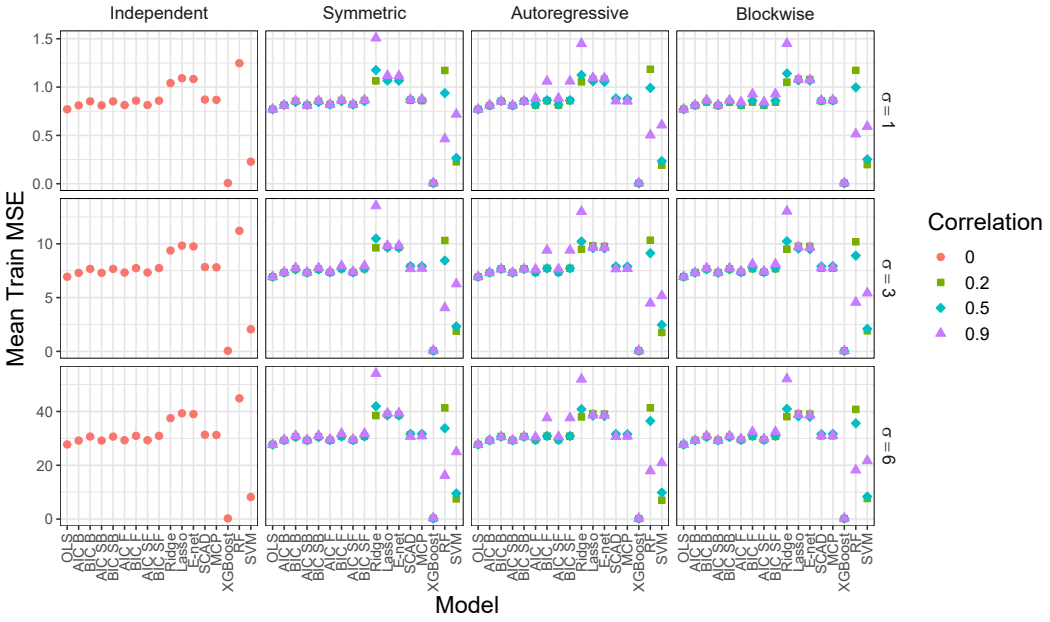

Figure 1: Average training MSE for the linear simulations when $n = 50$ and $p = 10$. See Table 1 for the corresponding data.

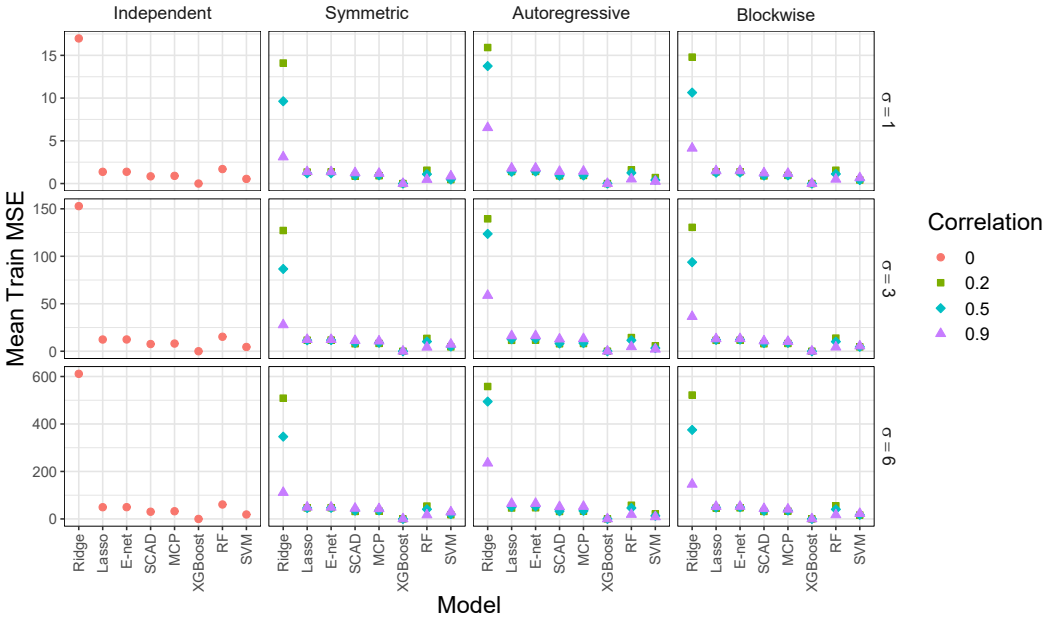

Figure 2: Average training MSE for the linear simulations when $n = 50$ and $p = 100$. See Table 2 for the corresponding data.

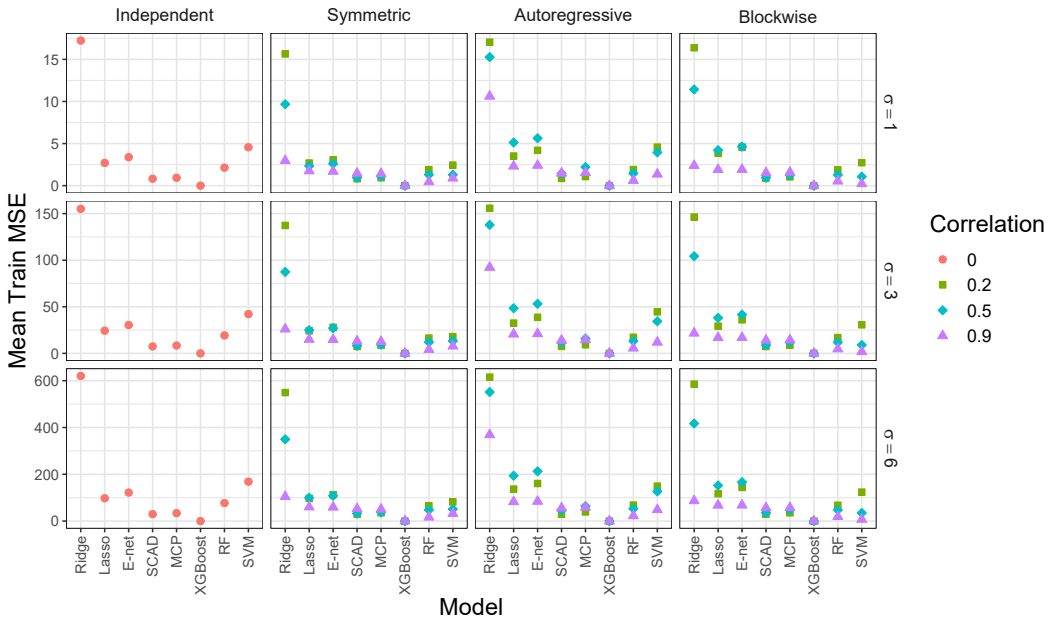

Figure 3: Average training MSE for the linear simulations when $n = 50$ and $p = 2000$. See Table 3 for the corresponding data.

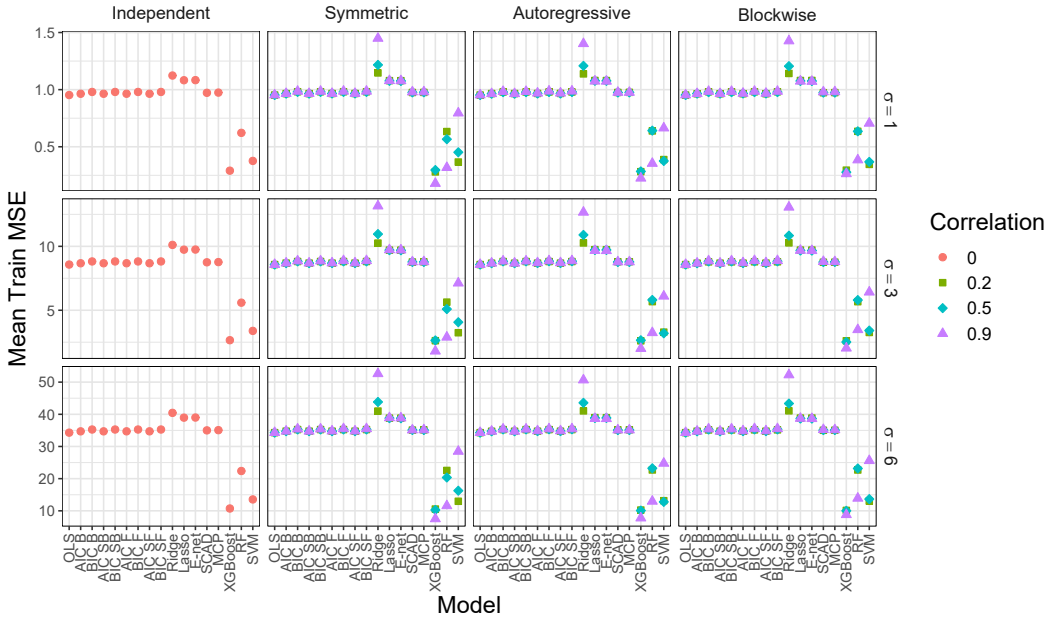

Figure 4: Average training MSE for the linear simulations when $n = 200$ and $p = 10$. See Table 4 for the corresponding data.

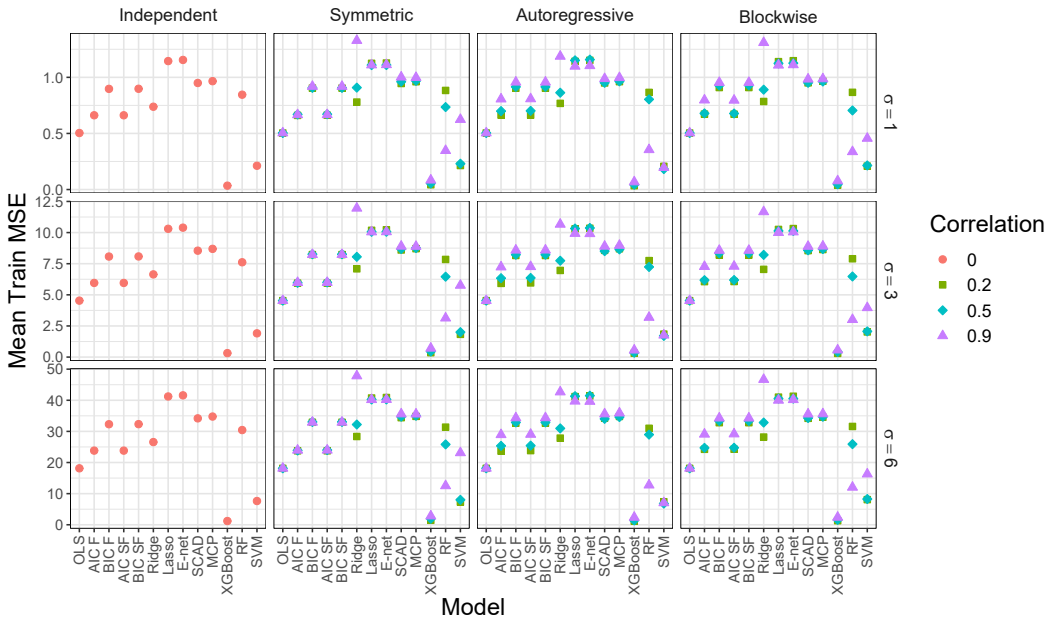

Figure 5: Average training MSE for the linear simulations when $n = 200$ and $p = 100$. See Table 5 for the corresponding data.

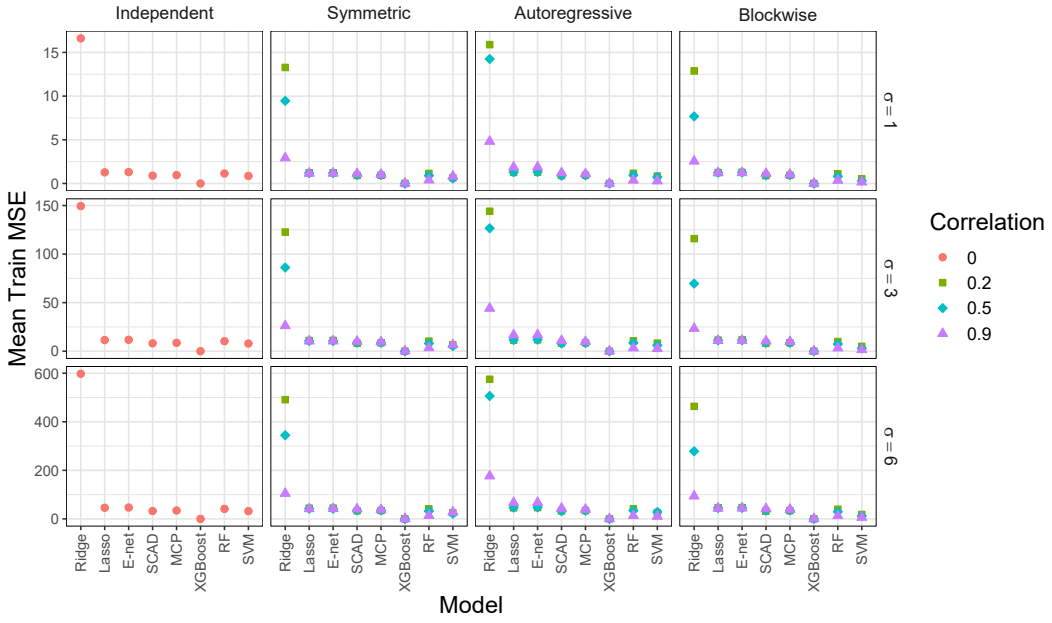

Figure 6: Average training MSE for the linear simulations when $n = 200$ and $p = 2000$. See Table 6 for the corresponding data.

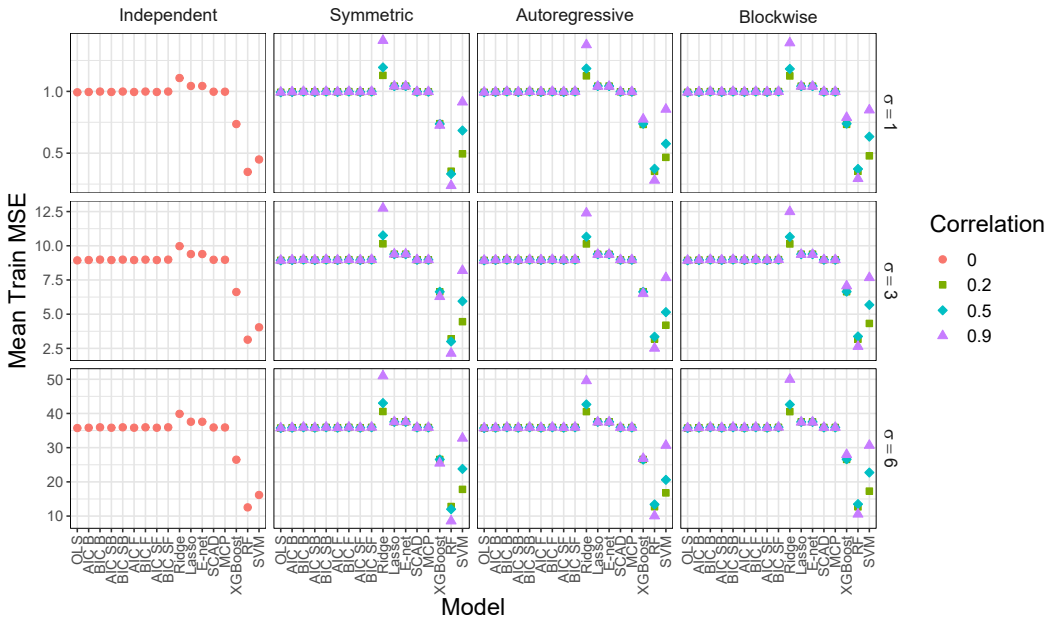

Figure 7: Average training MSE for the linear simulations when $n = 1000$ and $p = 10$. See Table 7 for the corresponding data.

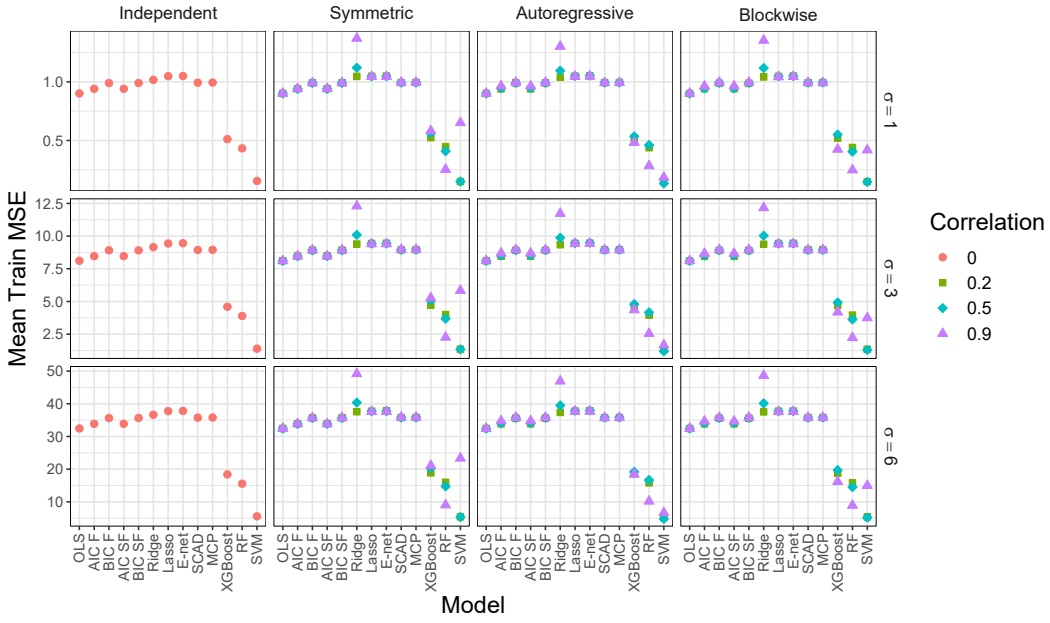

Figure 8: Average training MSE for the linear simulations when $n = 1000$ and $p = 100$. See Table 8 for the corresponding data.

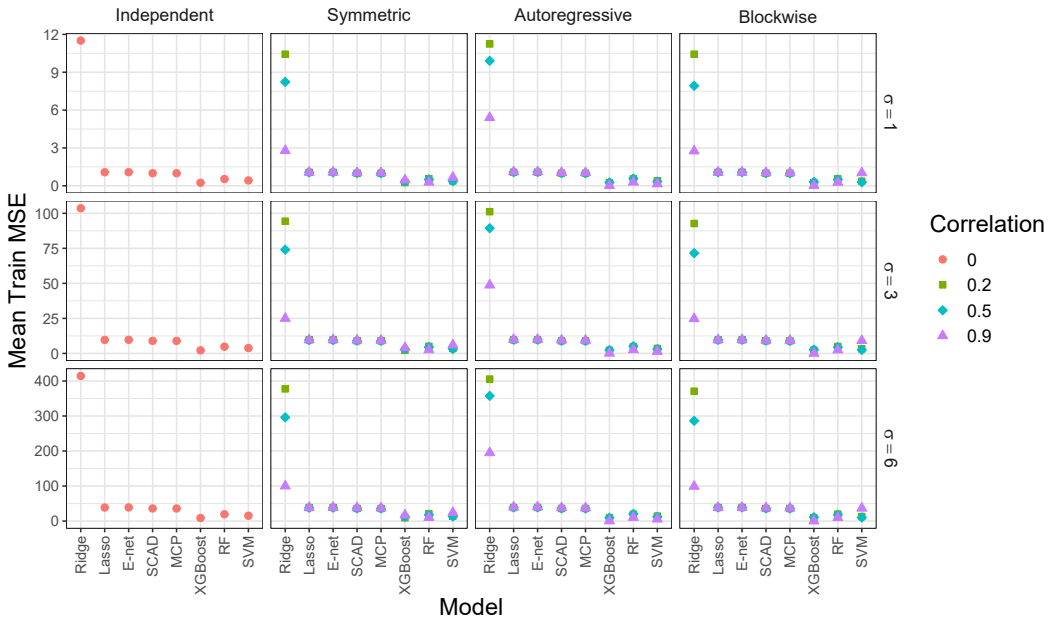

Figure 9: Average training MSE for the linear simulations when $n = 1000$ and $p = 2000$. See Table 9 for the corresponding data.

2.2 Figures for the average testing MSE of the linear simulations

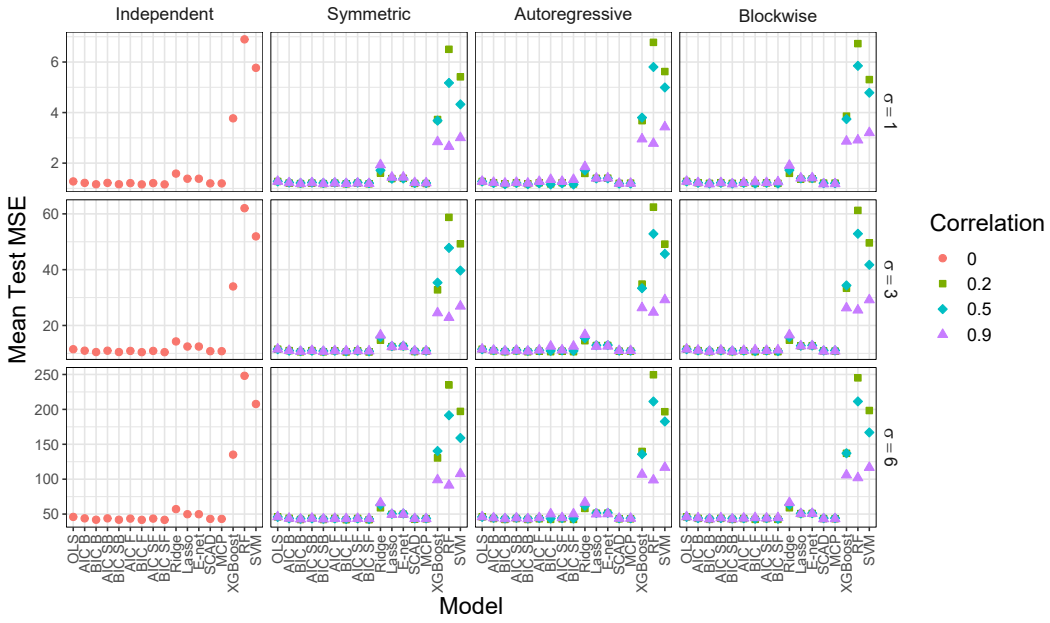

Figure 10: Average testing MSE for the linear simulations when $n = 50$ and $p = 10$. See Table 10 for the corresponding data.

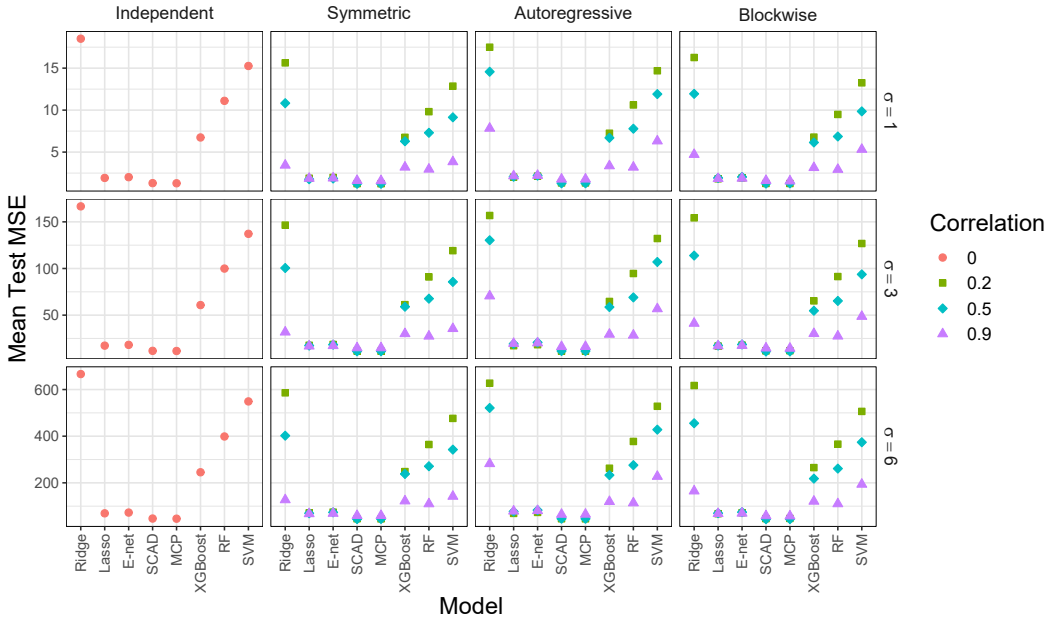

Figure 11: Average testing MSE for the linear simulations when $n = 50$ and $p = 100$. See Table 11 for the corresponding data.

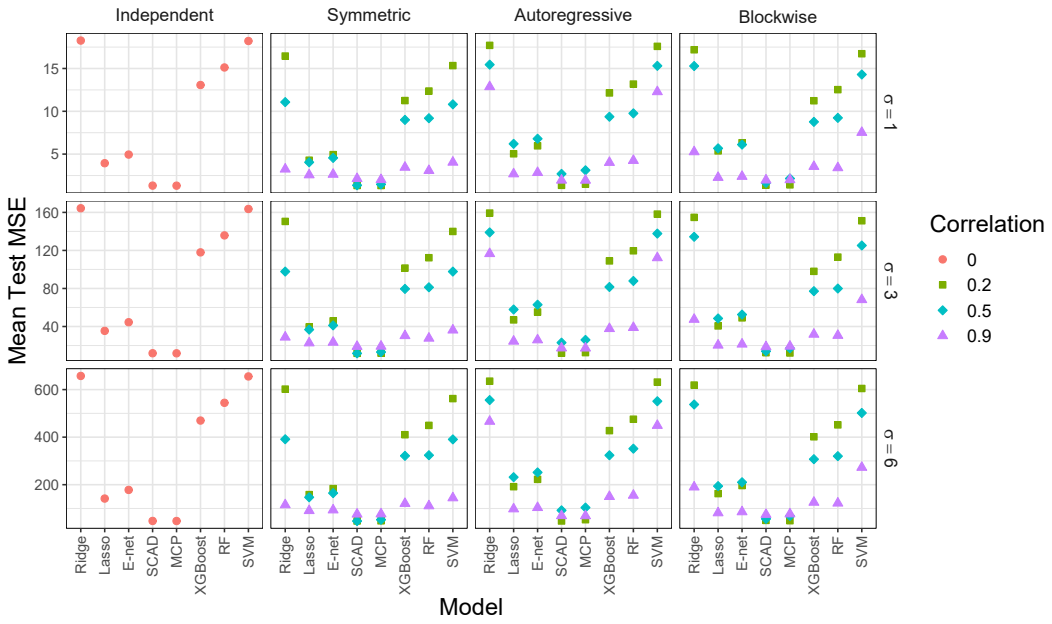

Figure 12: Average testing MSE for the linear simulations when $n = 50$ and $p = 2000$. See Table 12 for the corresponding data.

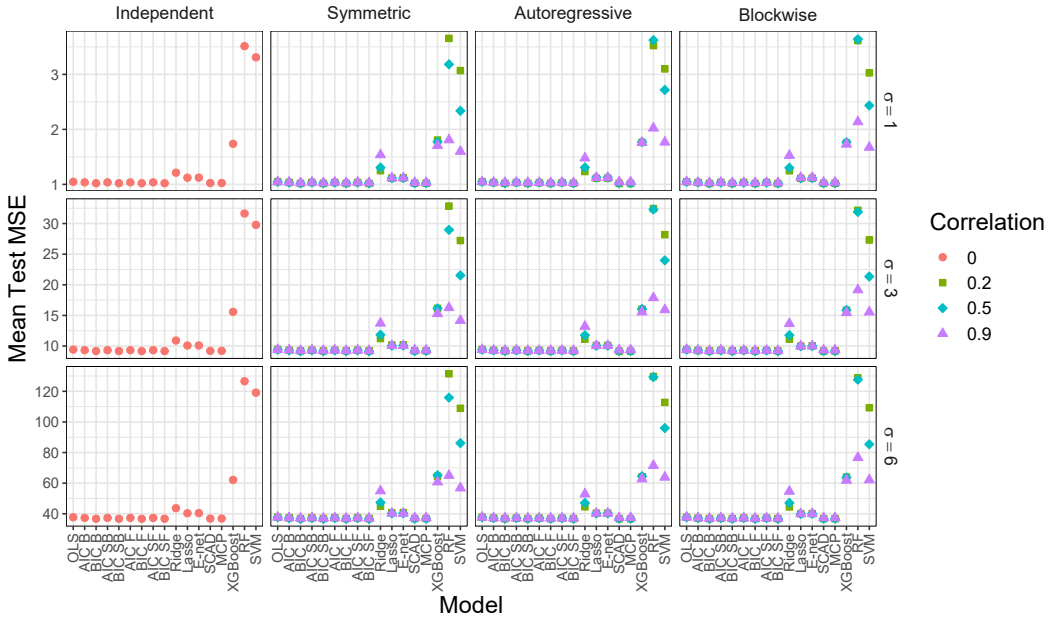

Figure 13: Average testing MSE for the linear simulations when $n = 200$ and $p = 10$. See Table 13 for the corresponding data.

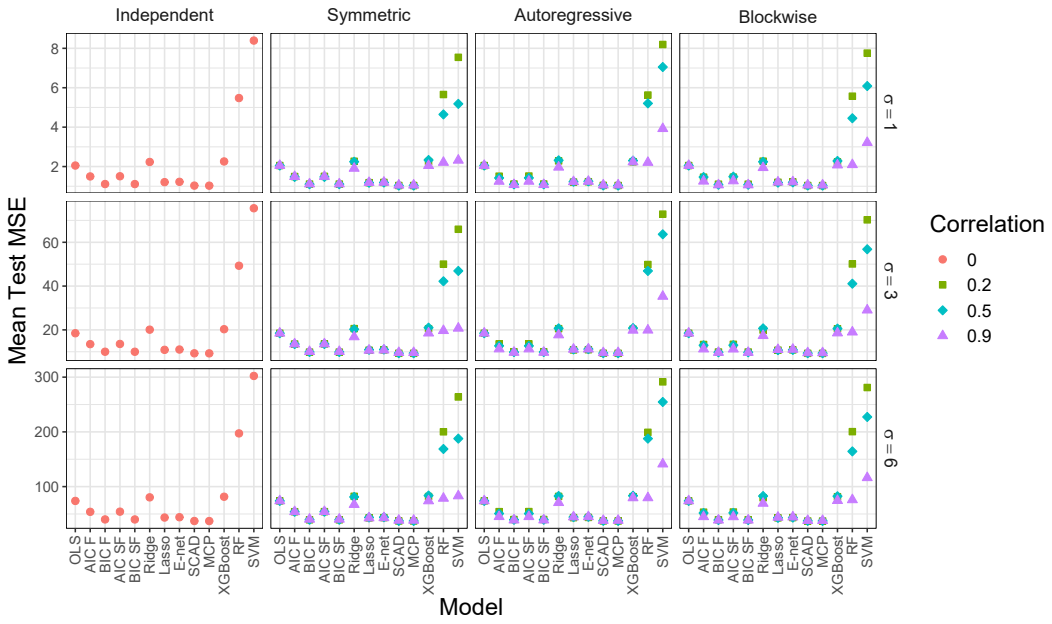

Figure 14: Average testing MSE for the linear simulations when $n = 200$ and $p = 100$. See Table 14 for the corresponding data.

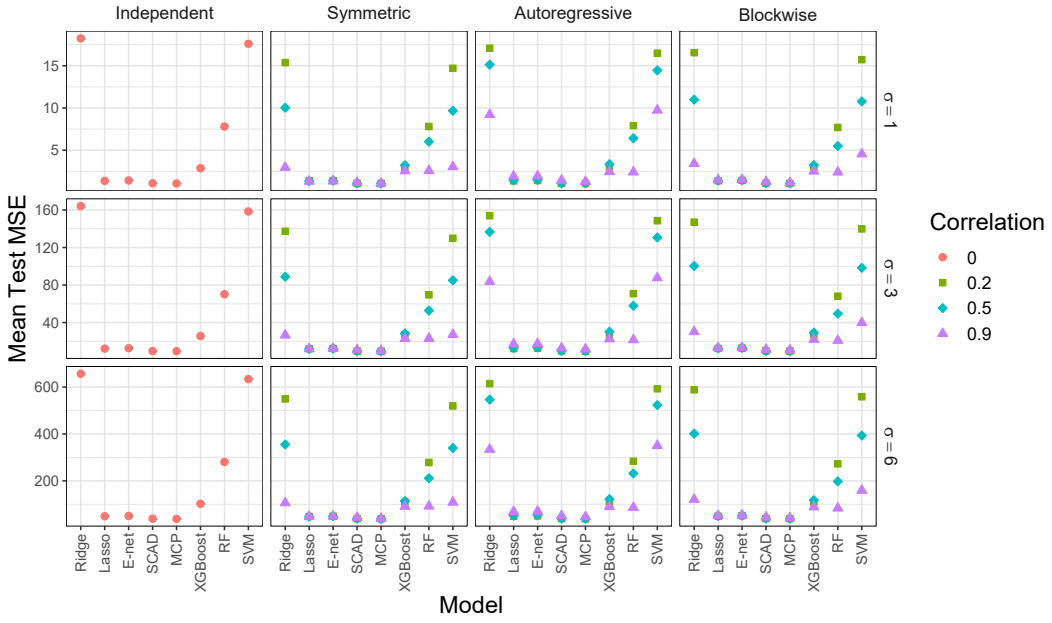

Figure 15: Average testing MSE for the linear simulations when $n = 200$ and $p = 2000$. See Table 15 for the corresponding data.

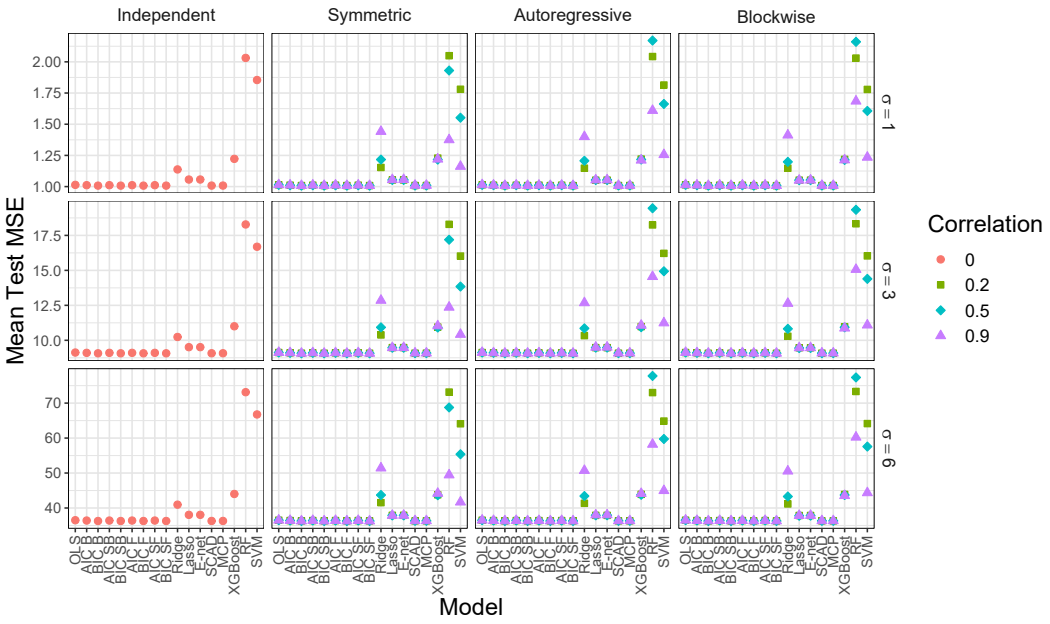

Figure 16: Average testing MSE for the linear simulations when $n = 1000$ and $p = 10$. See Table 16 for the corresponding data.

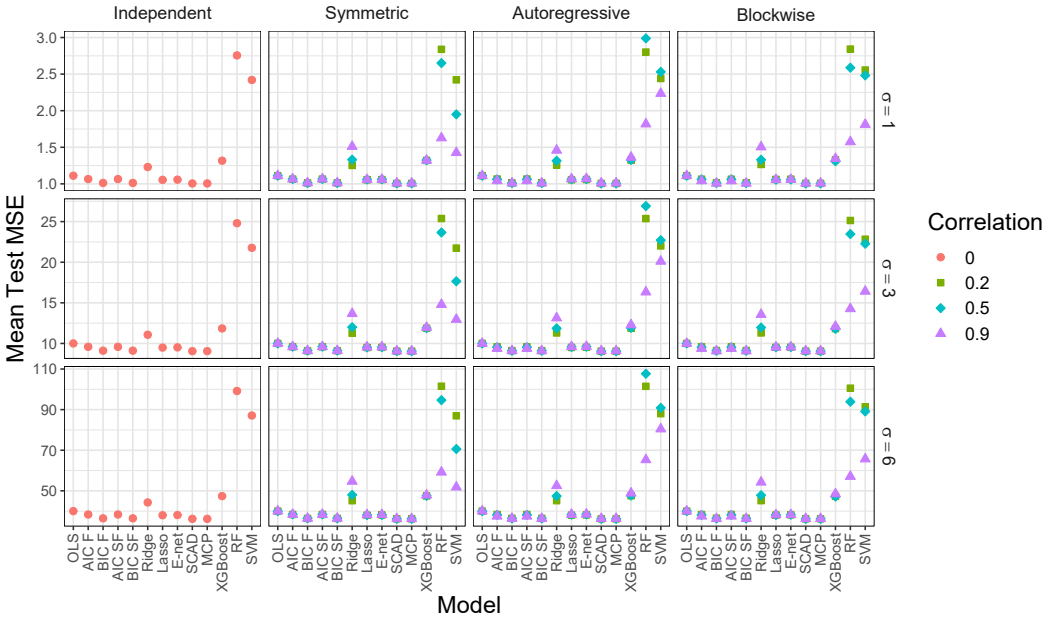

Figure 17: Average testing MSE for the linear simulations when $n = 1000$ and $p = 100$. See Table 17 for the corresponding data.

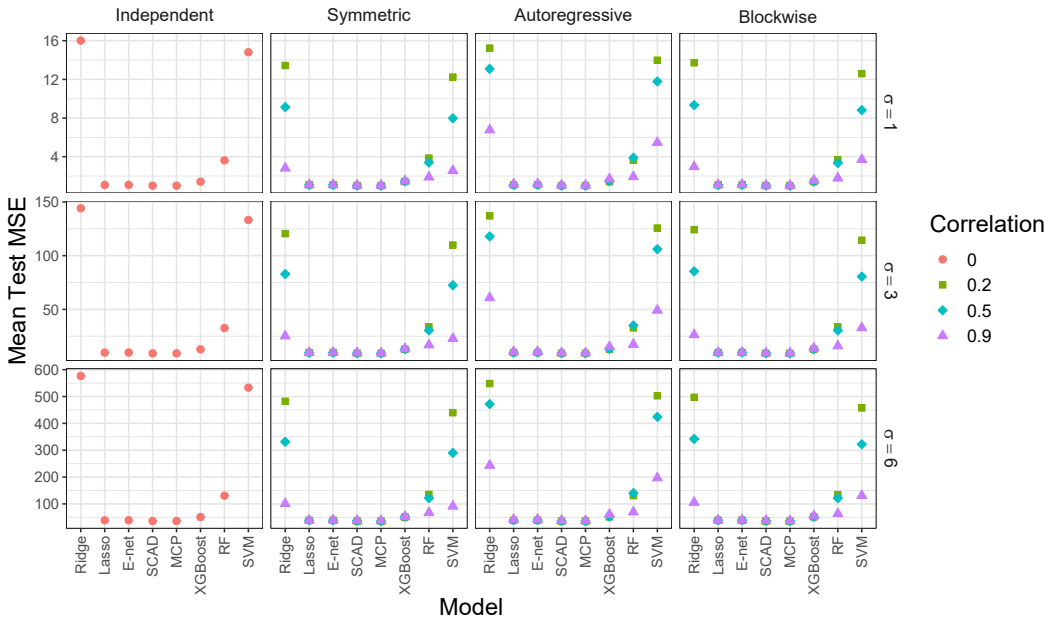

Figure 18: Average testing MSE for the linear simulations when $n = 1000$ and $p = 2000$. See Table 18 for the corresponding data.

2.3 Figures for the average β-sensitivity of the linear simulations

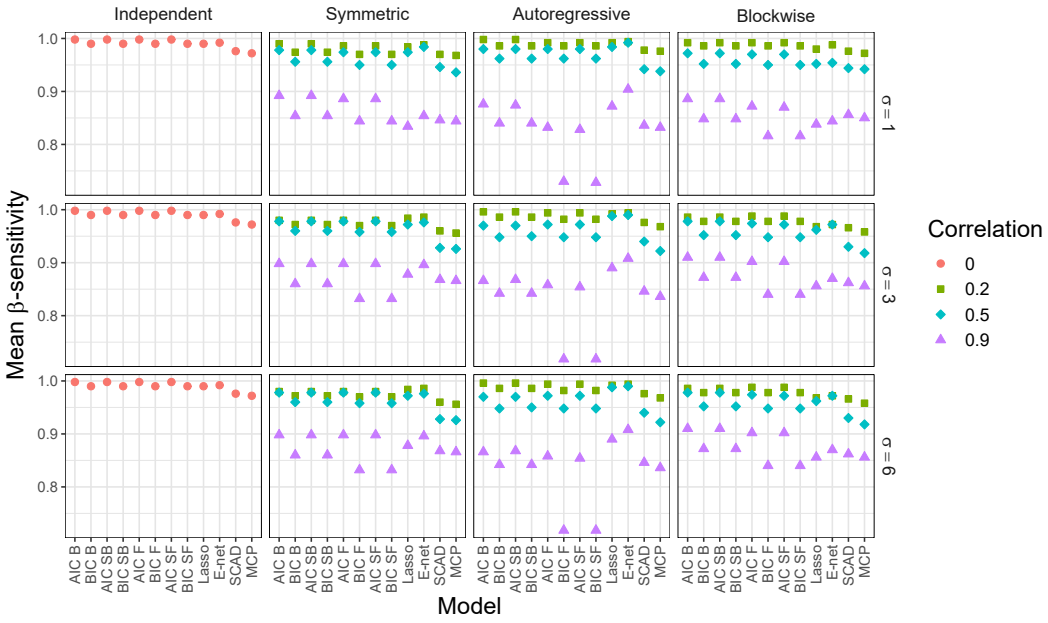

Figure 19: Average β-sensitivity for the linear simulations when $n = 50$ and $p = 10$. See Table 19 for the corresponding data.

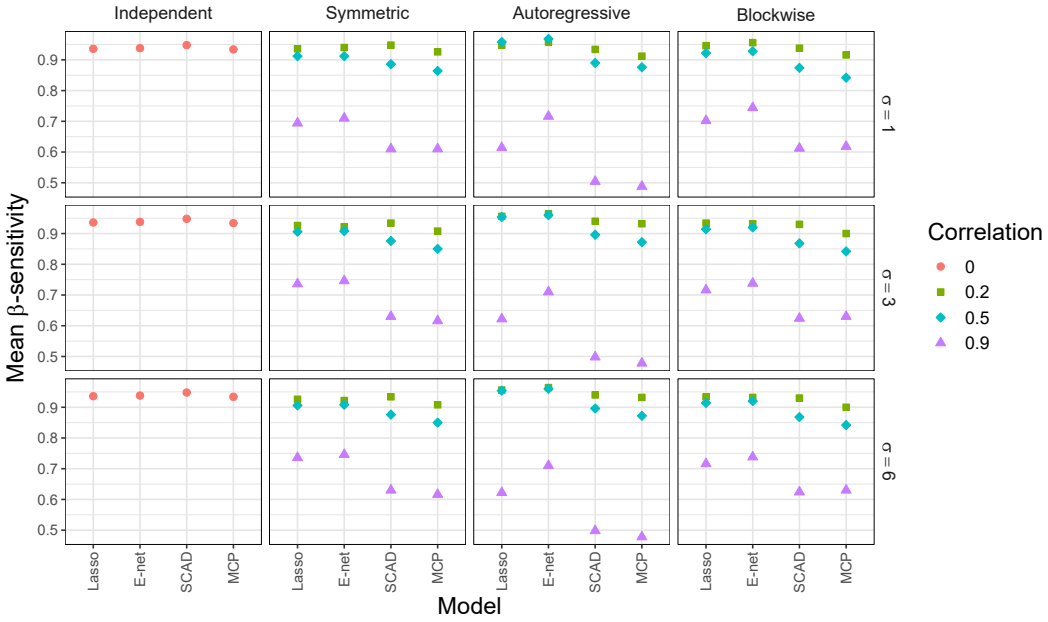

Figure 20: Average β-sensitivity for the linear simulations when $n = 50$ and $p = 100$. See Table 20 for the corresponding data.

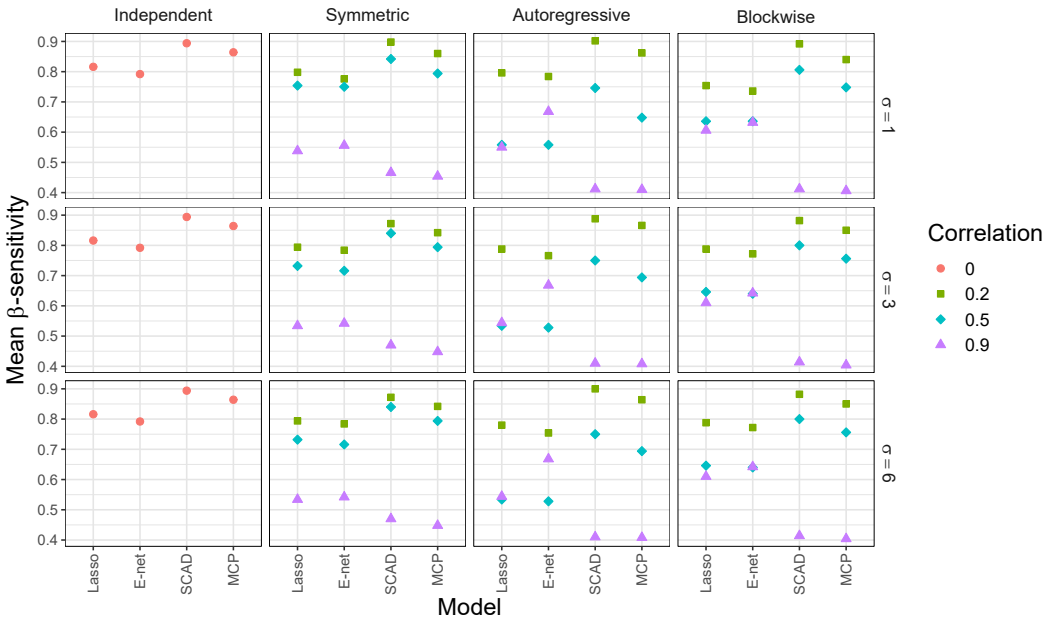

Figure 21: Average β-sensitivity for the linear simulations when $n = 50$ and $p = 2000$. See Table 21 for the corresponding data.

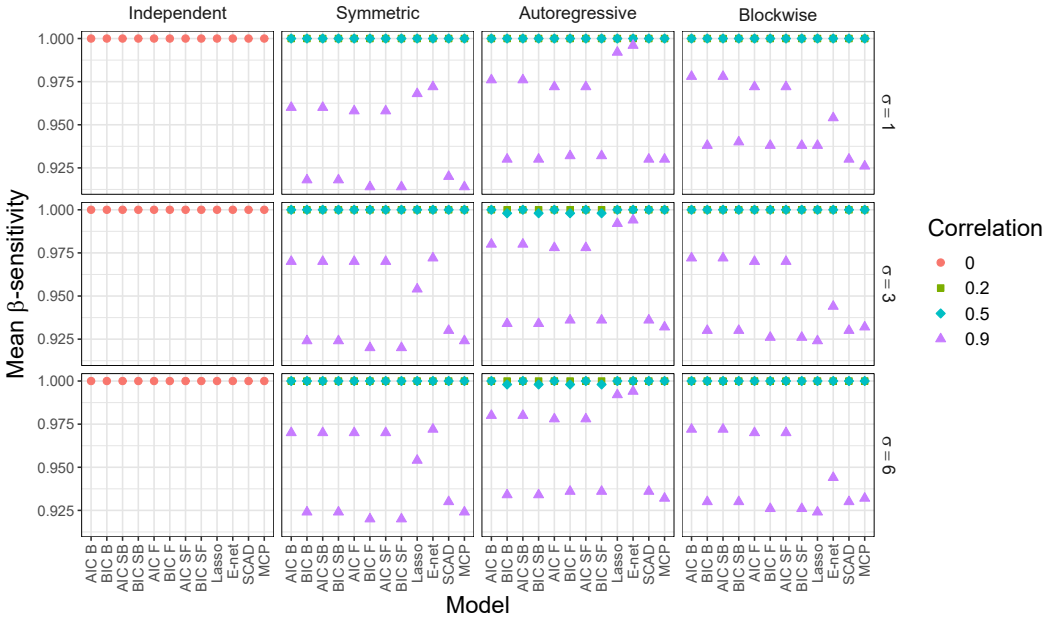

Figure 22: Average β-sensitivity for the linear simulations when $n = 200$ and $p = 10$. See Table 22 for the corresponding data.

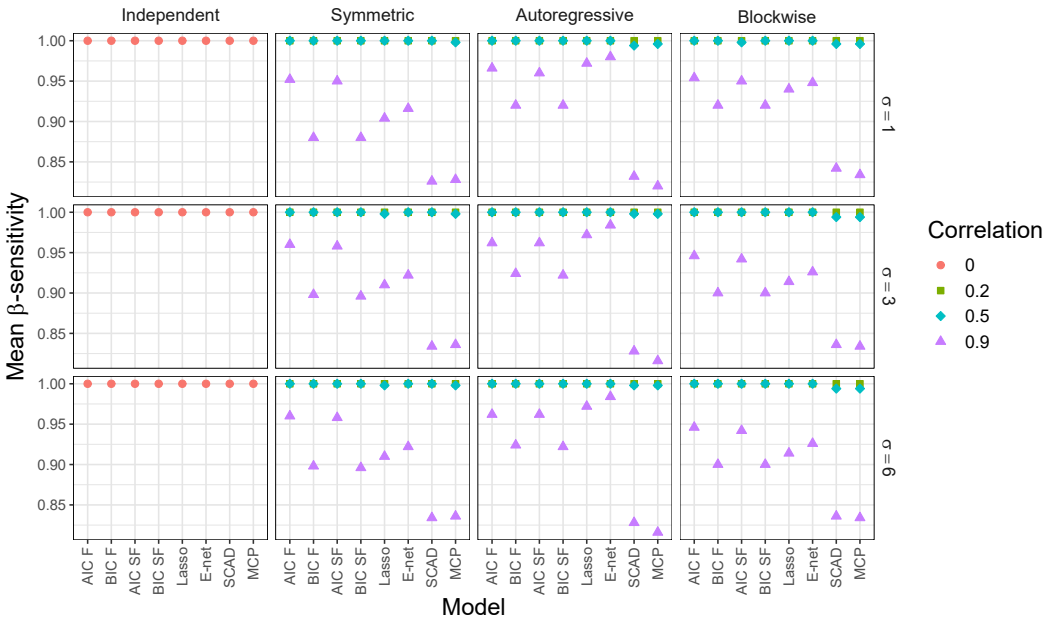

Figure 23: Average β-sensitivity for the linear simulations when $n = 200$ and $p = 100$. See Table 23 for the corresponding data.

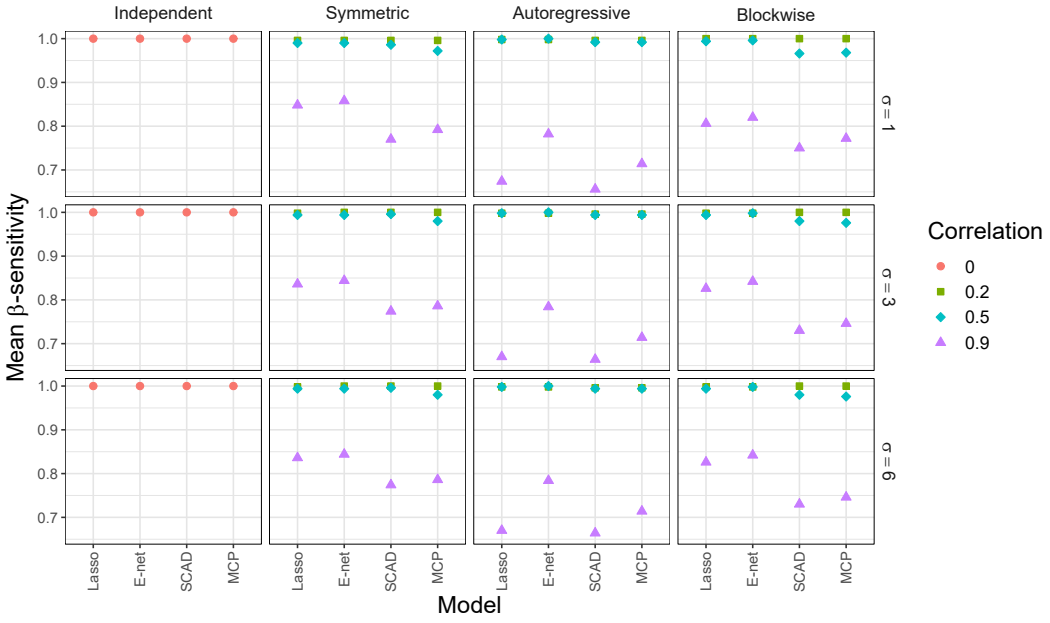

Figure 24: Average β-sensitivity for the linear simulations when $n = 200$ and $p = 2000$. See Table 24 for the corresponding data.

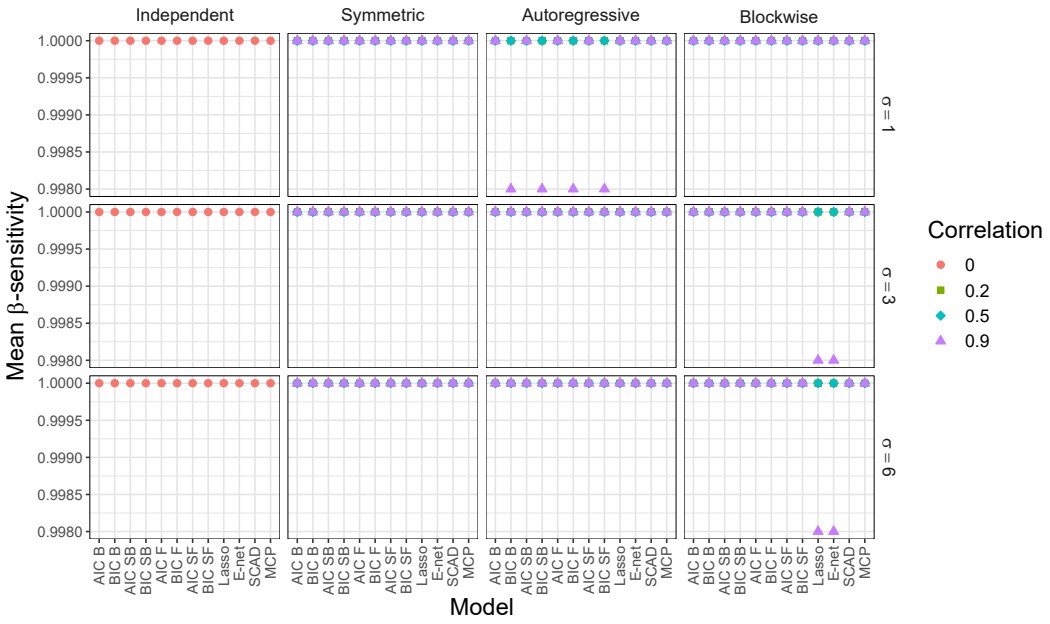

Figure 25: Average β-sensitivity for the linear simulations when $n = 1000$ and $p = 10$. See Table 25 for the corresponding data.

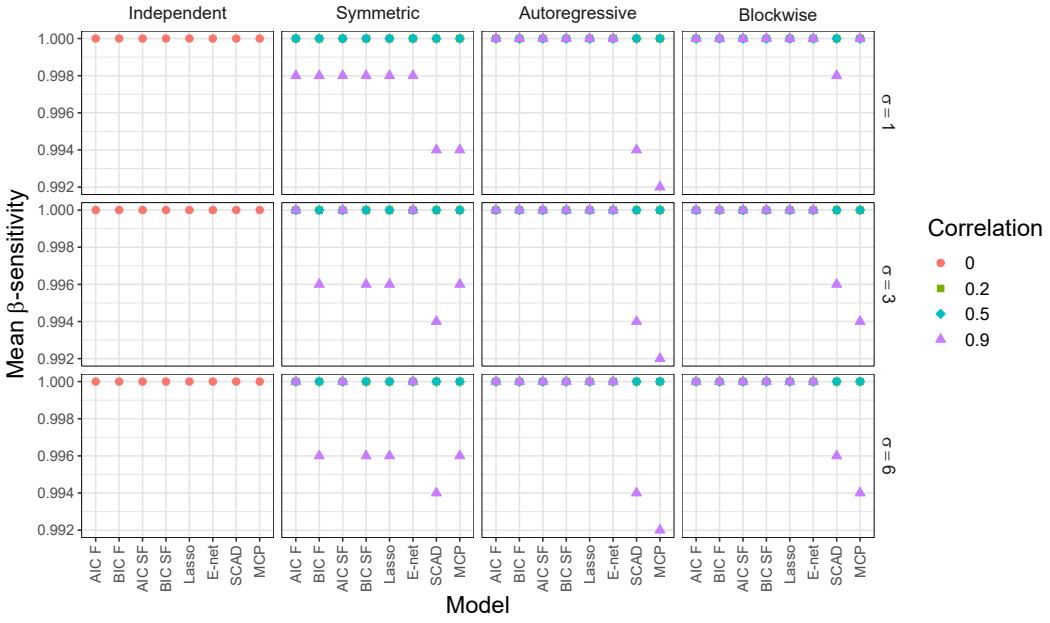

Figure 26: Average β-sensitivity for the linear simulations when $n = 1000$ and $p = 100$. See Table 26 for the corresponding data.

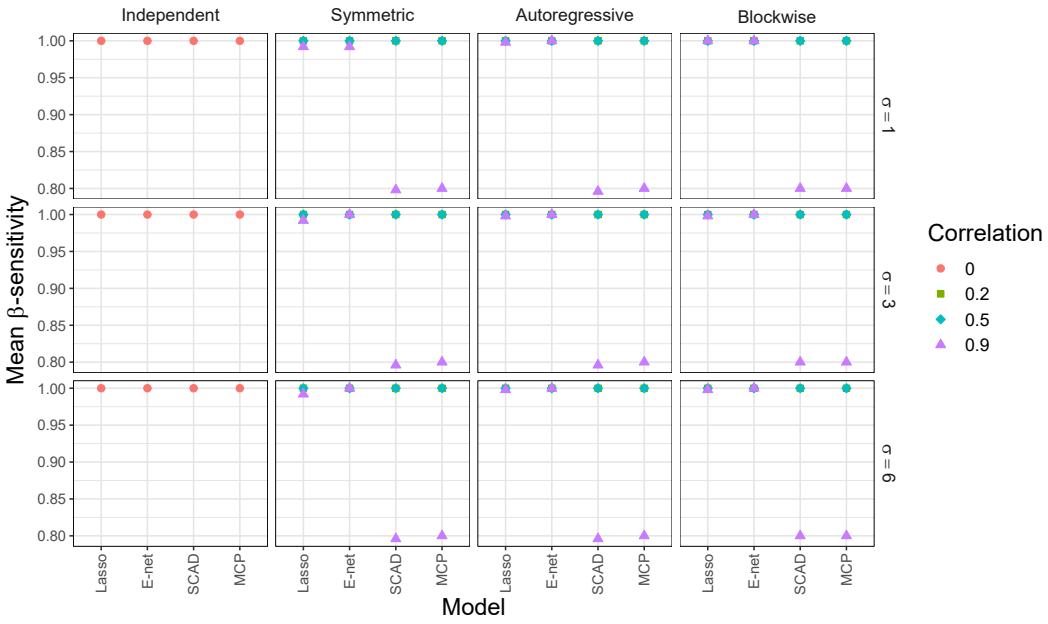

Figure 27: Average β-sensitivity for the linear simulations when $n = 1000$ and $p = 2000$. See Table 27 for the corresponding data.

2.4 Figures for the average β-specificity of the linear simulations

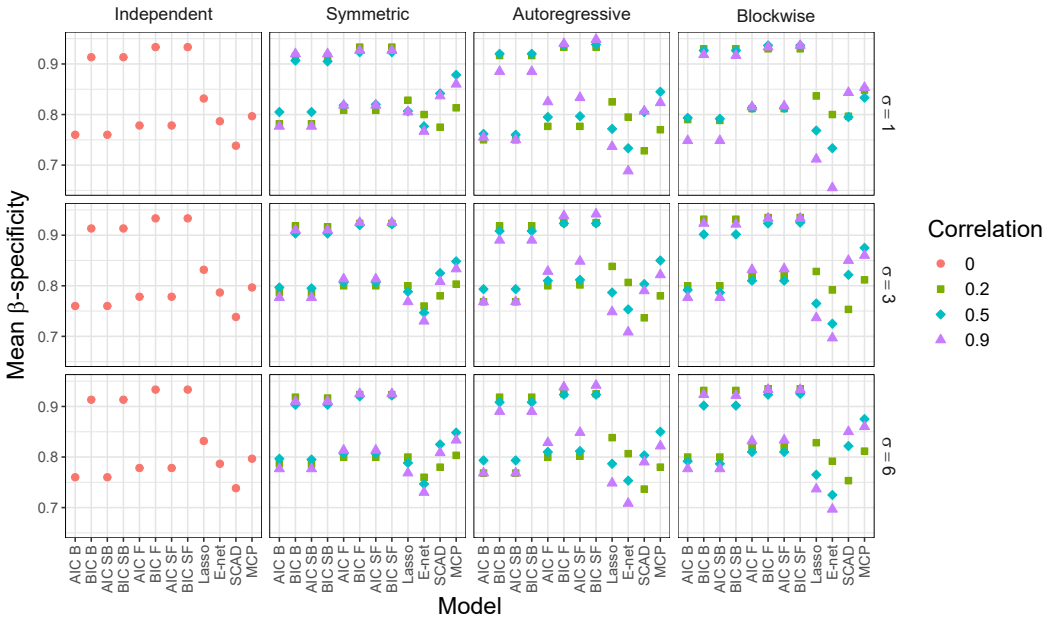

Figure 28: Average β-specificity for the linear simulations when $n = 50$ and $p = 10$. See Table 28 for the corresponding data.

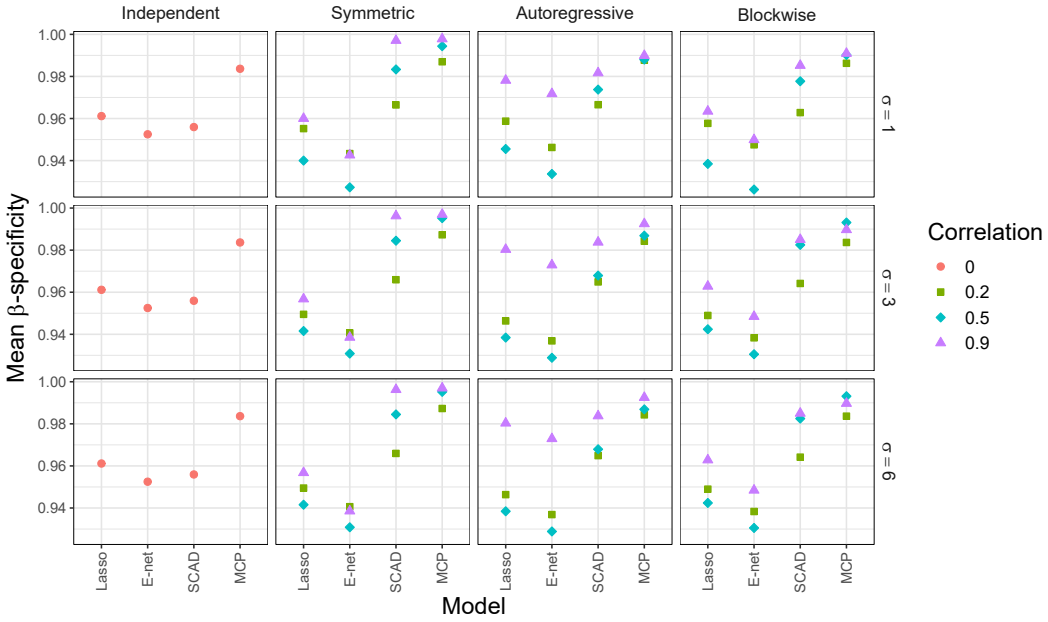

Figure 29: Average β-specificity for the linear simulations when $n = 50$ and $p = 100$. See Table 29 for the corresponding data.

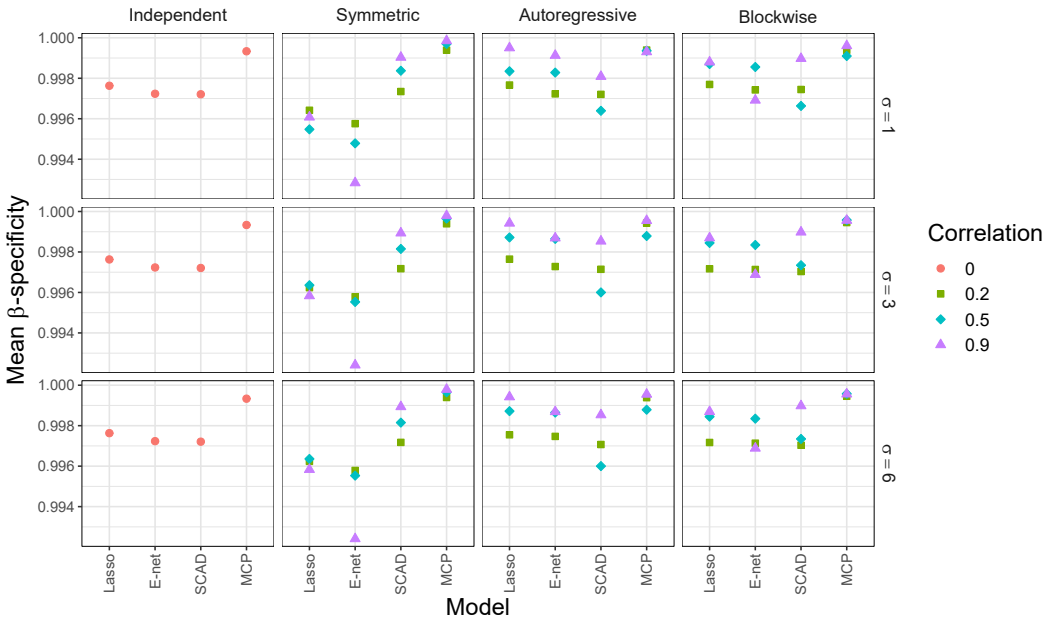

Figure 30: Average β-specificity for the linear simulations when $n = 50$ and $p = 2000$. See Table 30 for the corresponding data.

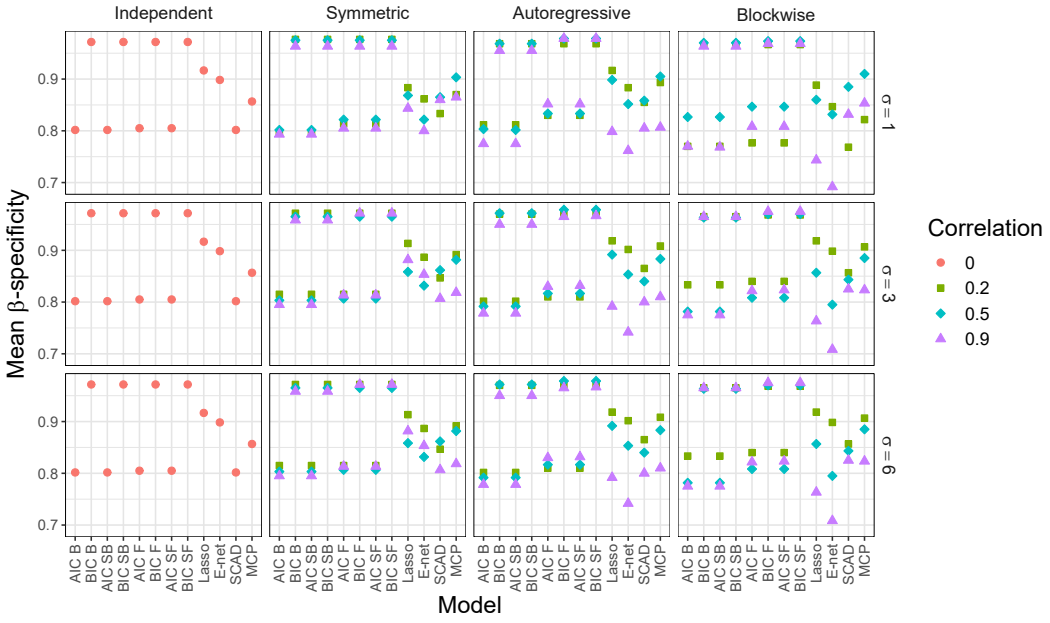

Figure 31: Average β-specificity for the linear simulations when $n = 200$ and $p = 10$. See Table 31 for the corresponding data.

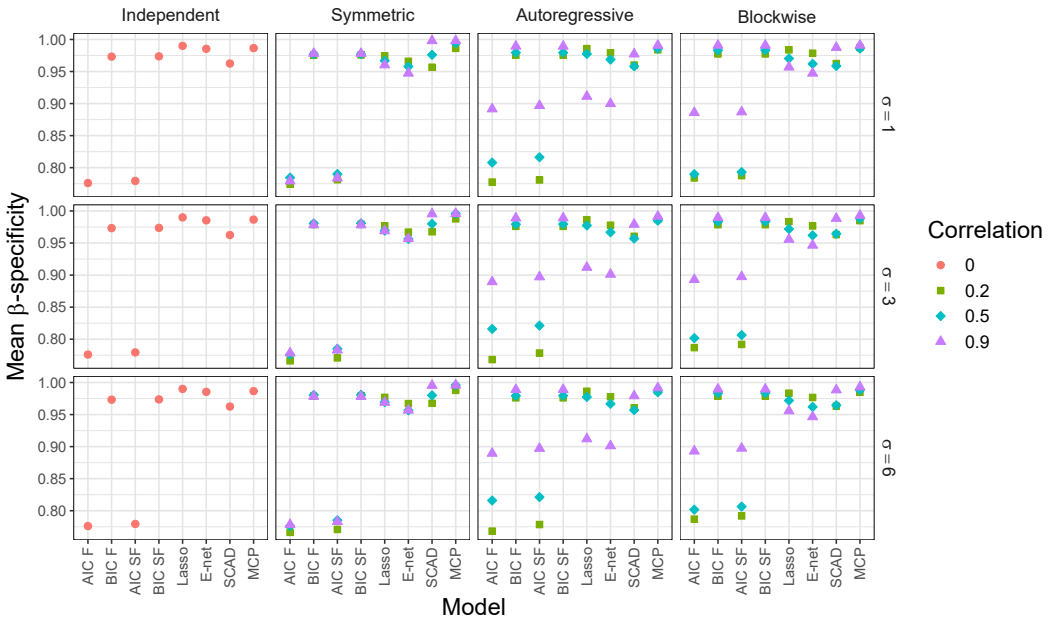

Figure 32: Average β-specificity for the linear simulations when $n = 200$ and $p = 100$. See Table 32 for the corresponding data.

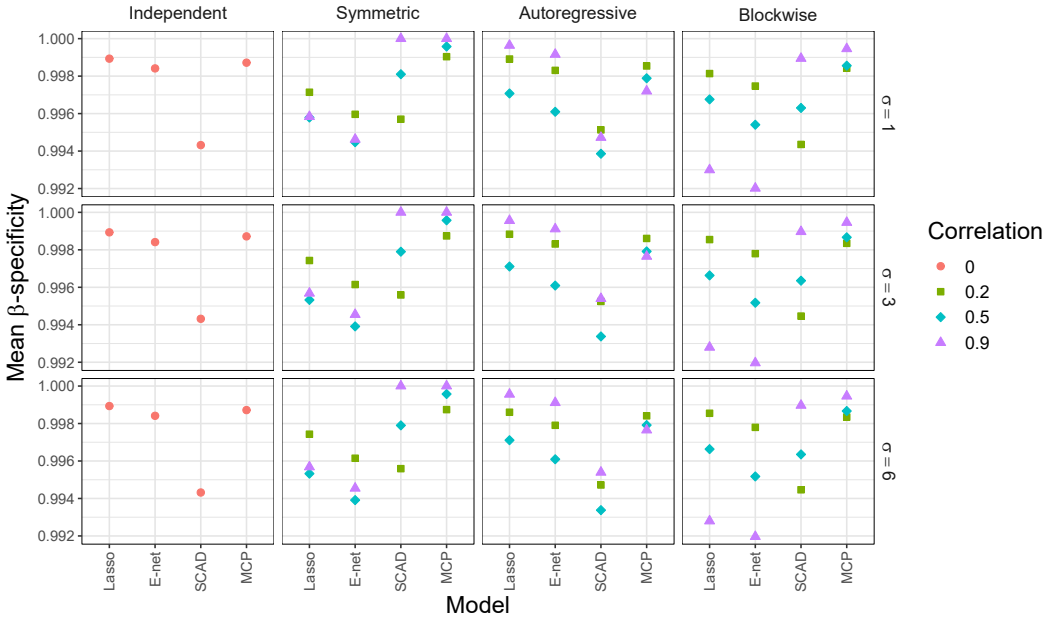

Figure 33: Average β-specificity for the linear simulations when $n = 200$ and $p = 2000$. See Table 33 for the corresponding data.

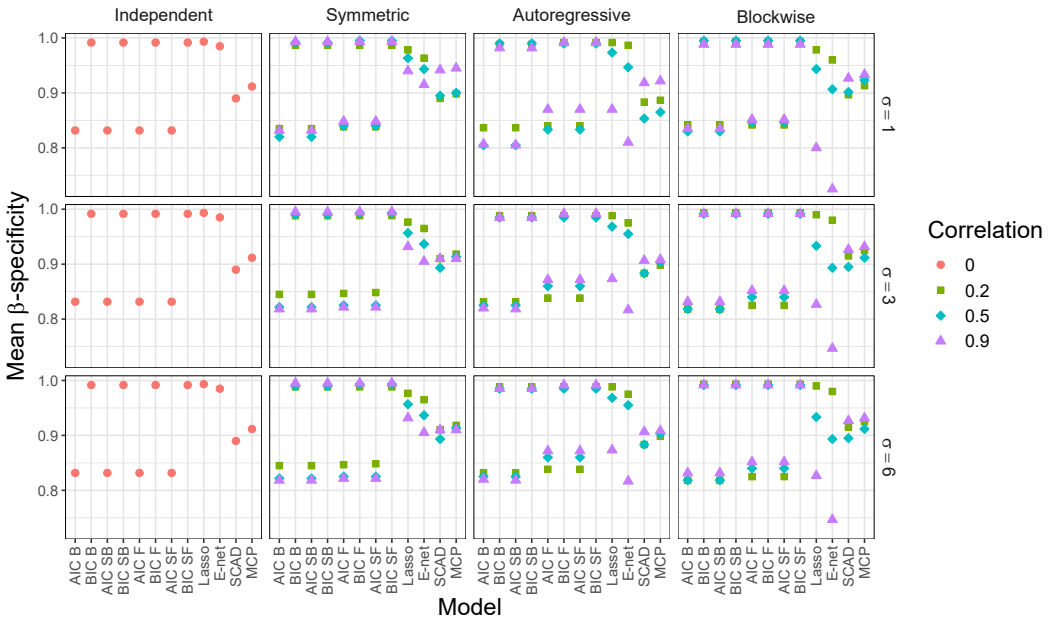

Figure 34: Average β-specificity for the linear simulations when $n = 1000$ and $p = 10$. See Table 34 for the corresponding data.

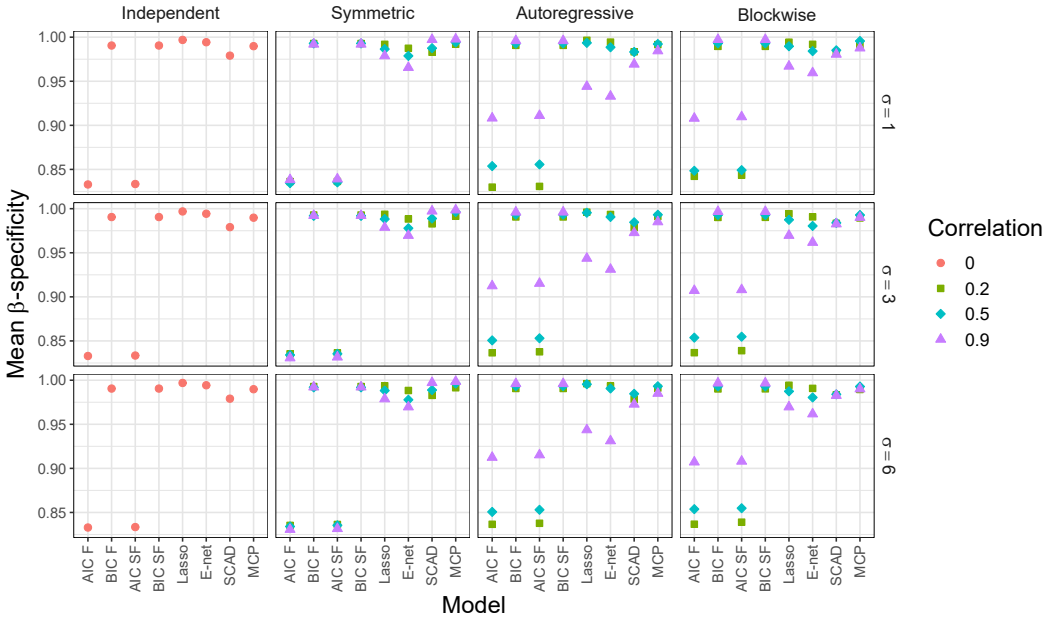

Figure 35: Average β-specificity for the linear simulations when $n = 1000$ and $p = 100$. See Table 35 for the corresponding data.

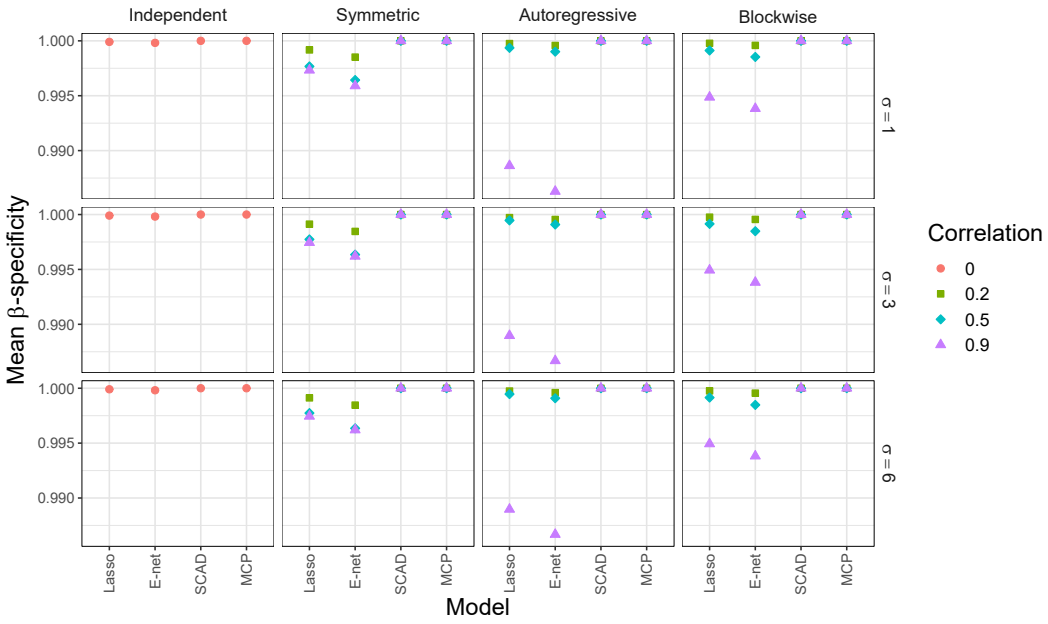

Figure 36: Average β-specificity for the linear simulations when $n = 1000$ and $p = 2000$. See Table 36 for the corresponding data.

3 Figures from the non-linear simulations

3.1 Figures for the average training MSE of the non-linear simulations

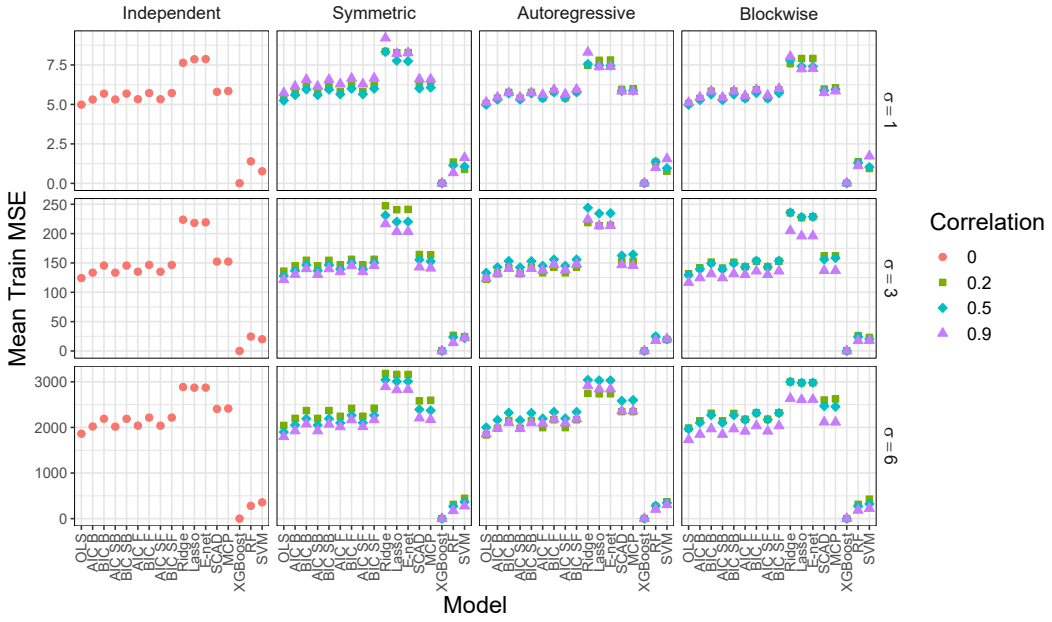

Figure 37: Average training MSE for the non-linear simulations when $n = 50$ and $p = 10$. See Table 37 for the corresponding data.

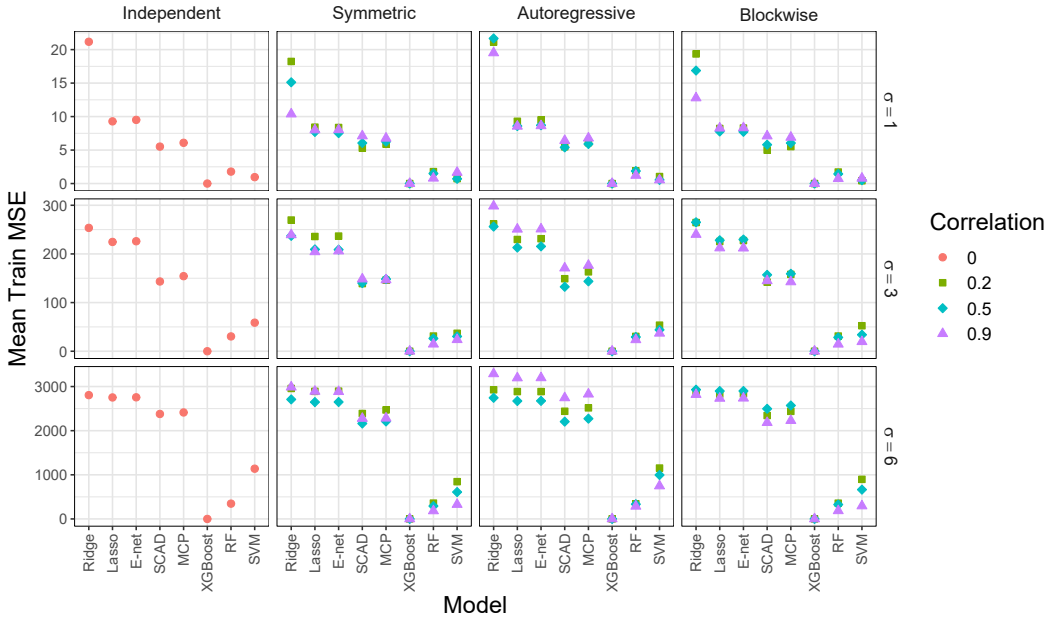

Figure 38: Average training MSE for the non-linear simulations when $n = 50$ and $p = 100$. See Table 38 for the corresponding data.

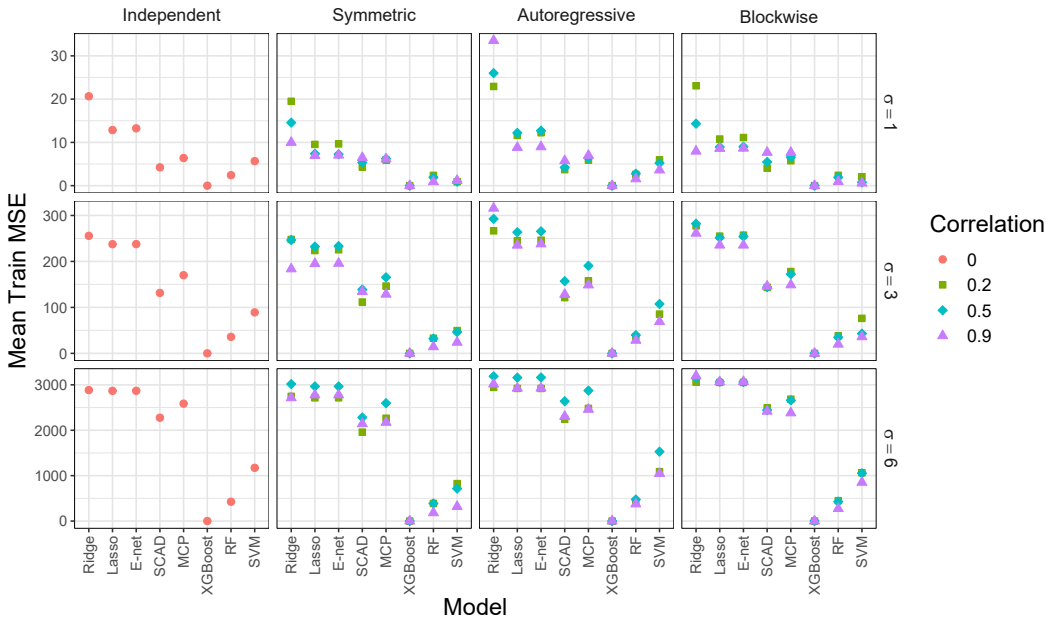

Figure 39: Average training MSE for the non-linear simulations when $n = 50$ and $p = 2000$. See Table 39 for the corresponding data.

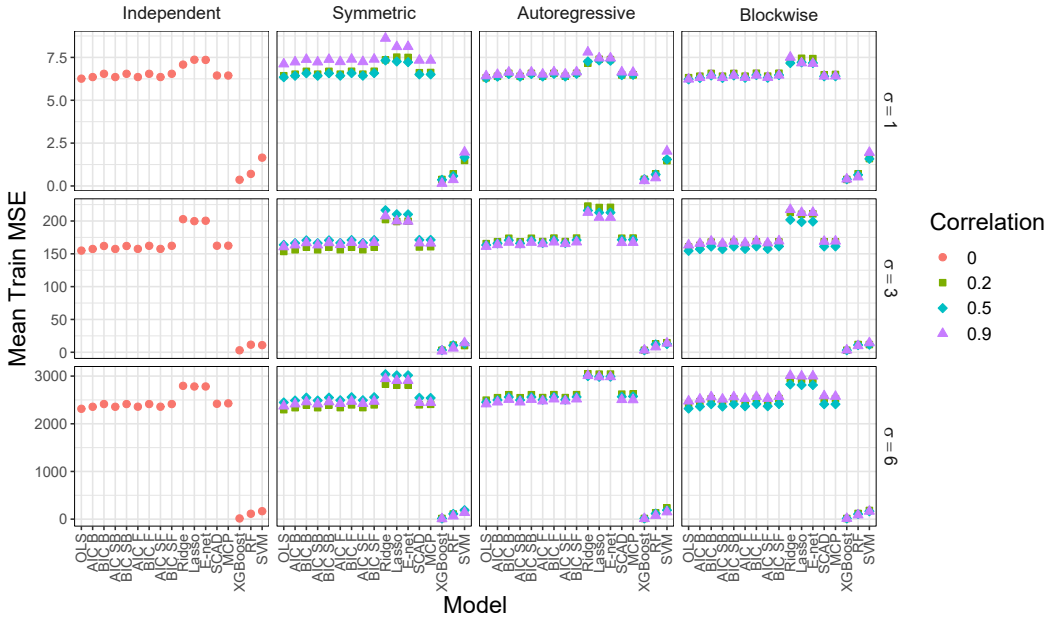

Figure 40: Average training MSE for the non-linear simulations when $n = 200$ and $p = 10$. See Table 40 for the corresponding data.

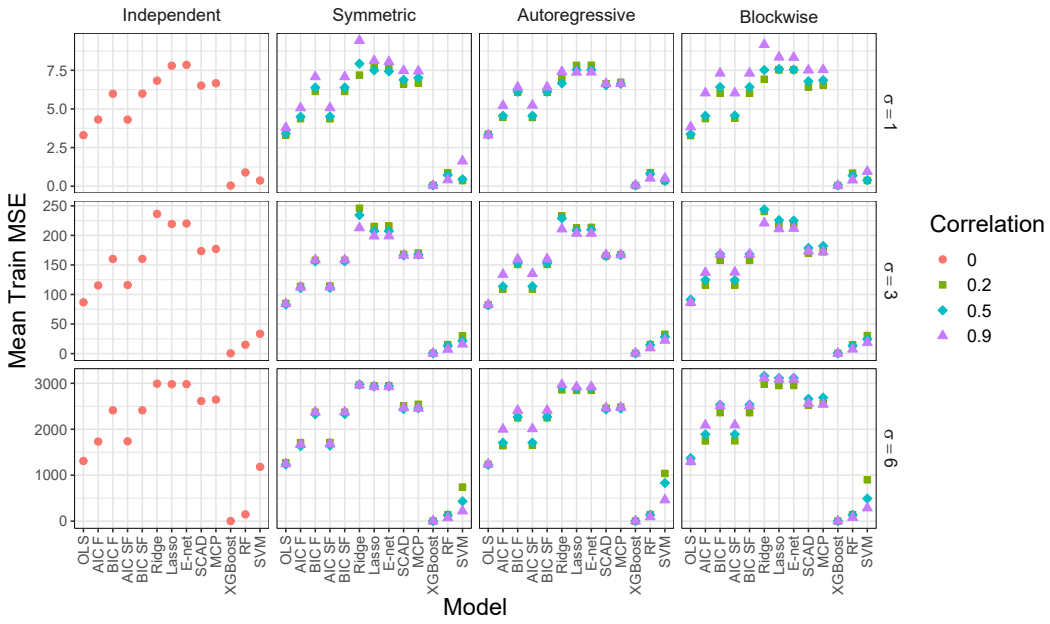

Figure 41: Average training MSE for the non-linear simulations when $n = 200$ and $p = 100$. See Table 41 for the corresponding data.

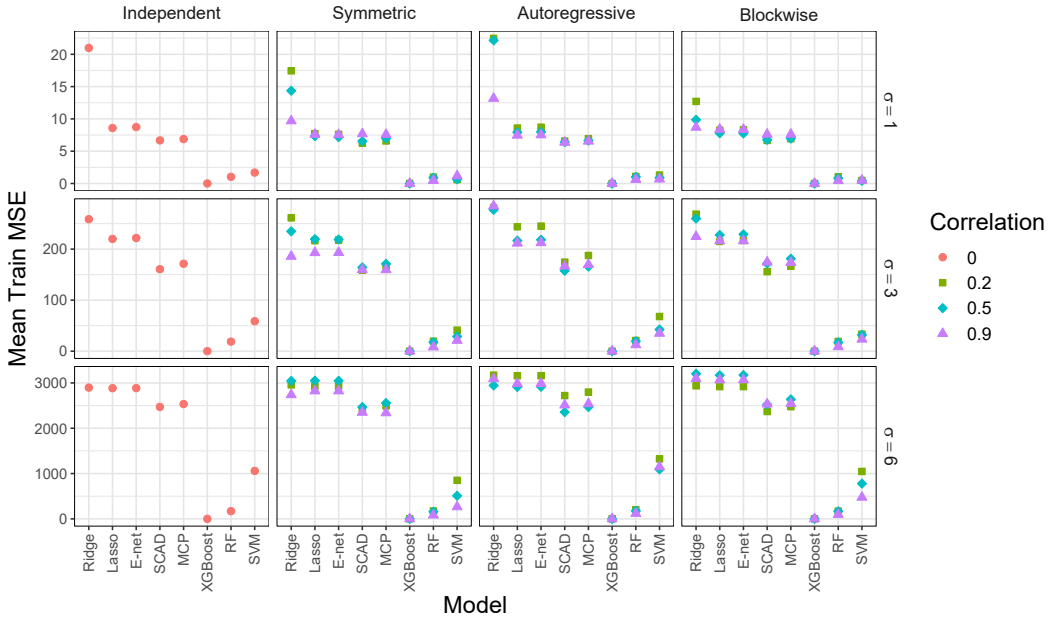

Figure 42: Average training MSE for the non-linear simulations when $n = 200$ and $p = 2000$. See Table 42 for the corresponding data.

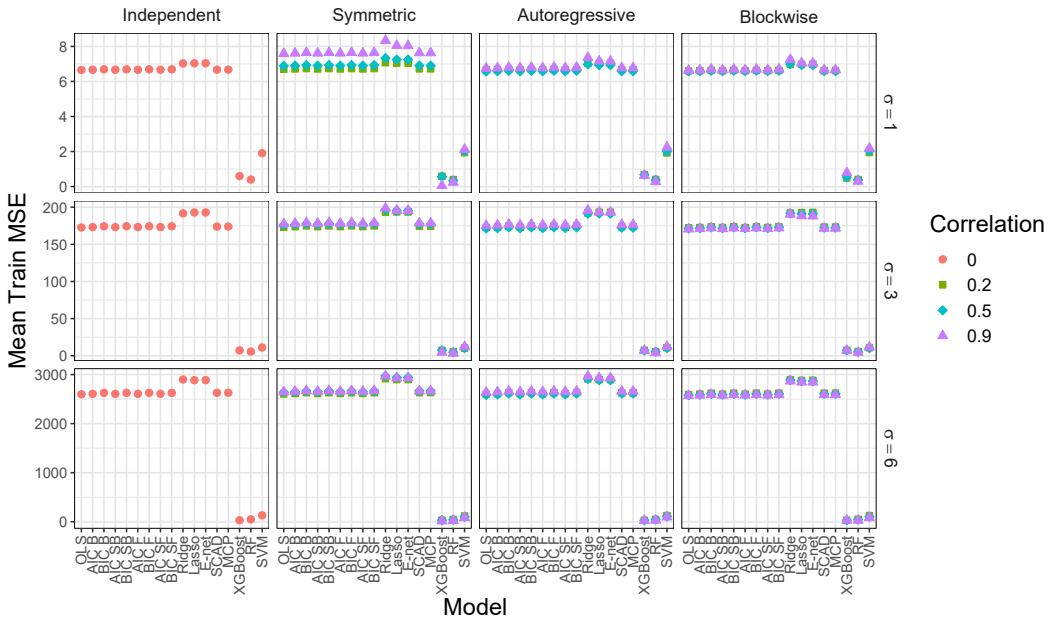

Figure 43: Average training MSE for the non-linear simulations when $n = 1000$ and $p = 10$. See Table 43 for the corresponding data.

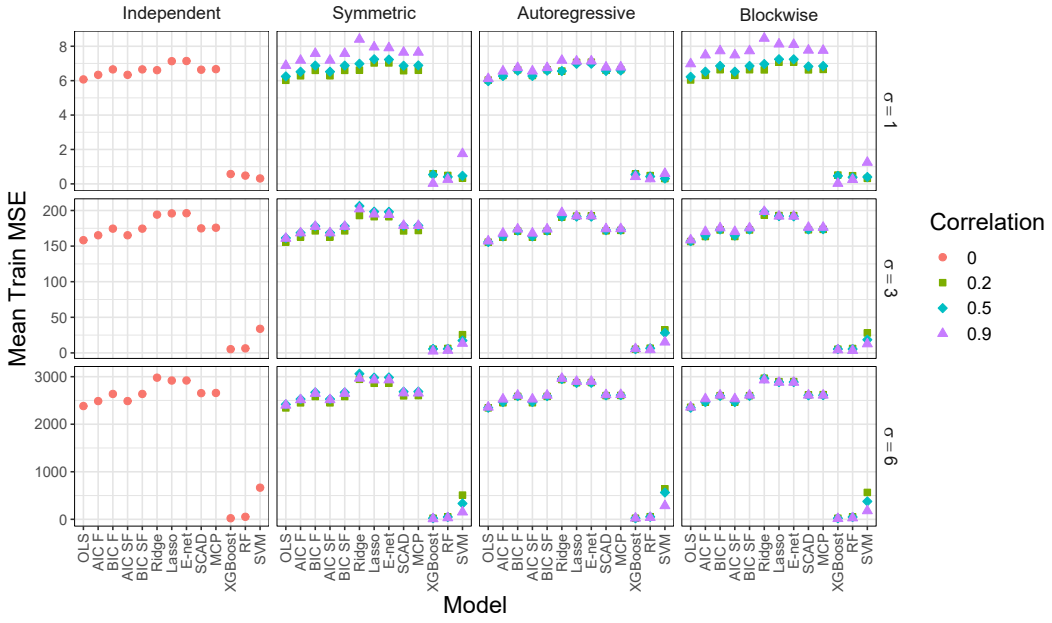

Figure 44: Average training MSE for the non-linear simulations when $n = 1000$ and $p = 100$. See Table 44 for the corresponding data.

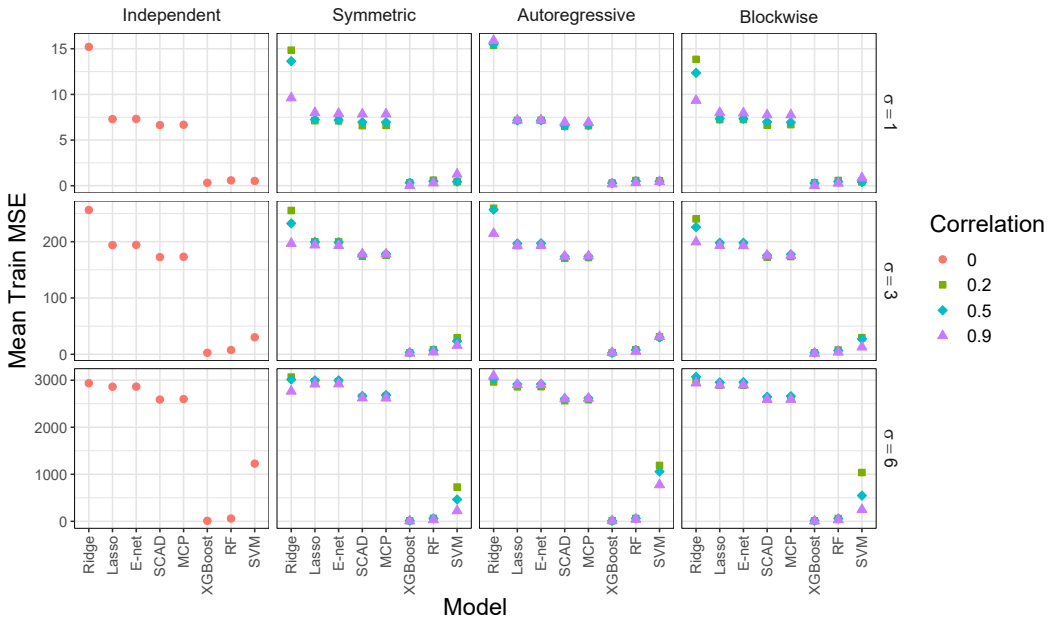

Figure 45: Average training MSE for the non-linear simulations when $n = 1000$ and $p = 2000$. See Table 45 for the corresponding data.

3.2 Figures for the average testing MSE of the non-linear simulations

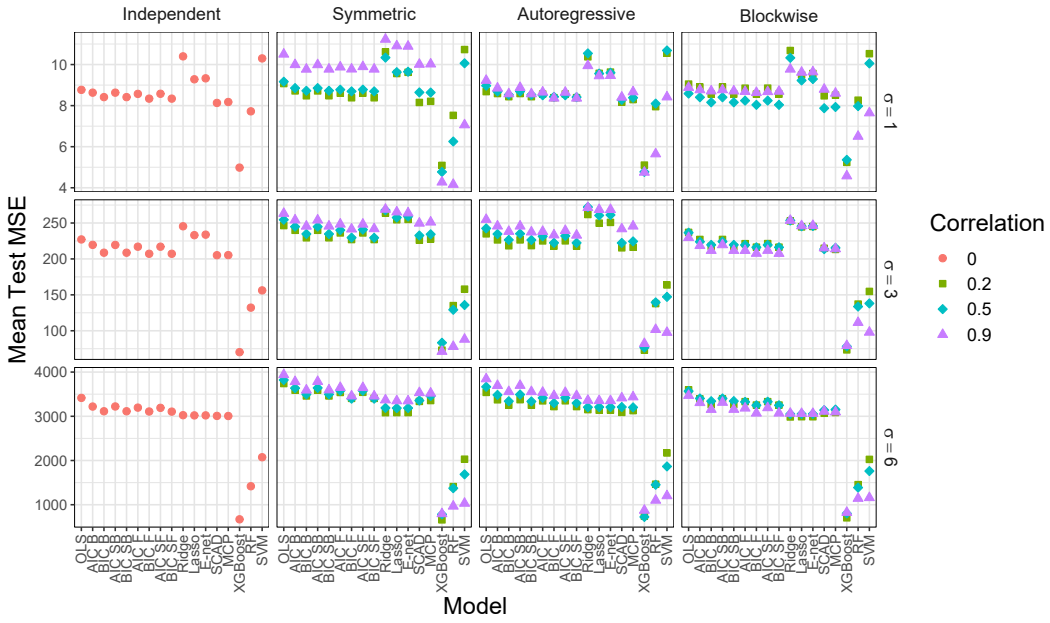

Figure 46: Average testing MSE for the non-linear simulations when $n = 50$ and $p = 10$. See Table 46 for the corresponding data.

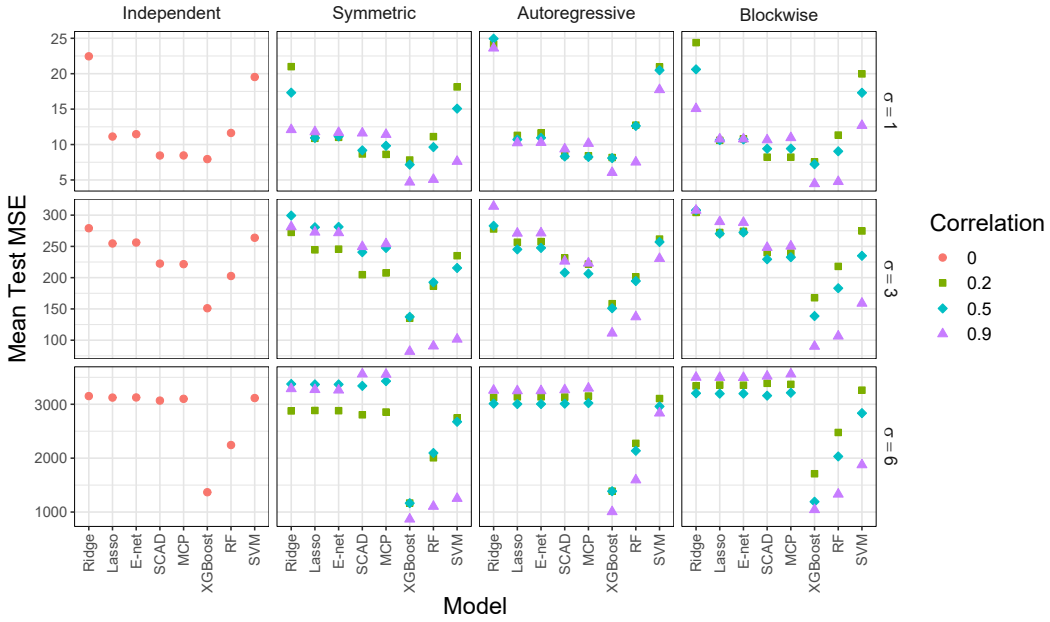

Figure 47: Average testing MSE for the non-linear simulations when $n = 50$ and $p = 100$. See Table 47 for the corresponding data.

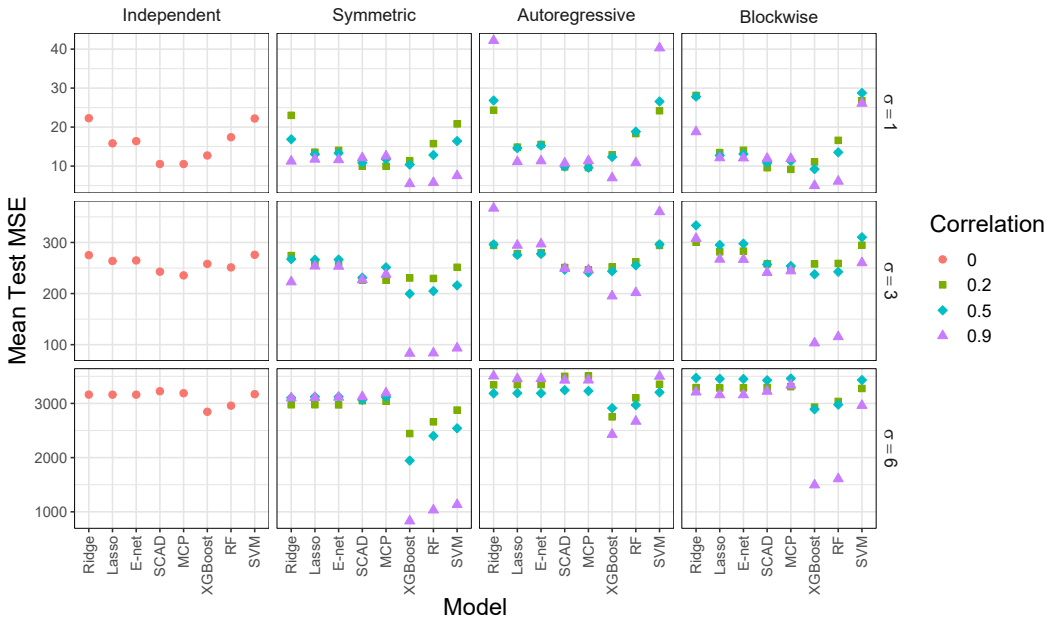

Figure 48: Average testing MSE for the non-linear simulations when $n = 50$ and $p = 2000$. See Table 48 for the corresponding data.

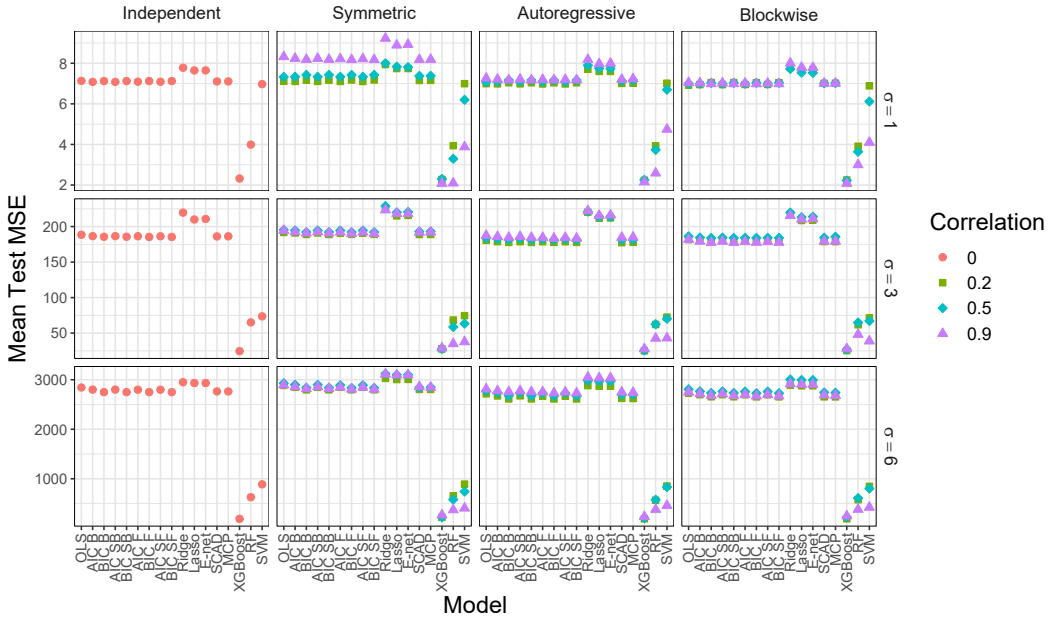

Figure 49: Average testing MSE for the non-linear simulations when $n = 200$ and $p = 10$. See Table 49 for the corresponding data.

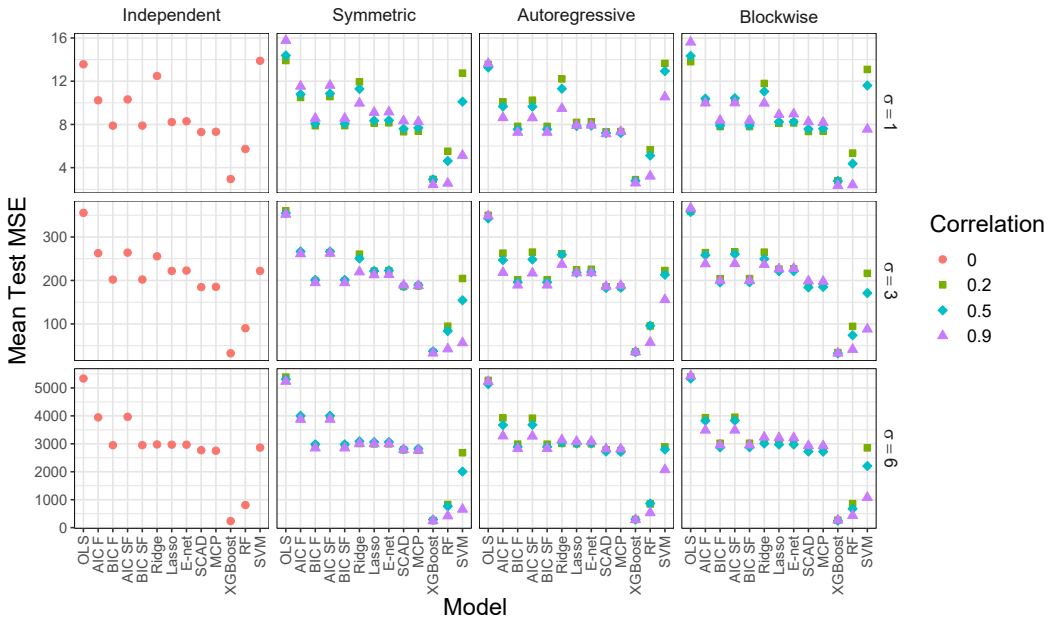

Figure 50: Average testing MSE for the non-linear simulations when $n = 200$ and $p = 100$. See Table 50 for the corresponding data.

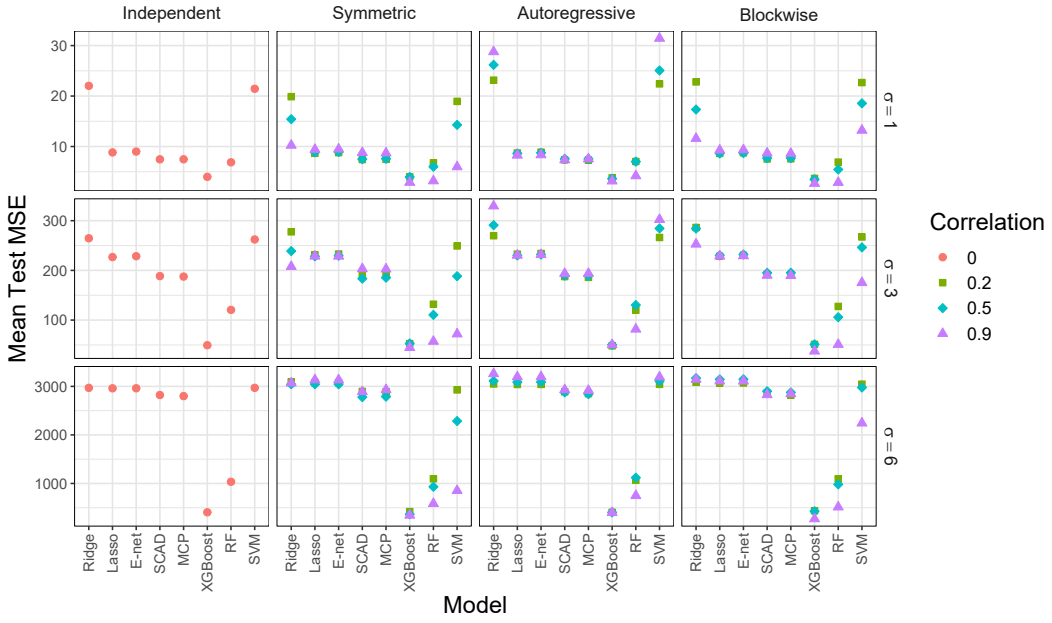

Figure 51: Average testing MSE for the non-linear simulations when $n = 200$ and $p = 2000$. See Table 51 for the corresponding data.

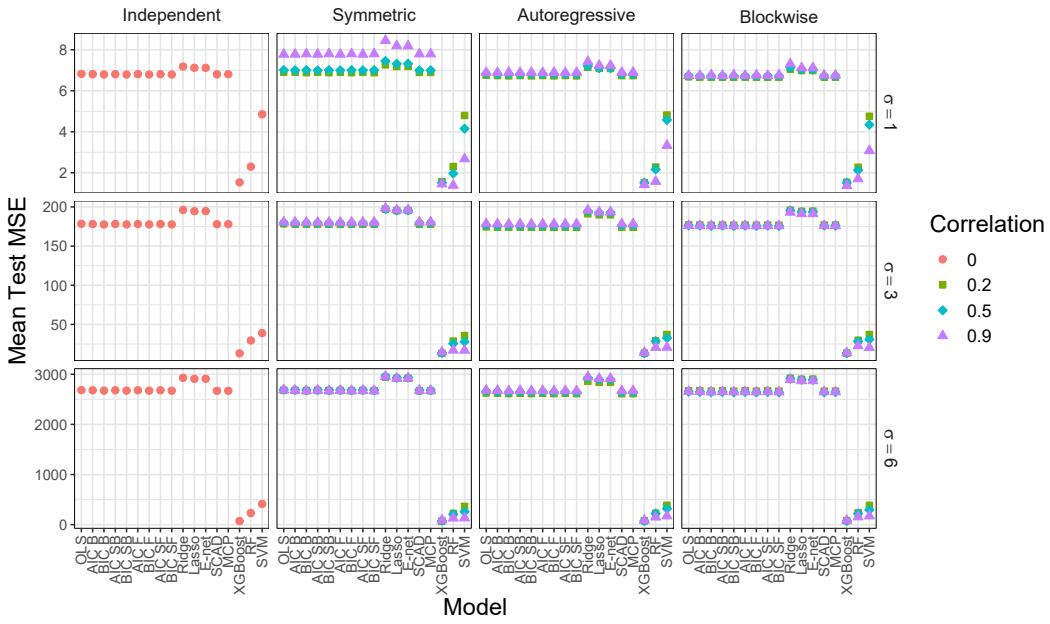

Figure 52: Average testing MSE for the non-linear simulations when $n = 1000$ and $p = 10$. See Table 52 for the corresponding data.

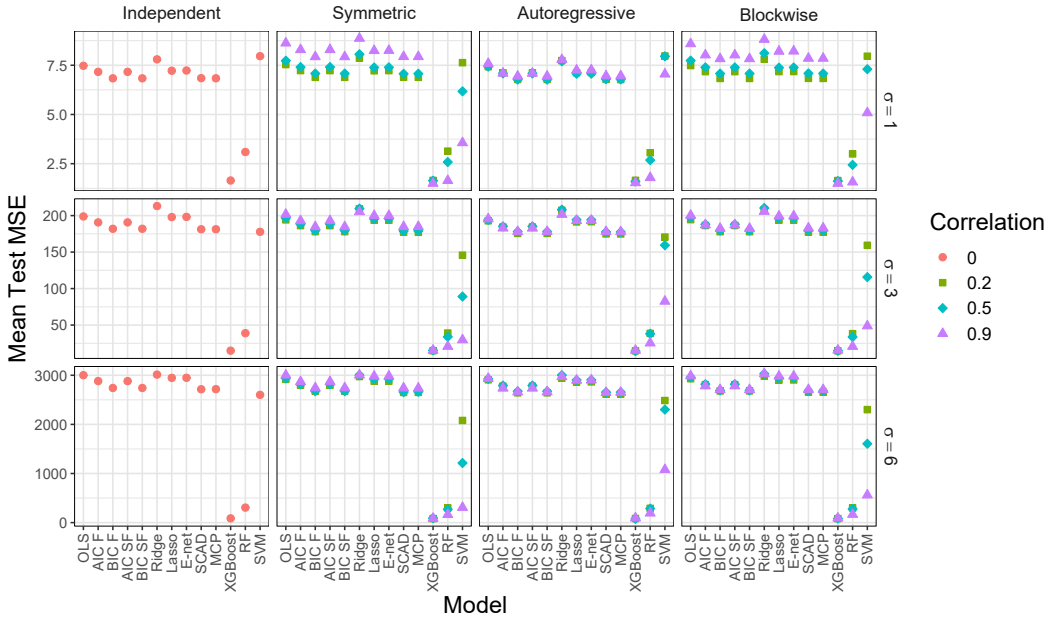

Figure 53: Average testing MSE for the non-linear simulations when $n = 1000$ and $p = 100$. See Table 53 for the corresponding data.

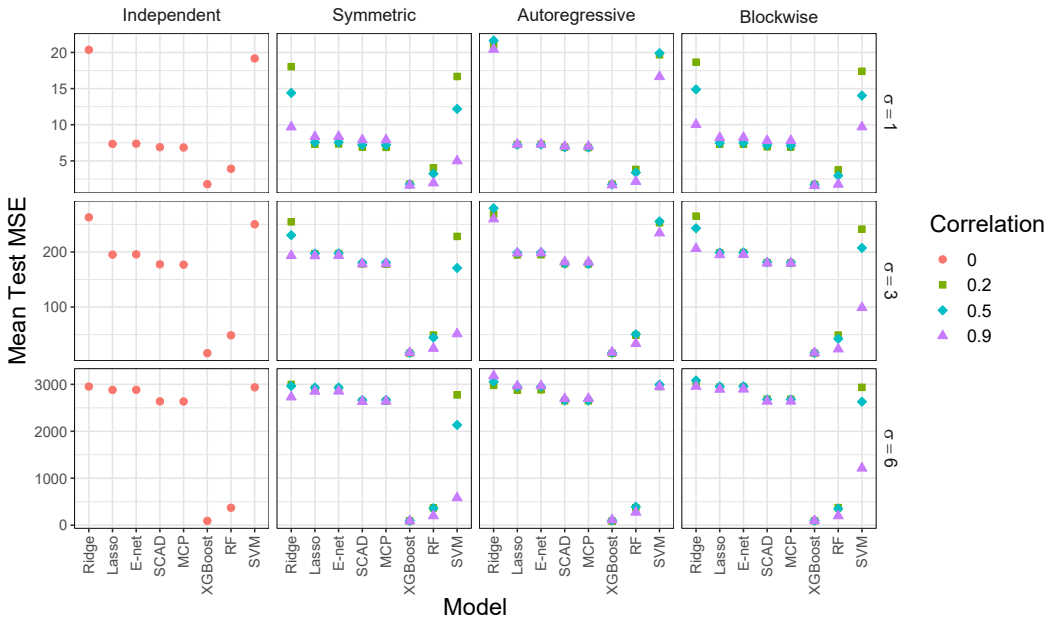

Figure 54: Average testing MSE for the non-linear simulations when $n = 1000$ and $p = 2000$. See Table 54 for the corresponding data.

3.3 Figures for the average β-sensitivity of the non-linear simulations

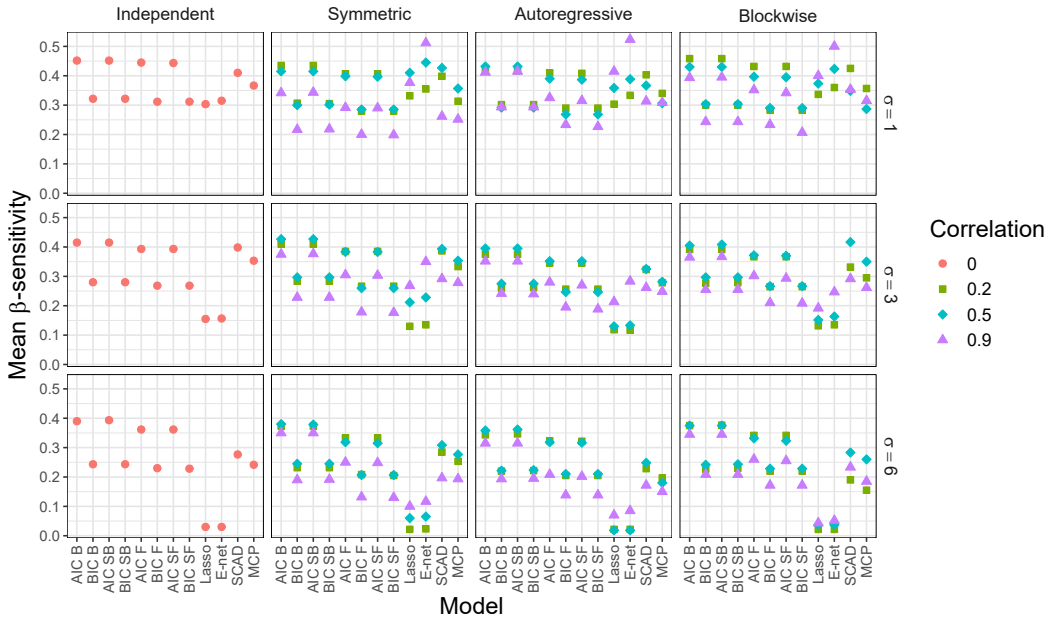

Figure 55: Average β-sensitivity for the non-linear simulations when $n = 50$ and $p = 10$. See Table 55 for the corresponding data.

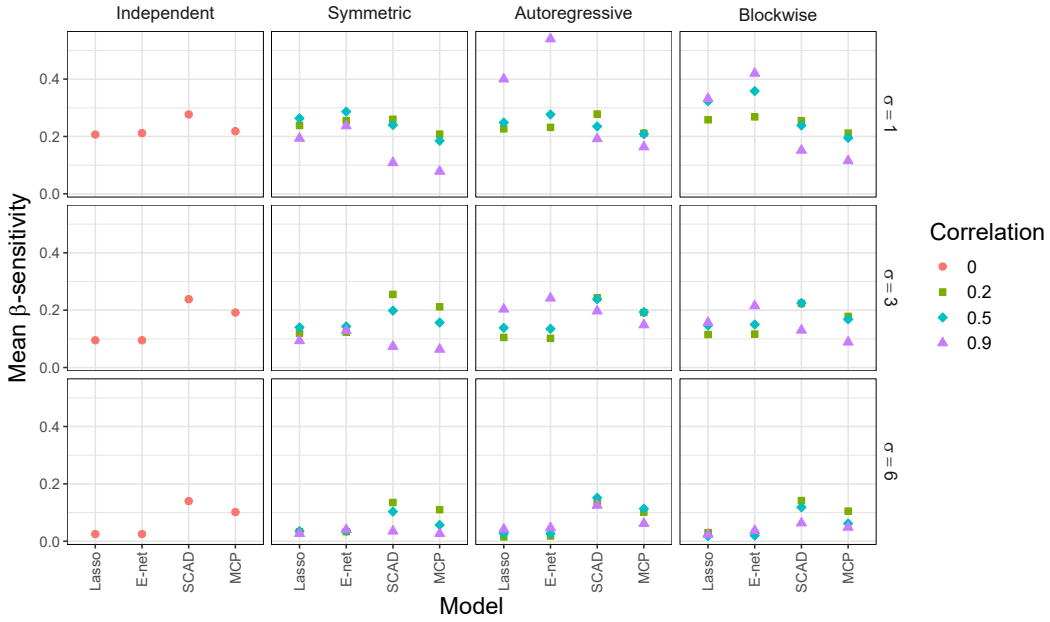

Figure 56: Average β-sensitivity for the non-linear simulations when $n = 50$ and $p = 100$. See Table 56 for the corresponding data.

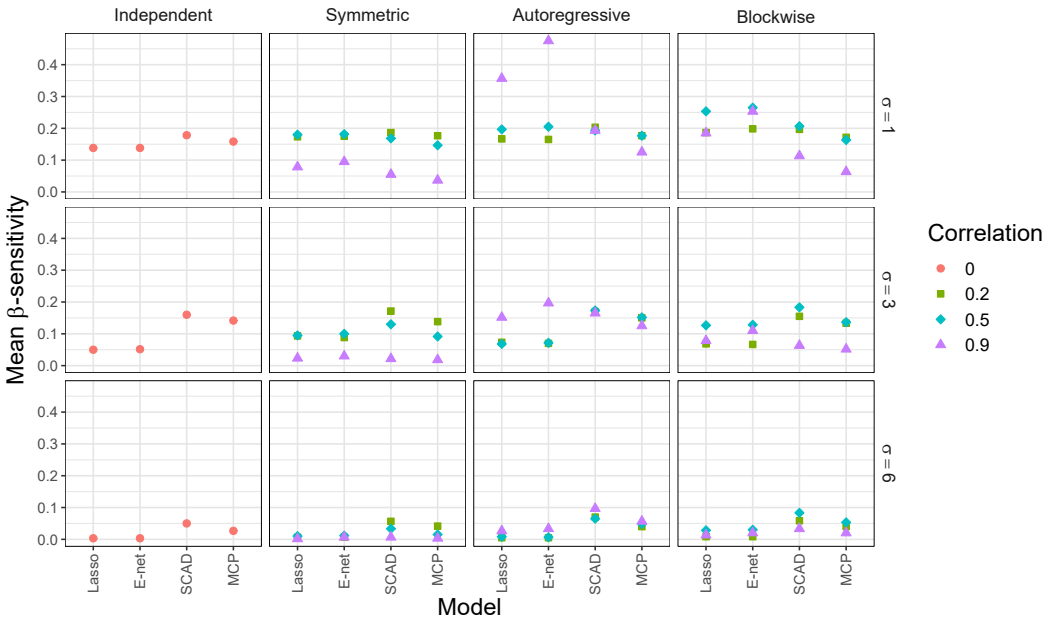

Figure 57: Average β-sensitivity for the non-linear simulations when $n = 50$ and $p = 2000$. See Table 57 for the corresponding data.

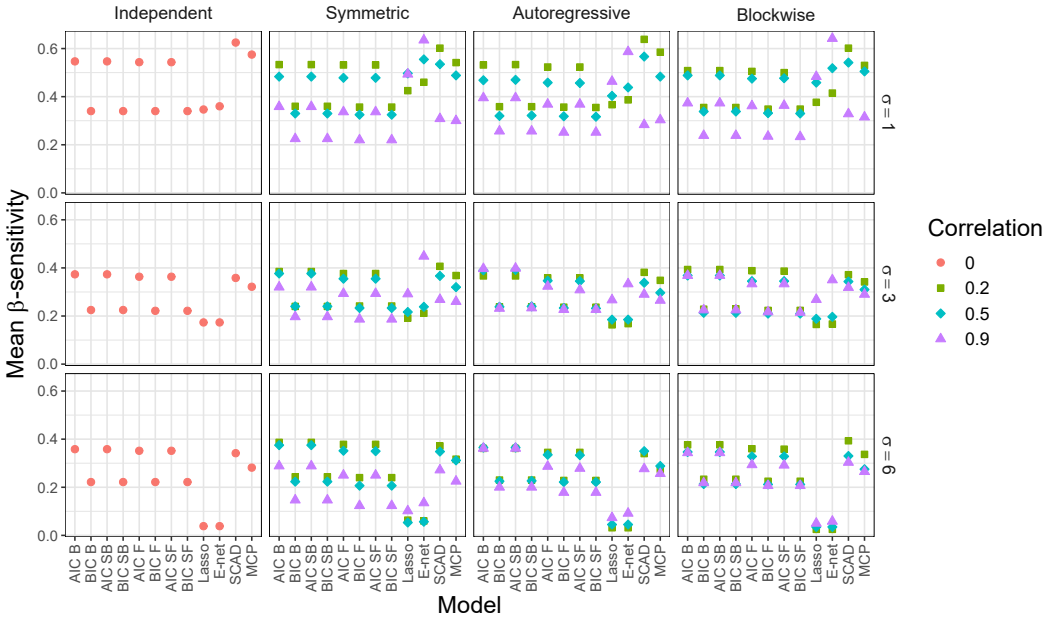

Figure 58: Average β-sensitivity for the non-linear simulations when $n = 200$ and $p = 10$. See Table 58 for the corresponding data.

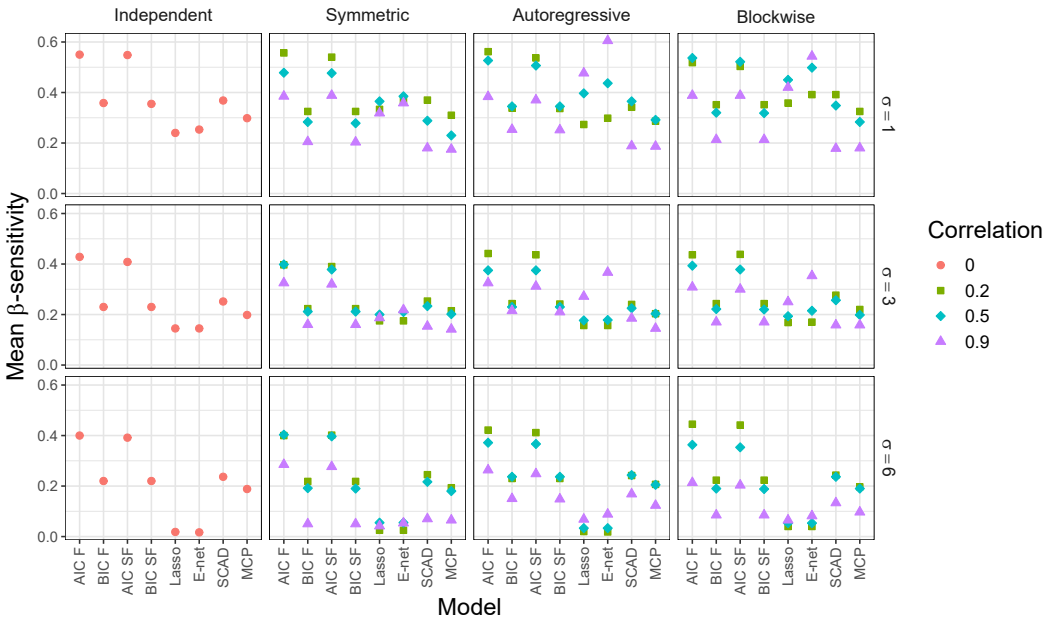

Figure 59: Average β-sensitivity for the non-linear simulations when $n = 200$ and $p = 100$. See Table 59 for the corresponding data.

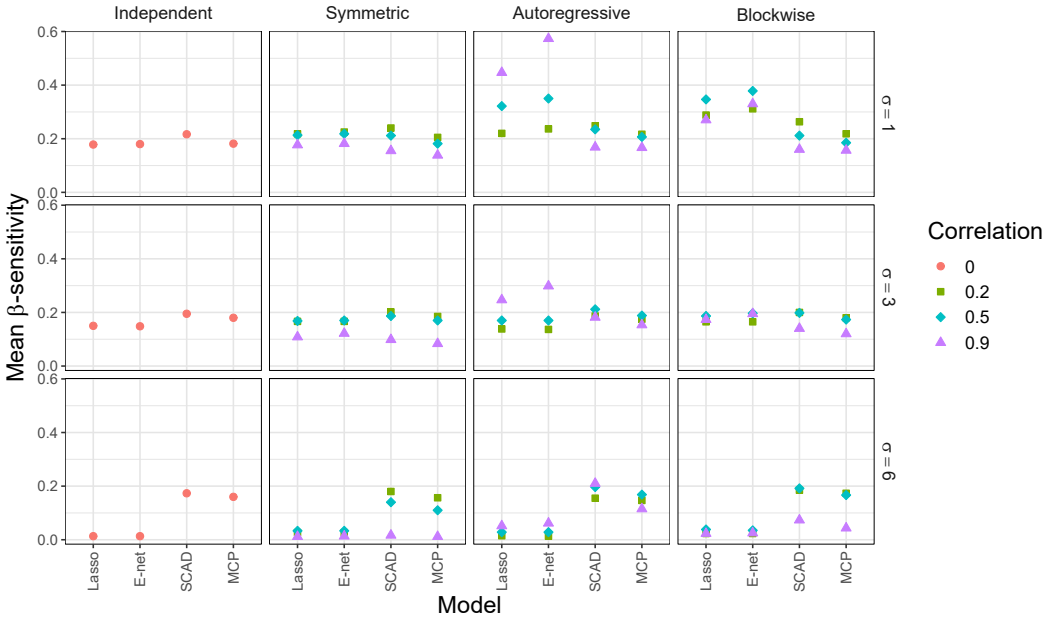

Figure 60: Average β-sensitivity for the non-linear simulations when $n = 200$ and $p = 2000$. See Table 60 for the corresponding data.

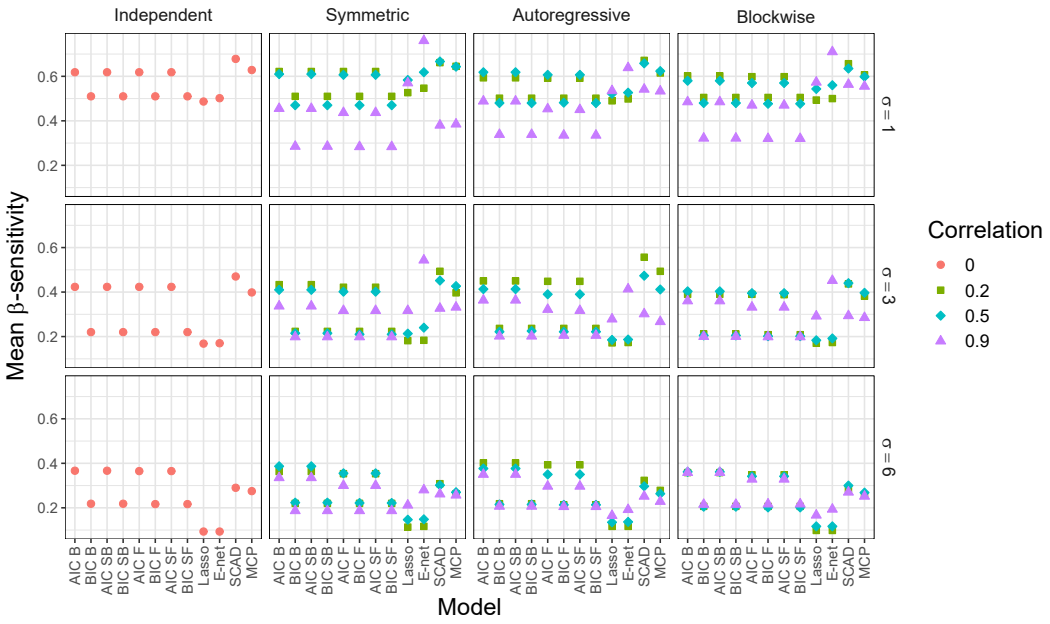

Figure 61: Average β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 10$. See Table 61 for the corresponding data.

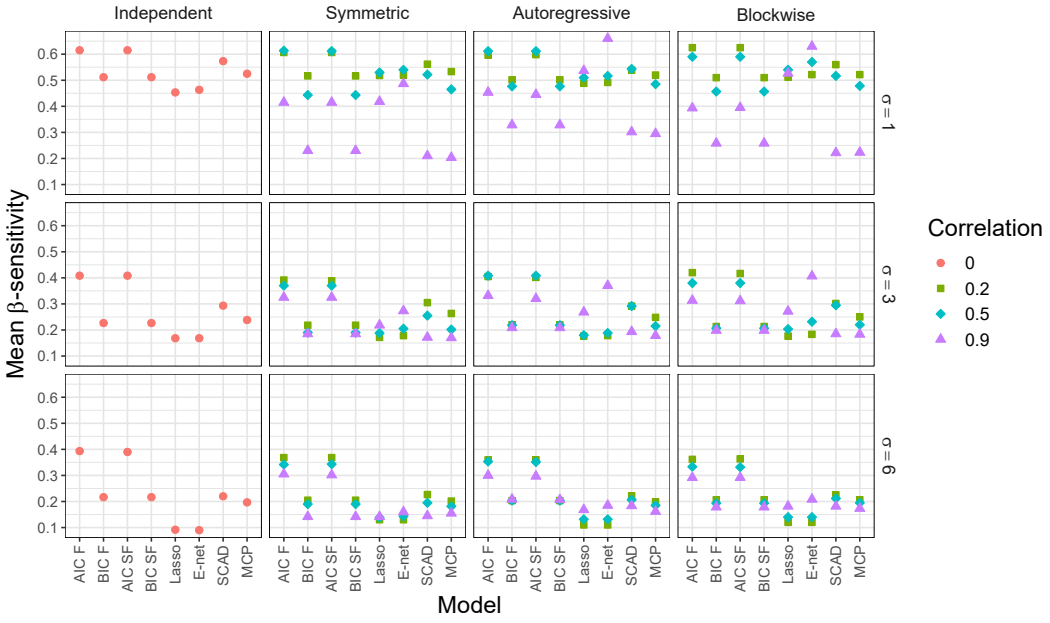

Figure 62: Average β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 100$. See Table 62 for the corresponding data.

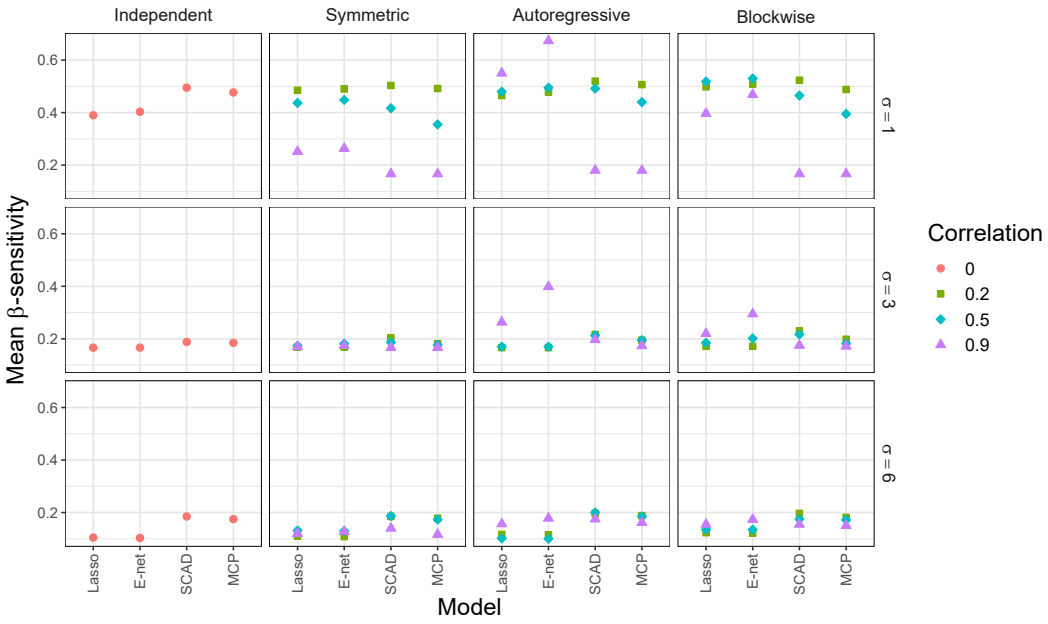

Figure 63: Average β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 2000$. See Table 63 for the corresponding data.

3.4 Figures for the average β-specificity of the non-linear simulations

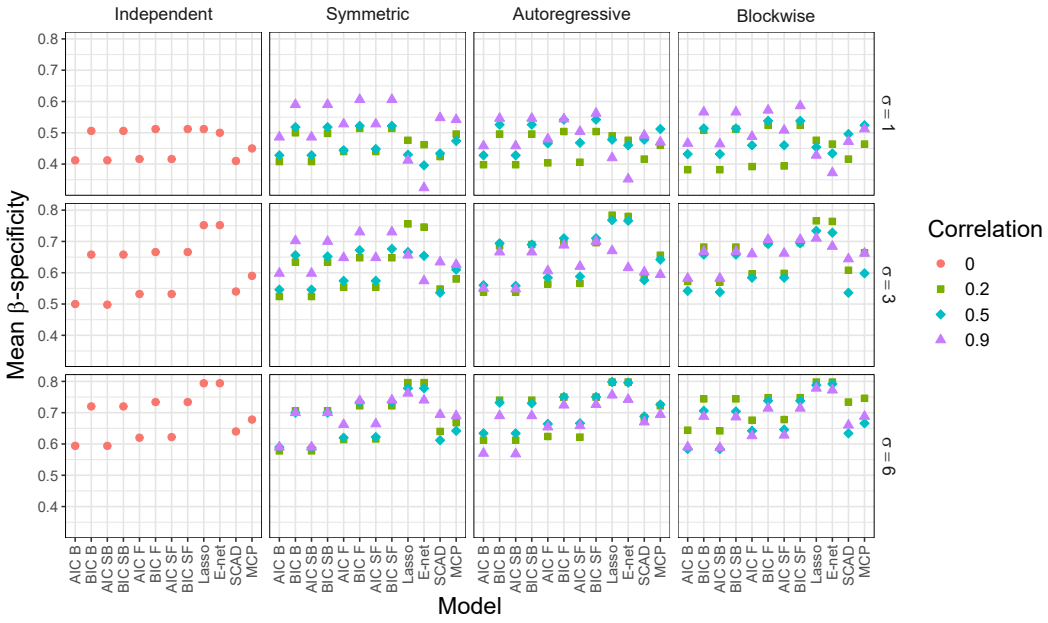

Figure 64: Average β-specificity for the non-linear simulations when $n = 50$ and $p = 10$. See Table 64 for the corresponding data.

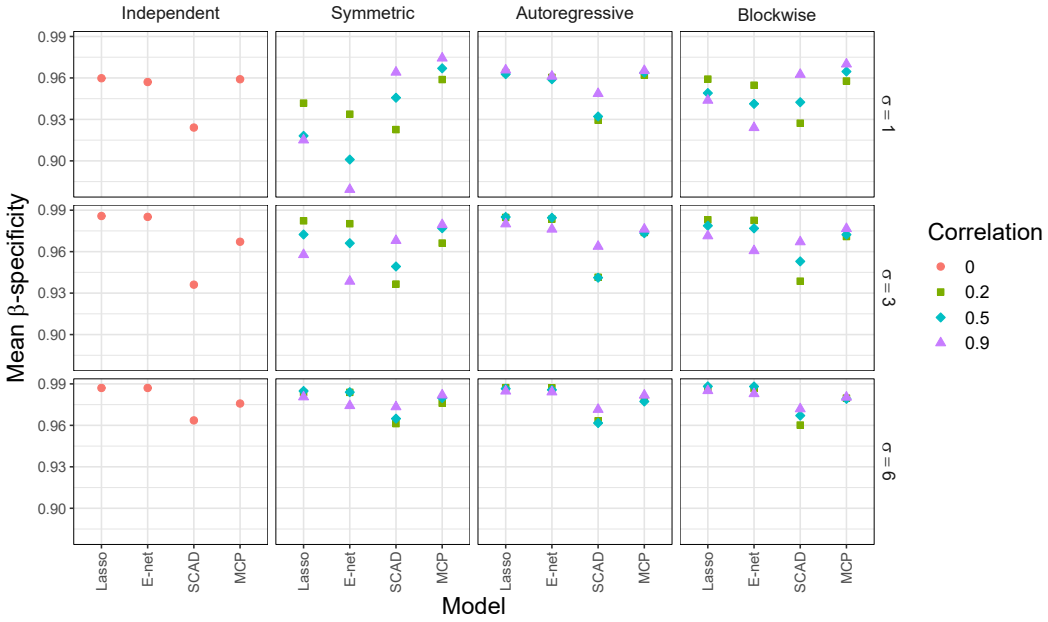

Figure 65: Average β-specificity for the non-linear simulations when $n = 50$ and $p = 100$. See Table 65 for the corresponding data.

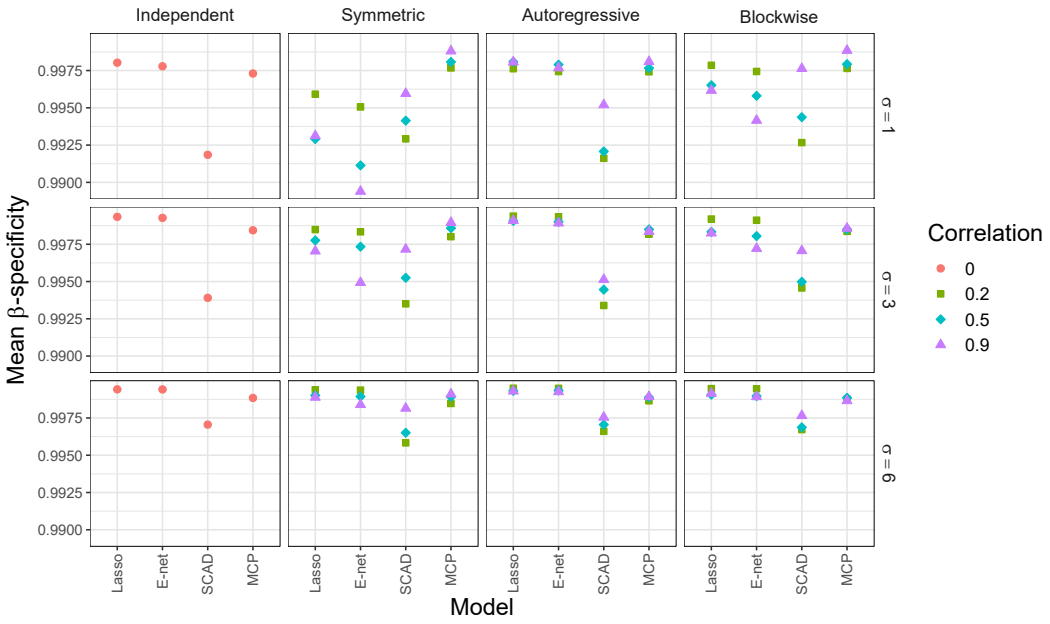

Figure 66: Average β-specificity for the non-linear simulations when $n = 50$ and $p = 2000$. See Table 66 for the corresponding data.

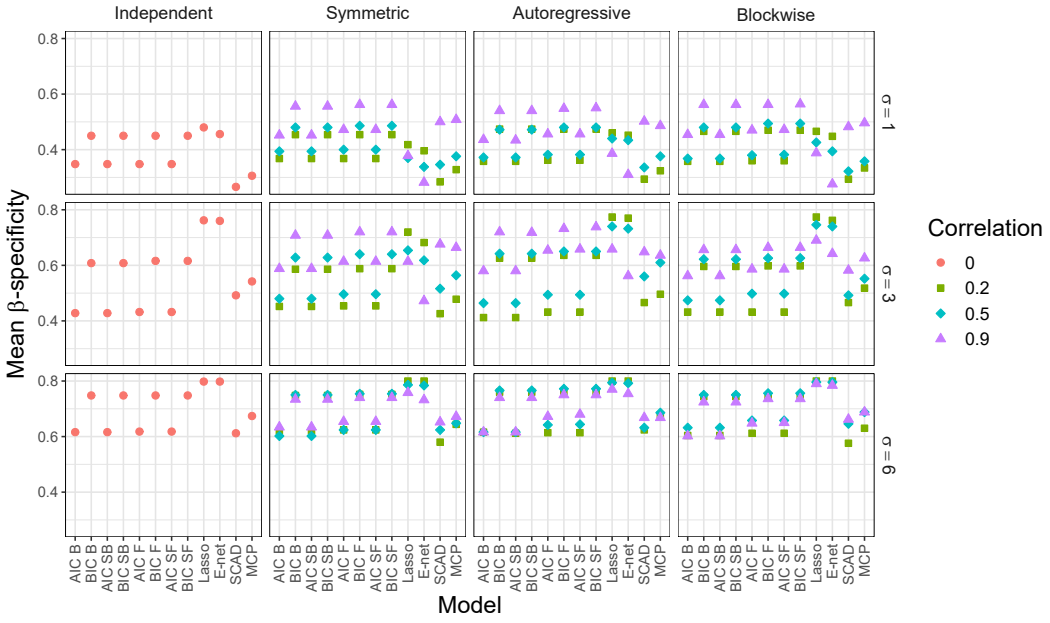

Figure 67: Average β-specificity for the non-linear simulations when $n = 200$ and $p = 10$. See Table 67 for the corresponding data.

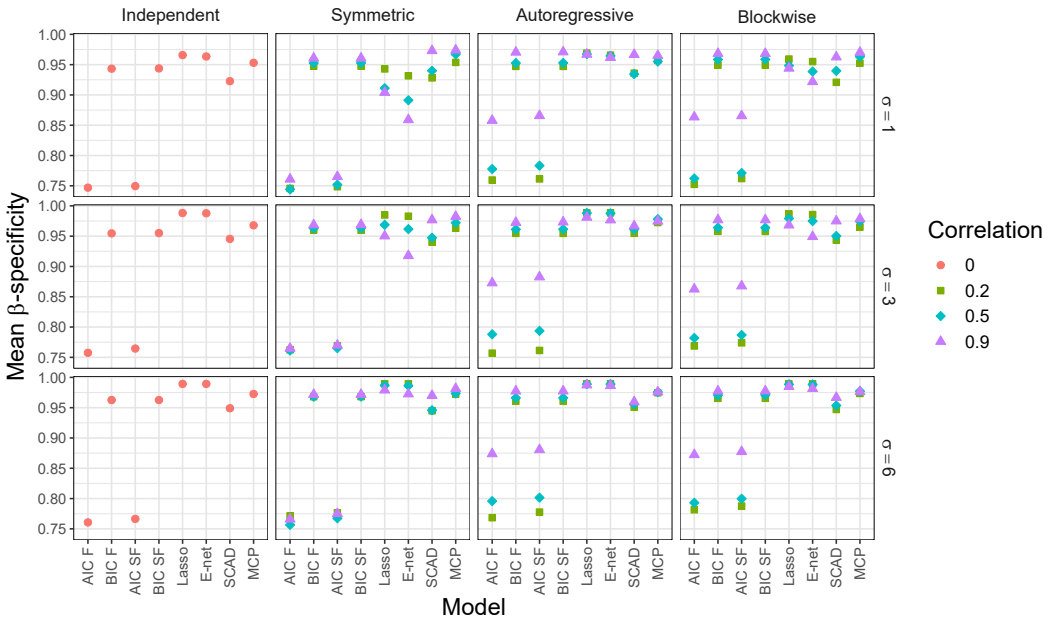

Figure 68: Average β-specificity for the non-linear simulations when $n = 200$ and $p = 100$. See Table 68 for the corresponding data.

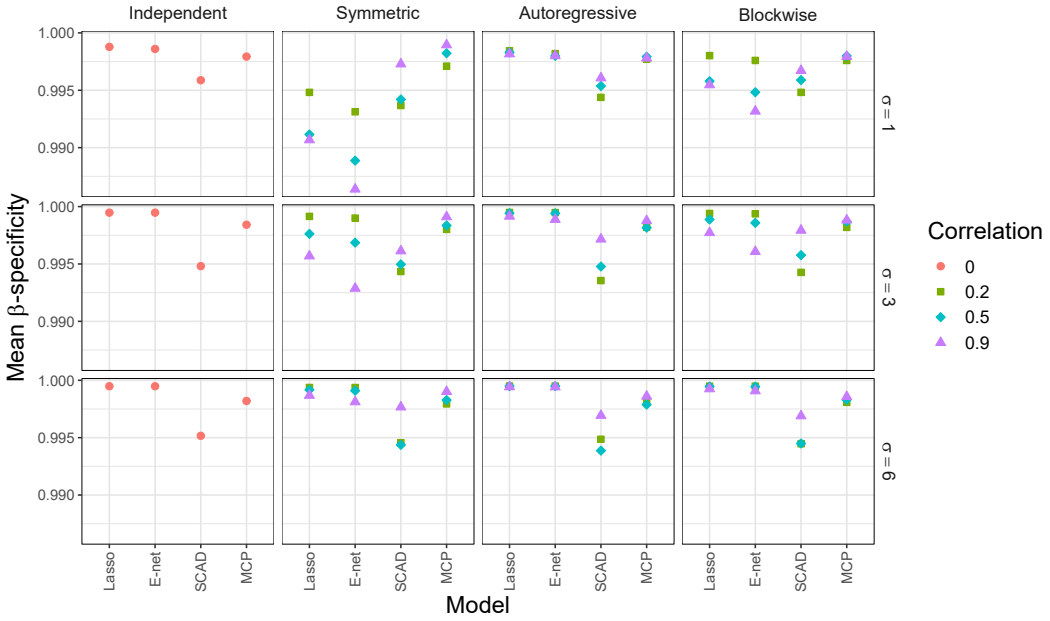

Figure 69: Average β-specificity for the non-linear simulations when $n = 200$ and $p = 2000$. See Table 69 for the corresponding data.

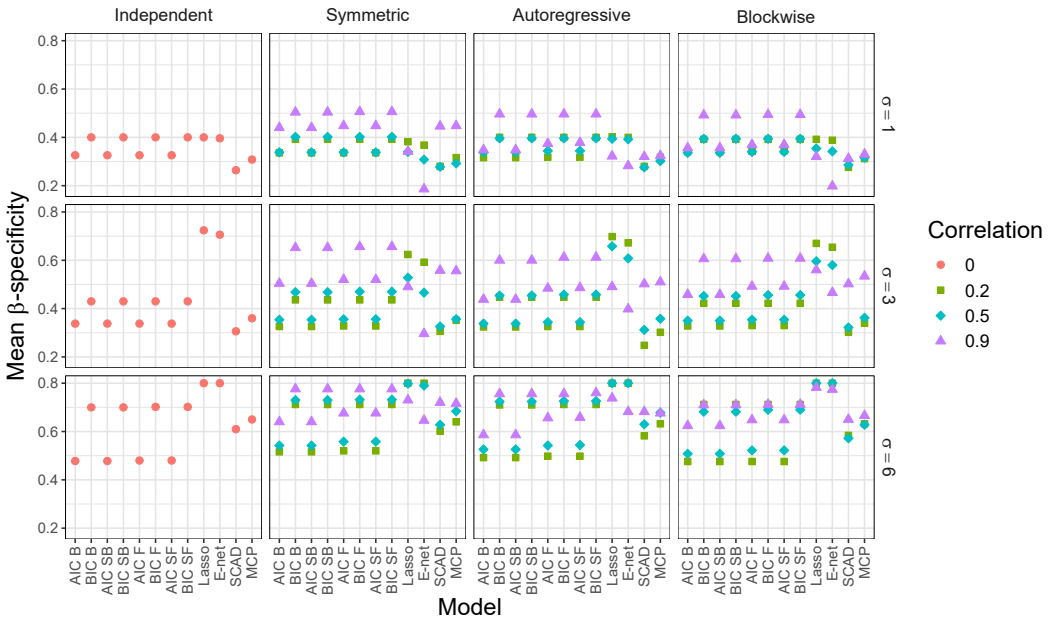

Figure 70: Average β-specificity for the non-linear simulations when $n = 1000$ and $p = 10$. See Table 70 for the corresponding data.

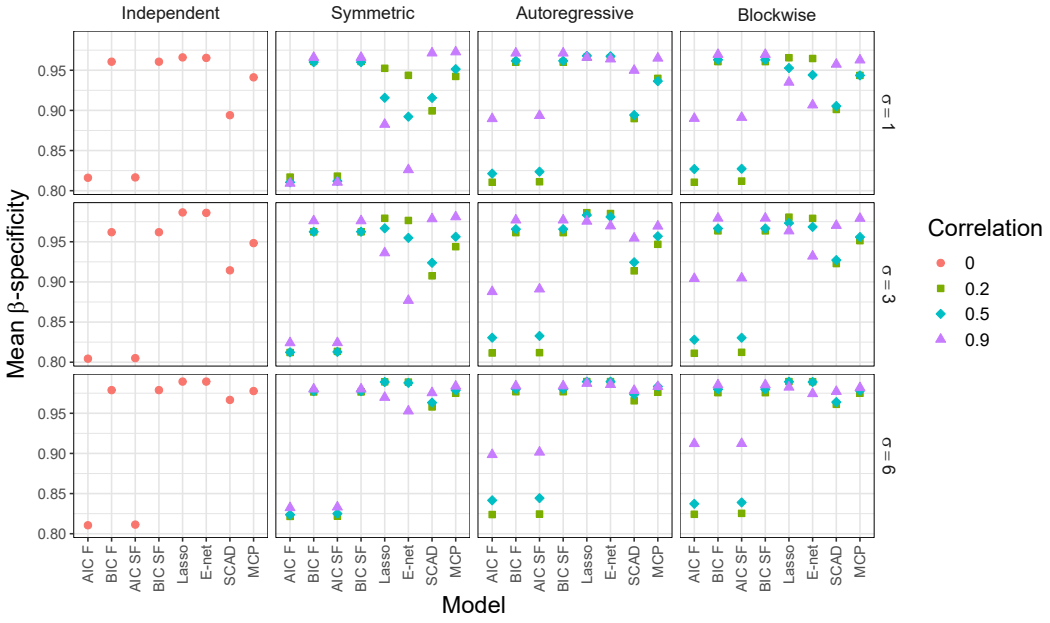

Figure 71: Average β-specificity for the non-linear simulations when $n = 1000$ and $p = 100$. See Table 71 for the corresponding data.

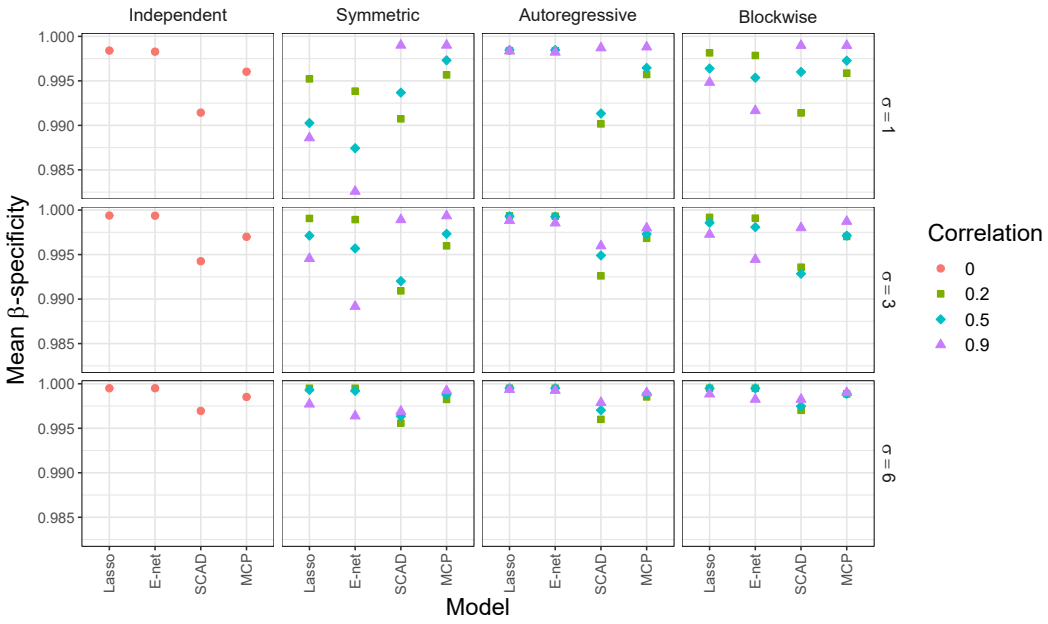

Figure 72: Average β-specificity for the non-linear simulations when $n = 1000$ and $p = 2000$. See Table 72 for the corresponding data.

See 16

4 Tables from the linear simulations

4.1 Tables for the training MSE of the linear simulations

Table 1: Mean and standard deviation of the training MSE for the linear simulations when $n = 50$ and $p = 10$. See Figure 1 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17	0.77	0.17
	AIC B	0.81	0.18	0.81	0.18	0.82	0.17	0.81	0.17	0.81	0.17	0.81	0.18	0.81	0.18	0.81	0.17	0.81	0.18	0.81	0.17
	BIC B	0.85	0.18	0.85	0.18	0.85	0.18	0.86	0.18	0.85	0.18	0.86	0.19	0.85	0.18	0.85	0.18	0.85	0.18	0.86	0.19
	AIC SB	0.81	0.18	0.81	0.18	0.82	0.17	0.81	0.17	0.81	0.17	0.81	0.18	0.81	0.18	0.81	0.17	0.81	0.17	0.81	0.17
	BIC SB	0.85	0.18	0.85	0.18	0.85	0.18	0.86	0.18	0.85	0.18	0.86	0.19	0.85	0.18	0.85	0.18	0.85	0.18	0.86	0.19
	AIC F	0.81	0.18	0.82	0.18	0.82	0.18	0.82	0.18	0.81	0.17	0.82	0.18	0.88	0.27	0.81	0.17	0.82	0.18	0.84	0.22
	BIC F	0.86	0.18	0.86	0.19	0.85	0.18	0.86	0.19	0.86	0.17	0.86	0.19	1.06	0.40	0.85	0.18	0.86	0.19	0.93	0.30
	AIC SF	0.81	0.18	0.82	0.18	0.82	0.18	0.82	0.18	0.81	0.17	0.82	0.18	0.88	0.27	0.81	0.17	0.82	0.18	0.84	0.23
	BIC SF	0.86	0.18	0.86	0.19	0.85	0.18	0.86	0.19	0.86	0.17	0.86	0.19	1.06	0.39	0.85	0.18	0.86	0.19	0.93	0.30
	Ridge	1.04	0.21	1.06	0.22	1.18	0.24	1.51	0.31	1.05	0.21	1.12	0.23	1.45	0.28	1.05	0.23	1.14	0.22	1.45	0.27
	Lasso	1.09	0.25	1.08	0.25	1.07	0.25	1.12	0.29	1.08	0.24	1.06	0.25	1.10	0.28	1.08	0.24	1.07	0.25	1.08	0.26
	E-net	1.08	0.25	1.08	0.25	1.07	0.24	1.12	0.28	1.08	0.24	1.05	0.24	1.09	0.28	1.08	0.25	1.07	0.25	1.07	0.25
	SCAD	0.87	0.20	0.87	0.19	0.87	0.19	0.87	0.22	0.86	0.18	0.88	0.20	0.86	0.20	0.86	0.18	0.86	0.20	0.86	0.19
	MCP	0.87	0.19	0.86	0.19	0.87	0.20	0.87	0.25	0.86	0.18	0.88	0.19	0.85	0.19	0.86	0.18	0.86	0.20	0.87	0.19
	XGBoost	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	RF	1.25	0.22	1.17	0.21	0.94	0.21	0.46	0.11	1.18	0.20	0.99	0.16	0.50	0.14	1.17	0.20	1.00	0.19	0.51	0.10
	SVM	0.23	0.11	0.23	0.16	0.27	0.16	0.72	0.31	0.19	0.07	0.23	0.18	0.61	0.45	0.20	0.09	0.25	0.23	0.59	0.27
3	OLS	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49	6.93	1.49
	AIC B	7.30	1.60	7.32	1.61	7.33	1.63	7.35	1.62	7.31	1.61	7.32	1.57	7.32	1.58	7.33	1.59	7.31	1.58	7.31	1.61
	BIC B	7.67	1.66	7.66	1.69	7.62	1.63	7.75	1.64	7.68	1.59	7.66	1.67	7.65	1.64	7.67	1.66	7.63	1.64	7.74	1.72
	AIC SB	7.30	1.60	7.31	1.61	7.32	1.62	7.35	1.62	7.31	1.61	7.32	1.57	7.32	1.58	7.33	1.59	7.30	1.57	7.31	1.61
	BIC SB	7.67	1.66	7.66	1.70	7.62	1.63	7.75	1.64	7.68	1.59	7.65	1.65	7.65	1.64	7.67	1.66	7.63	1.64	7.73	1.71
	AIC F	7.33	1.60	7.34	1.61	7.35	1.61	7.41	1.61	7.37	1.61	7.35	1.60	7.62	1.96	7.37	1.60	7.36	1.58	7.44	1.67
	BIC F	7.74	1.64	7.69	1.72	7.68	1.63	7.95	1.88	7.72	1.61	7.72	1.68	9.40	3.27	7.68	1.68	7.73	1.64	8.11	2.07
	AIC SF	7.33	1.60	7.34	1.61	7.35	1.61	7.41	1.61	7.37	1.61	7.35	1.60	7.65	1.97	7.37	1.60	7.36	1.58	7.44	1.66
	BIC SF	7.74	1.64	7.69	1.72	7.69	1.64	7.95	1.88	7.72	1.61	7.72	1.68	9.40	3.27	7.68	1.68	7.73	1.64	8.11	2.07
	Ridge	9.37	1.86	9.62	2.02	10.49	2.24	13.53	2.55	9.49	2.02	10.22	2.12	12.99	2.53	9.51	1.90	10.24	2.15	13.02	2.66
	Lasso	9.83	2.22	9.72	2.35	9.64	2.30	9.83	2.35	9.80	2.28	9.61	2.21	9.66	2.35	9.77	2.30	9.55	2.18	9.70	2.27
	E-net	9.75	2.22	9.68	2.29	9.63	2.31	9.84	2.30	9.76	2.27	9.58	2.22	9.63	2.31	9.76	2.30	9.50	2.13	9.65	2.23
	SCAD	7.84	1.77	7.84	1.81	7.92	1.77	7.68	1.61	7.76	1.72	7.90	1.82	7.66	1.72	7.72	1.79	7.90	1.71	7.76	1.71
	MCP	7.81	1.75	7.80	1.82	7.91	1.74	7.72	1.66	7.73	1.73	7.89	1.83	7.70	1.77	7.73	1.78	7.92	1.73	7.76	1.71
	XGBoost	0.06	0.08	0.06	0.07	0.06	0.08	0.09	0.13	0.04	0.07	0.06	0.08	0.07	0.11	0.05	0.08	0.05	0.08	0.06	0.11
	RF	11.21	2.01	10.31	1.71	8.44	1.59	4.04	0.96	10.34	1.71	9.13	1.62	4.47	0.99	10.19	1.78	8.90	1.52	4.55	1.03
	SVM	2.05	1.03	1.88	1.17	2.32	1.24	6.27	2.65	1.76	0.91	2.46	2.65	5.17	2.41	1.91	1.83	2.09	1.01	5.42	2.43
6	OLS	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95	27.74	5.95
	AIC B	29.19	6.40	29.26	6.44	29.31	6.51	29.40	6.47	29.25	6.45	29.29	6.28	29.30	6.32	29.33	6.35	29.25	6.30	29.23	6.44
	BIC B	30.68	6.62	30.64	6.76	30.47	6.53	31.01	6.58	30.70	6.35	30.64	6.70	30.59	6.58	30.67	6.63	30.51	6.54	30.97	6.89
	AIC SB	29.19	6.40	29.25	6.43	29.29	6.48	29.40	6.47	29.25	6.45	29.29	6.28	29.29	6.32	29.33	6.35	29.21	6.27	29.23	6.44
	BIC SB	30.68	6.62	30.62	6.79	30.47	6.53	31.01	6.58	30.70	6.35	30.60	6.58	30.59	6.58	30.67	6.63	30.51	6.54	30.93	6.84
	AIC F	29.31	6.41	29.36	6.43	29.38	6.45	29.65	6.42	29.48	6.45	29.40	6.39	30.49	7.83	29.47	6.41	29.43	6.31	29.77	6.67
	BIC F	30.94	6.56	30.76	6.90	30.74	6.53	31.79	7.54	30.87	6.45	30.87	6.74	37.59	13.09	30.74	6.72	30.92	6.56	32.43	8.26
	AIC SF	29.31	6.41	29.36	6.43	29.38	6.45	29.65	6.42	29.48	6.44	29.41	6.39	30.60	7.87	29.47	6.41	29.44	6.31	29.77	6.66
	BIC SF	30.94	6.56	30.76	6.90	30.76	6.55	31.79	7.54	30.87	6.45	30.87	6.74	37.60	13.09	30.74	6.72	30.93	6.55	32.43	8.26
	Ridge	37.50	7.43	38.48	8.08	41.94	8.98	54.12	10.20	37.97	8.08	40.86	8.49	51.97	10.11	38.05	7.59	40.95	8.59	52.09	10.63
	Lasso	39.32	8.88	38.90	9.42	38.57	9.18	39.32	9.40	39.19	9.11	38.42	8.85	38.62	9.39	39.08	9.20	38.20	8.71	38.81	9.07
	E-net	39.02	8.89	38.73	9.18	38.50	9.24	39.37	9.20	39.05	9.07	38.32	8.87	38.54	9.25	39.04	9.19	38.01	8.52	38.59	8.91
	SCAD	31.35	7.08	31.35	7.23	31.66	7.07	30.71	6.45	31.06	6.90	31.60	7.29	30.66	6.89	30.90	7.18	31.59	6.83	31.05	6.84
	MCP	31.25	6.98	31.19	7.29	31.63	6.96	30.86	6.65	30.94	6.94	31.56	7.33	30.80	7.09	30.93	7.12	31.70	6.93	31.05	6.85
	XGBoost	0.24	0.32	0.29	0.30	0.21	0.31	0.45	0.58	0.18	0.25	0.21	0.33	0.28	0.46	0.18	0.27	0.22	0.31	0.30	0.50
	RF	44.87	8.00	41.30	6.87	33.76	6.37	16.17	3.85	41.34	6.80	36.47	6.46	17.89	3.97	40.79	7.13	35.60	6.13	18.20	4.12
	SVM	8.22	4.13	7.50	4.68	9.53	6.14	24.99	10.31	7.04	3.64	9.85	10.59	20.90	9.73	7.63	7.31	8.36	4.04	21.67	11.60

Table 2: Mean and standard deviation of the training MSE for the linear simulations when $n = 50$ and $p = 100$. See Figure 2 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	16.98	3.71	14.10	3.02	9.63	1.72	3.11	0.61	15.92	3.74	13.75	2.76	6.53	1.39	14.80	3.09	10.64	2.14	4.13	0.89
	Lasso	1.37	0.46	1.34	0.45	1.20	0.44	1.38	0.41	1.41	0.50	1.38	0.53	1.79	0.53	1.36	0.43	1.27	0.55	1.48	0.55
	E-net	1.38	0.48	1.36	0.47	1.20	0.47	1.37	0.39	1.42	0.55	1.41	0.56	1.80	0.53	1.38	0.46	1.29	0.58	1.49	0.55
	SCAD	0.84	0.29	0.88	0.25	0.94	0.25	1.25	0.39	0.90	0.28	0.93	0.27	1.41	0.44	0.90	0.29	0.94	0.26	1.23	0.43
	MCP	0.90	0.29	0.92	0.25	0.96	0.24	1.18	0.38	0.95	0.28	0.94	0.29	1.43	0.46	0.96	0.30	0.96	0.28	1.18	0.46
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	1.70	0.29	1.56	0.29	1.10	0.20	0.47	0.09	1.60	0.33	1.25	0.21	0.52	0.13	1.56	0.30	1.12	0.20	0.50	0.11
	SVM	0.54	0.91	0.46	0.53	0.47	0.61	0.87	0.53	0.70	1.36	0.41	0.45	0.25	0.24	0.42	0.71	0.41	0.40	0.67	0.55
3	Ridge	152.82	33.38	127.16	29.14	86.66	18.70	27.80	5.77	139.47	30.76	123.60	25.72	58.74	12.46	130.48	26.46	93.78	21.72	36.47	6.31
	Lasso	12.35	4.12	11.64	4.20	11.51	4.13	12.31	4.03	11.52	4.69	12.66	6.75	16.20	4.87	11.52	4.51	11.97	5.15	13.05	4.69
	E-net	12.40	4.33	11.79	4.28	11.71	4.24	12.24	3.99	11.80	4.99	13.10	7.43	16.28	4.73	11.69	4.70	12.28	5.57	13.17	4.74
	SCAD	7.59	2.60	7.91	2.37	8.74	2.22	11.14	3.41	7.88	2.40	8.13	2.38	12.79	4.04	7.90	2.56	8.62	2.33	10.80	3.56
	MCP	8.10	2.61	8.28	2.31	8.96	2.26	10.66	3.47	8.16	2.40	8.55	2.49	13.12	4.02	8.22	2.75	8.84	2.31	10.22	3.28
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	15.26	2.63	13.54	2.57	10.19	1.83	4.18	0.95	14.41	2.58	11.51	2.09	4.70	1.22	13.82	2.55	10.11	1.95	4.30	0.94
	SVM	4.50	6.06	4.57	5.63	4.87	6.13	7.30	4.15	5.76	11.52	3.28	3.07	2.14	1.64	4.59	6.70	4.64	6.94	5.45	4.15
6	Ridge	611.28	133.53	508.65	116.54	346.64	74.78	111.20	23.09	557.86	123.04	494.42	102.89	234.94	49.86	521.93	105.84	375.14	86.89	145.88	25.25
	Lasso	49.38	16.47	46.54	16.79	46.05	16.50	49.24	16.13	46.09	18.76	50.63	26.99	64.78	19.48	46.08	18.05	47.89	20.60	52.20	18.77
	E-net	49.60	17.30	47.18	17.12	46.85	16.97	48.97	15.95	47.19	19.95	52.39	29.72	65.11	18.92	46.77	18.81	49.11	22.27	52.69	18.97
	SCAD	30.37	10.42	31.64	9.47	34.94	8.88	44.55	13.66	31.53	9.61	32.52	9.51	51.15	16.15	31.62	10.25	34.49	9.33	43.19	14.24
	MCP	32.38	10.46	33.11	9.25	35.83	9.05	42.64	13.87	32.65	9.59	34.21	9.96	52.48	16.07	32.86	10.99	35.38	9.23	40.86	13.13
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	60.87	10.44	54.21	10.32	40.78	7.32	16.77	3.82	57.69	10.29	46.13	8.42	18.81	4.88	55.32	10.18	40.47	7.73	17.23	3.76
	SVM	18.70	25.14	17.62	20.26	20.01	25.63	28.93	15.98	21.28	33.19	13.15	12.11	8.76	7.26	16.49	22.80	17.19	21.10	22.57	16.59

Table 3: Mean and standard deviation of the training MSE for the linear simulations when $n = 50$ and $p = 2000$. See Figure 3 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	17.23	3.46	15.65	3.69	9.67	2.21	2.96	0.62	17.04	3.79	15.27	3.38	10.61	3.21	16.38	4.05	11.43	4.31	2.39	1.25
	Lasso	2.71	1.60	2.69	2.38	2.34	1.62	1.75	0.48	3.52	2.59	5.13	2.22	2.31	0.60	3.84	2.51	4.22	1.75	1.91	0.54
	E-net	3.38	2.29	3.07	2.63	2.60	1.68	1.70	0.46	4.20	2.86	5.63	2.20	2.41	0.63	4.58	2.71	4.63	1.73	1.92	0.55
	SCAD	0.83	0.30	0.82	0.26	0.94	0.37	1.47	0.44	0.86	0.41	1.45	1.19	1.48	0.52	0.91	0.34	0.95	0.61	1.52	0.45
	MCP	0.94	0.30	0.94	0.28	1.09	0.45	1.43	0.42	1.08	1.13	2.21	1.61	1.55	0.45	1.04	0.42	1.24	0.87	1.58	0.45
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	2.14	0.40	1.90	0.39	1.30	0.28	0.45	0.10	1.91	0.40	1.46	0.31	0.61	0.13	1.88	0.42	1.28	0.26	0.54	0.12
	SVM	4.56	3.73	2.45	2.87	1.29	1.35	0.89	0.54	4.58	3.69	3.95	3.45	1.36	1.97	2.73	3.08	1.07	1.52	0.22	0.21
3	Ridge	155.11	31.15	137.31	31.01	87.42	19.36	26.04	5.18	155.75	34.85	137.91	30.96	92.22	27.90	146.37	34.31	104.27	35.08	21.61	10.88
	Lasso	24.35	14.44	24.16	19.02	24.92	15.15	14.97	4.20	32.48	24.29	48.45	18.89	20.59	5.75	29.14	20.27	38.08	14.24	16.86	4.64
	E-net	30.45	20.58	27.98	21.68	27.04	15.38	14.78	3.95	38.72	27.41	53.16	19.89	21.01	6.51	35.98	21.93	41.61	13.92	16.97	4.85
	SCAD	7.44	2.74	7.49	2.48	8.13	4.71	13.05	4.07	7.49	2.76	11.59	9.25	13.93	4.23	7.39	2.90	8.80	5.48	14.12	3.79
	MCP	8.45	2.73	8.85	2.36	9.33	5.25	12.61	3.70	9.20	4.29	15.83	12.14	14.64	3.53	8.79	2.88	11.97	8.47	14.29	3.68
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	19.26	3.62	16.43	3.32	11.97	2.38	4.11	0.94	17.28	3.91	13.17	2.82	5.57	1.25	16.95	3.49	11.83	2.58	4.67	1.06
	SVM	42.13	33.63	17.95	21.15	13.24	15.02	7.71	4.36	44.52	34.25	34.41	30.21	11.86	15.46	30.65	29.90	9.01	14.85	1.75	0.85
6	Ridge	620.44	124.62	549.25	124.06	349.70	77.44	104.17	20.72	615.50	134.69	551.66	123.85	368.87	111.59	585.48	137.22	417.07	140.32	86.42	43.51
	Lasso	97.39	57.75	96.63	76.09	99.67	60.62	59.87	16.79	136.83	107.80	193.78	75.58	82.38	23.01	116.55	81.09	152.30	56.97	67.46	18.56
	E-net	121.80	82.32	111.94	86.72	108.17	61.53	59.12	15.80	160.64	114.39	212.65	79.54	84.02	26.03	143.93	87.70	166.45	55.69	67.88	19.42
	SCAD	29.74	10.96	29.97	9.91	32.51	18.84	52.19	16.28	29.26	10.97	46.37	36.99	55.71	16.92	29.57	11.59	35.21	21.92	56.46	15.15
	MCP	33.80	10.93	35.41	9.43	37.32	21.00	50.46	14.80	38.95	40.73	63.33	48.56	58.55	14.14	35.17	11.50	47.88	33.86	57.17	14.71
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	76.87	14.15	65.66	13.13	47.66	9.50	16.42	3.76	68.43	14.86	52.70	11.31	22.30	4.95	67.58	13.67	47.39	10.35	18.75	4.29
	SVM	168.49	137.29	81.76	100.97	51.02	58.93	31.87	19.60	149.20	125.77	126.61	112.50	48.41	69.21	123.76	125.31	34.76	49.83	7.00	3.41

Table 4: Mean and standard deviation of the training MSE for the linear simulations when $n = 200$ and $p = 10$. See Figure 4 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09	0.95	0.09
	AIC B	0.96	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.96	0.09	0.96	0.09	0.96	0.09	0.97	0.09	0.96	0.09
	BIC B	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.10	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09
	AIC SB	0.96	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.96	0.09	0.96	0.09	0.96	0.09	0.97	0.09	0.96	0.09
	BIC SB	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.10	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09
	AIC F	0.96	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.96	0.09	0.97	0.09	0.97	0.09
	BIC F	0.98	0.09	0.98	0.09	0.98	0.09	0.99	0.10	0.98	0.09	0.98	0.09	0.99	0.09	0.98	0.09	0.98	0.09	0.98	0.09
	AIC SF	0.96	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.97	0.09	0.96	0.09	0.97	0.09	0.97	0.09
	BIC SF	0.98	0.09	0.98	0.09	0.98	0.09	0.99	0.10	0.98	0.09	0.98	0.09	0.99	0.09	0.98	0.09	0.98	0.09	0.98	0.09
	Ridge	1.12	0.11	1.15	0.10	1.22	0.11	1.45	0.13	1.14	0.10	1.21	0.11	1.40	0.12	1.14	0.11	1.21	0.10	1.43	0.12
	Lasso	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.07	0.11	1.08	0.11	1.08	0.11	1.07	0.11
	E-net	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.08	0.11	1.07	0.11	1.08	0.11	1.08	0.11	1.07	0.11
	SCAD	0.97	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.97	0.09	0.98	0.09	0.97	0.09	0.97	0.09	0.98	0.09
	MCP	0.97	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.98	0.09	0.97	0.09	0.97	0.09	0.98	0.09
	XGBoost	0.29	0.08	0.28	0.09	0.30	0.07	0.18	0.17	0.28	0.08	0.28	0.08	0.22	0.16	0.30	0.07	0.28	0.09	0.26	0.15
	RF	0.62	0.06	0.63	0.06	0.57	0.05	0.32	0.03	0.64	0.05	0.64	0.05	0.35	0.03	0.64	0.05	0.64	0.05	0.38	0.04
	SVM	0.38	0.20	0.37	0.19	0.45	0.17	0.79	0.15	0.39	0.22	0.38	0.15	0.66	0.10	0.35	0.16	0.37	0.10	0.71	0.12
3	OLS	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81	8.57	0.81
	AIC B	8.68	0.80	8.69	0.82	8.68	0.82	8.68	0.81	8.68	0.81	8.68	0.82	8.68	0.81	8.69	0.81	8.68	0.81	8.68	0.82
	BIC B	8.82	0.83	8.81	0.84	8.82	0.81	8.85	0.84	8.81	0.83	8.82	0.82	8.84	0.85	8.79	0.83	8.82	0.82	8.86	0.83
	AIC SB	8.68	0.80	8.69	0.82	8.68	0.82	8.68	0.81	8.68	0.81	8.68	0.82	8.68	0.81	8.69	0.81	8.68	0.81	8.68	0.82
	BIC SB	8.82	0.83	8.81	0.84	8.82	0.81	8.85	0.84	8.81	0.83	8.82	0.82	8.84	0.85	8.79	0.83	8.82	0.82	8.86	0.83
	AIC F	8.68	0.80	8.69	0.82	8.69	0.82	8.69	0.82	8.69	0.81	8.69	0.82	8.71	0.82	8.69	0.81	8.69	0.81	8.70	0.82
	BIC F	8.82	0.83	8.81	0.84	8.82	0.81	8.87	0.83	8.81	0.83	8.84	0.83	8.86	0.85	8.79	0.83	8.83	0.82	8.87	0.84
	AIC SF	8.68	0.80	8.69	0.82	8.69	0.82	8.69	0.82	8.69	0.81	8.69	0.82	8.71	0.82	8.69	0.81	8.69	0.81	8.71	0.82
	BIC SF	8.82	0.83	8.81	0.84	8.82	0.81	8.87	0.83	8.81	0.83	8.84	0.83	8.86	0.85	8.79	0.83	8.83	0.82	8.87	0.84
	Ridge	10.11	0.95	10.25	0.87	10.96	0.91	13.15	1.14	10.26	0.94	10.89	1.02	12.66	1.06	10.27	0.93	10.84	0.91	13.06	1.07
	Lasso	9.74	0.97	9.70	0.97	9.70	0.96	9.72	0.98	9.74	0.97	9.72	0.97	9.66	0.99	9.71	0.98	9.67	0.99	9.68	0.97
	E-net	9.75	0.99	9.70	0.97	9.69	0.97	9.70	0.97	9.74	0.99	9.72	0.98	9.66	0.98	9.71	0.97	9.67	0.99	9.66	0.97
	SCAD	8.75	0.80	8.77	0.83	8.78	0.80	8.78	0.84	8.79	0.80	8.77	0.81	8.77	0.85	8.76	0.82	8.77	0.80	8.81	0.85
	MCP	8.77	0.80	8.79	0.82	8.78	0.80	8.79	0.85	8.79	0.81	8.77	0.80	8.78	0.85	8.76	0.82	8.78	0.80	8.79	0.84
	XGBoost	2.66	0.62	2.62	0.72	2.64	0.74	1.80	1.62	2.61	0.68	2.65	0.71	2.00	1.45	2.61	0.63	2.51	0.84	2.03	1.41
	RF	5.59	0.51	5.64	0.45	5.09	0.42	2.89	0.28	5.67	0.54	5.81	0.51	3.24	0.35	5.67	0.43	5.80	0.49	3.47	0.39
	SVM	3.39	1.84	3.24	1.54	4.06	1.55	7.12	1.01	3.29	1.61	3.19	1.02	6.10	1.04	3.26	1.64	3.41	1.03	6.41	1.07
6	OLS	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22	34.30	3.22
	AIC B	34.70	3.21	34.76	3.28	34.74	3.28	34.73	3.26	34.73	3.25	34.71	3.28	34.71	3.25	34.74	3.25	34.70	3.26	34.71	3.29
	BIC B	35.27	3.31	35.26	3.35	35.29	3.26	35.40	3.35	35.25	3.31	35.30	3.28	35.36	3.40	35.14	3.31	35.27	3.28	35.42	3.33
	AIC SB	34.70	3.21	34.76	3.28	34.74	3.28	34.73	3.26	34.73	3.25	34.71	3.28	34.71	3.25	34.74	3.25	34.70	3.26	34.71	3.29
	BIC SB	35.27	3.31	35.26	3.35	35.29	3.26	35.40	3.35	35.25	3.31	35.30	3.28	35.36	3.40	35.14	3.31	35.27	3.28	35.42	3.33
	AIC F	34.71	3.22	34.76	3.28	34.75	3.28	34.77	3.27	34.74	3.25	34.76	3.27	34.83	3.29	34.75	3.25	34.75	3.23	34.82	3.27
	BIC F	35.27	3.31	35.26	3.35	35.29	3.26	35.49	3.32	35.25	3.31	35.34	3.32	35.44	3.38	35.17	3.33	35.30	3.29	35.50	3.38
	AIC SF	34.71	3.22	34.76	3.28	34.75	3.28	34.77	3.27	34.74	3.25	34.76	3.27	34.83	3.29	34.75	3.25	34.75	3.23	34.82	3.27
	BIC SF	35.27	3.31	35.26	3.35	35.29	3.26	35.49	3.32	35.25	3.31	35.34	3.32	35.45	3.40	35.17	3.33	35.30	3.29	35.50	3.38
	Ridge	40.44	3.81	41.01	3.48	43.83	3.63	52.60	4.57	41.06	3.78	43.57	4.09	50.65	4.23	41.08	3.72	43.35	3.64	52.23	4.26
	Lasso	38.96	3.89	38.81	3.87	38.79	3.85	38.89	3.93	38.96	3.89	38.86	3.89	38.66	3.97	38.82	3.92	38.68	3.96	38.72	3.88
	E-net	38.99	3.94	38.82	3.89	38.76	3.87	38.82	3.89	38.94	3.95	38.87	3.91	38.63	3.93	38.83	3.89	38.66	3.97	38.64	3.90
	SCAD	35.00	3.18	35.10	3.30	35.12	3.21	35.10	3.35	35.16	3.21	35.10	3.23	35.10	3.40	35.03	3.26	35.08	3.20	35.23	3.41
	MCP	35.07	3.21	35.14	3.28	35.11	3.21	35.15	3.40	35.17	3.26	35.10	3.21	35.11	3.41	35.04	3.27	35.10	3.21	35.15	3.38
	XGBoost	10.72	2.51	10.55	2.78	10.27	3.22	7.50	6.52	10.24	2.80	10.08	2.98	7.75	5.92	10.13	2.88	10.01	3.38	8.79	5.38
	RF	22.38	2.08	22.55	1.79	20.35	1.66	11.55	1.10	22.70	2.18	23.22	2.04	12.96	1.39	22.69	1.73	23.17	1.96	13.89	1.53
	SVM	13.54	7.36	12.97	6.14	16.26	6.20	28.47	4.00	13.15	6.46	12.78	4.08	24.75	4.67	13.05	6.56	13.65	4.10	25.58	4.09

Table 5: Mean and standard deviation of the training MSE for the linear simulations when $n = 200$ and $p = 100$. See Figure 5 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07	0.50	0.07
	AIC F	0.66	0.10	0.66	0.10	0.67	0.10	0.67	0.10	0.66	0.10	0.70	0.11	0.81	0.12	0.67	0.10	0.68	0.10	0.80	0.12
	BIC F	0.90	0.11	0.90	0.11	0.91	0.11	0.92	0.12	0.90	0.11	0.92	0.11	0.96	0.11	0.91	0.11	0.93	0.11	0.95	0.10
	AIC SF	0.66	0.10	0.66	0.09	0.67	0.10	0.67	0.10	0.66	0.10	0.70	0.10	0.81	0.12	0.67	0.10	0.68	0.11	0.80	0.12
	BIC SF	0.90	0.11	0.90	0.11	0.91	0.11	0.92	0.12	0.90	0.11	0.92	0.11	0.96	0.11	0.91	0.11	0.93	0.11	0.95	0.10
	Ridge	0.74	0.11	0.78	0.11	0.91	0.14	1.33	0.20	0.77	0.11	0.86	0.12	1.19	0.15	0.78	0.11	0.89	0.12	1.31	0.20
	Lasso	1.14	0.14	1.12	0.14	1.11	0.13	1.11	0.14	1.14	0.14	1.15	0.15	1.10	0.14	1.14	0.15	1.12	0.13	1.11	0.13
	E-net	1.16	0.14	1.13	0.14	1.11	0.13	1.11	0.14	1.15	0.14	1.16	0.15	1.10	0.14	1.15	0.15	1.13	0.13	1.11	0.13
	SCAD	0.95	0.12	0.95	0.11	0.96	0.11	1.00	0.11	0.95	0.11	0.95	0.11	0.99	0.11	0.95	0.11	0.95	0.11	0.98	0.11
	MCP	0.97	0.11	0.96	0.11	0.97	0.11	1.00	0.11	0.96	0.11	0.96	0.11	1.00	0.11	0.97	0.11	0.96	0.11	0.99	0.10
	XGBoost	0.03	0.02	0.04	0.01	0.05	0.02	0.08	0.07	0.03	0.02	0.04	0.02	0.07	0.05	0.04	0.02	0.05	0.03	0.08	0.07
	RF	0.85	0.07	0.88	0.07	0.73	0.07	0.35	0.04	0.87	0.07	0.80	0.07	0.35	0.04	0.87	0.07	0.70	0.06	0.34	0.04
	SVM	0.21	0.05	0.21	0.06	0.23	0.06	0.62	0.19	0.21	0.04	0.18	0.03	0.20	0.04	0.21	0.04	0.21	0.06	0.46	0.17
3	OLS	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63	4.53	0.63
	AIC F	5.96	0.87	5.94	0.88	5.96	0.88	5.98	0.85	5.92	0.87	6.34	0.90	7.23	1.01	6.06	0.88	6.18	0.97	7.27	1.17
	BIC F	8.08	0.99	8.23	1.03	8.26	0.95	8.23	0.96	8.16	0.95	8.22	0.99	8.58	1.01	8.20	0.91	8.34	1.01	8.57	0.93
	AIC SF	5.96	0.86	5.94	0.91	6.00	0.87	5.99	0.84	5.96	0.86	6.36	0.93	7.26	0.97	6.07	0.87	6.19	0.96	7.29	1.15
	BIC SF	8.08	0.99	8.23	1.03	8.26	0.94	8.23	0.96	8.16	0.95	8.23	0.99	8.59	1.01	8.20	0.91	8.34	1.00	8.57	0.93
	Ridge	6.64	0.97	7.09	1.06	8.05	1.15	11.95	1.80	6.96	0.99	7.74	1.02	10.66	1.36	7.05	0.93	8.21	1.10	11.67	1.66
	Lasso	10.30	1.25	10.18	1.21	10.06	1.18	10.05	1.16	10.30	1.26	10.33	1.26	9.92	1.21	10.25	1.20	10.13	1.20	10.00	1.15
	E-net	10.40	1.29	10.22	1.21	10.06	1.19	10.06	1.13	10.35	1.32	10.37	1.29	9.91	1.20	10.32	1.25	10.13	1.21	10.04	1.19
	SCAD	8.55	1.04	8.60	0.98	8.68	0.91	8.90	1.03	8.57	0.98	8.51	0.96	8.90	0.95	8.55	0.93	8.58	0.93	8.89	0.96
	MCP	8.69	1.01	8.71	0.97	8.75	0.94	8.89	1.02	8.70	0.97	8.65	0.99	8.97	0.97	8.64	0.93	8.67	0.94	8.90	0.97
	XGBoost	0.32	0.13	0.35	0.15	0.45	0.26	0.71	0.69	0.31	0.15	0.35	0.20	0.55	0.42	0.30	0.18	0.41	0.22	0.56	0.57
	RF	7.62	0.63	7.84	0.61	6.46	0.60	3.13	0.35	7.75	0.62	7.24	0.61	3.18	0.39	7.90	0.66	6.47	0.53	3.01	0.28
	SVM	1.91	0.41	1.83	0.31	2.00	0.43	5.76	1.46	1.85	0.36	1.70	0.40	1.76	0.36	2.02	0.46	2.06	0.53	3.96	1.07
6	OLS	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50	18.14	2.50
	AIC F	23.83	3.48	23.76	3.54	23.86	3.54	23.93	3.38	23.68	3.48	25.34	3.59	28.92	4.06	24.25	3.50	24.71	3.89	29.08	4.67
	BIC F	32.30	3.97	32.93	4.11	33.04	3.79	32.92	3.83	32.64	3.79	32.89	3.97	34.33	4.04	32.79	3.63	33.34	4.02	34.26	3.71
	AIC SF	23.82	3.44	23.77	3.64	23.99	3.50	23.95	3.35	23.83	3.42	25.43	3.73	29.03	3.89	24.28	3.46	24.75	3.83	29.16	4.62
	BIC SF	32.33	3.95	32.94	4.10	33.05	3.77	32.92	3.83	32.64	3.79	32.90	3.96	34.35	4.05	32.79	3.64	33.35	4.02	34.26	3.71
	Ridge	26.57	3.86	28.36	4.25	32.21	4.62	47.81	7.18	27.84	3.96	30.96	4.10	42.65	5.45	28.18	3.73	32.84	4.41	46.66	6.64
	Lasso	41.22	5.00	40.72	4.83	40.25	4.71	40.19	4.63	41.19	5.05	41.30	5.04	39.70	4.84	41.01	4.79	40.54	4.81	39.99	4.61
	E-net	41.58	5.16	40.88	4.83	40.26	4.75	40.23	4.53	41.39	5.28	41.48	5.17	39.62	4.78	41.29	5.01	40.52	4.82	40.18	4.77
	SCAD	34.19	4.18	34.41	3.91	34.73	3.66	35.58	4.12	34.29	3.91	34.03	3.84	35.58	3.79	34.20	3.70	34.30	3.74	35.55	3.83
	MCP	34.77	4.05	34.83	3.87	35.02	3.77	35.54	4.09	34.80	3.90	34.60	3.95	35.88	3.87	34.55	3.71	34.70	3.78	35.62	3.88
	XGBoost	1.20	0.62	1.45	0.58	1.94	0.93	2.79	2.75	1.19	0.63	1.39	0.81	2.38	1.67	1.31	0.68	1.58	0.93	2.38	2.31
	RF	30.43	2.48	31.36	2.45	25.82	2.40	12.51	1.40	30.99	2.50	28.96	2.45	12.74	1.55	31.58	2.59	25.90	2.14	12.03	1.13
	SVM	7.63	1.64	7.31	1.26	8.01	1.73	23.11	6.48	7.38	1.43	6.81	1.61	7.04	1.42	8.08	1.85	8.26	2.11	16.28	5.51

Table 6: Mean and standard deviation of the training MSE for the linear simulations when $n = 200$ and $p = 2000$. See Figure 6 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	16.61	3.14	13.28	2.76	9.46	1.17	2.92	0.32	15.89	2.50	14.25	2.38	4.81	1.02	12.87	3.13	7.68	1.43	2.55	0.27
	Lasso	1.27	0.14	1.21	0.18	1.19	0.16	1.16	0.16	1.27	0.16	1.29	0.21	1.86	0.22	1.25	0.19	1.25	0.19	1.22	0.29
	E-net	1.30	0.15	1.22	0.19	1.20	0.17	1.17	0.16	1.30	0.17	1.32	0.22	1.88	0.23	1.28	0.21	1.26	0.20	1.23	0.29
	SCAD	0.90	0.14	0.92	0.14	0.98	0.11	1.11	0.25	0.91	0.14	0.90	0.16	1.21	0.34	0.90	0.13	0.96	0.14	1.13	0.28
	MCP	0.96	0.11	0.96	0.12	0.98	0.11	1.03	0.13	0.94	0.12	0.93	0.14	1.09	0.31	0.94	0.13	0.96	0.13	1.04	0.19
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	RF	1.14	0.10	1.15	0.11	0.89	0.09	0.38	0.04	1.17	0.11	0.96	0.09	0.37	0.04	1.10	0.11	0.81	0.08	0.35	0.03
	SVM	0.86	1.33	0.65	0.68	0.57	0.51	0.83	0.34	0.85	1.21	0.74	1.02	0.28	0.08	0.52	0.31	0.30	0.08	0.16	0.03
3	Ridge	149.45	28.28	122.74	21.78	86.14	10.91	26.16	3.00	144.11	22.82	126.59	22.42	44.09	9.15	115.88	26.48	69.61	14.02	23.39	2.88
	Lasso	11.44	1.26	11.01	1.49	10.50	1.52	10.35	1.37	11.44	1.51	11.58	1.72	16.67	2.00	11.40	1.43	11.26	1.63	10.90	2.44
	E-net	11.72	1.39	11.11	1.58	10.55	1.62	10.42	1.36	11.72	1.62	11.84	1.87	16.86	2.05	11.62	1.59	11.34	1.71	11.05	2.39
	SCAD	8.10	1.28	8.30	1.15	8.77	0.89	10.07	2.21	8.21	1.34	7.96	1.28	10.83	3.09	8.11	1.23	8.62	1.13	10.28	2.67
	MCP	8.61	1.03	8.59	1.04	8.80	0.98	9.39	1.38	8.53	1.11	8.43	1.12	9.75	2.61	8.46	1.08	8.67	1.08	9.72	2.14
	XGBoost	0.00	0.00	0.01	0.00	0.02	0.01	0.15	0.14	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.08	0.05
	RF	10.28	0.89	10.37	0.75	7.95	0.78	3.41	0.37	10.50	1.02	8.63	0.82	3.26	0.39	9.91	0.86	7.32	0.69	3.18	0.33
	SVM	7.86	11.99	6.38	8.36	5.20	4.55	6.66	2.53	8.28	12.54	6.05	8.98	2.56	0.79	5.02	5.23	2.90	0.81	1.48	0.74
6	Ridge	597.82	113.12	490.95	87.14	344.57	43.64	104.64	12.00	575.16	92.27	506.35	89.69	176.35	36.62	463.51	105.92	278.45	56.06	93.58	11.53
	Lasso	45.78	5.06	44.03	5.95	41.98	6.08	41.41	5.47	45.44	6.21	46.33	6.89	66.69	8.00	45.62	5.73	45.04	6.51	43.60	9.75
	E-net	46.87	5.56	44.46	6.33	42.20	6.48	41.69	5.45	46.52	6.79	47.35	7.47	67.43	8.21	46.47	6.37	45.38	6.83	44.21	9.57
	SCAD	32.40	5.12	33.21	4.61	35.10	3.55	40.28	8.85	32.60	5.25	31.86	5.12	43.32	12.36	32.43	4.94	34.46	4.50	41.14	10.68
	MCP	34.43	4.11	34.34	4.14	35.21	3.91	37.57	5.51	33.95	4.51	33.71	4.48	39.01	10.46	33.82	4.31	34.66	4.34	38.88	8.54
	XGBoost	0.02	0.01	0.03	0.01	0.08	0.04	0.63	0.57	0.02	0.01	0.02	0.01	0.03	0.02	0.02	0.01	0.04	0.03	0.29	0.22
	RF	41.06	3.58	41.51	2.98	31.84	3.14	13.67	1.50	41.88	3.81	34.50	3.22	13.03	1.55	39.62	3.47	29.28	2.76	12.71	1.31
	SVM	31.78	48.08	25.20	33.41	21.21	18.47	27.38	10.80	26.42	25.49	27.93	47.38	10.23	3.16	18.08	6.67	11.61	3.26	5.92	2.97

Table 7: Mean and standard deviation of the training MSE for the linear simulations when $n = 1000$ and $p = 10$. See Figure 7 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04	0.99	0.04
	AIC B	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	0.99	0.04	0.99	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	BIC B	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	AIC SB	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	0.99	0.04	0.99	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	BIC SB	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	AIC F	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	BIC F	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	AIC SF	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	BIC SF	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	Ridge	1.11	0.05	1.13	0.05	1.19	0.05	1.41	0.05	1.13	0.05	1.18	0.05	1.38	0.05	1.12	0.05	1.18	0.05	1.39	0.05
	Lasso	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05
	E-net	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05	1.04	0.05
	SCAD	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	MCP	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04	1.00	0.04
	XGBoost	0.74	0.04	0.74	0.03	0.74	0.04	0.73	0.21	0.73	0.04	0.74	0.03	0.77	0.08	0.73	0.04	0.74	0.03	0.79	0.03
	RF	0.35	0.01	0.35	0.01	0.33	0.01	0.24	0.01	0.35	0.01	0.37	0.01	0.28	0.01	0.35	0.01	0.37	0.02	0.29	0.01
	SVM	0.45	0.03	0.49	0.04	0.68	0.11	0.91	0.05	0.47	0.03	0.58	0.10	0.85	0.06	0.48	0.03	0.63	0.10	0.85	0.06
3	OLS	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39	8.93	0.39
	AIC B	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39
	BIC B	8.99	0.40	8.98	0.39	8.99	0.39	8.99	0.39	8.98	0.39	8.98	0.39	8.98	0.39	8.99	0.39	8.99	0.39	8.99	0.39
	AIC SB	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39
	BIC SB	8.99	0.40	8.98	0.39	8.99	0.39	8.99	0.39	8.98	0.39	8.98	0.39	8.98	0.39	8.99	0.39	8.99	0.39	8.99	0.39
	AIC F	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39
	BIC F	8.99	0.40	8.98	0.39	8.99	0.39	8.99	0.39	8.98	0.39	8.98	0.39	8.99	0.39	8.99	0.39	8.99	0.39	8.99	0.39
	AIC SF	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39	8.96	0.39
	BIC SF	8.99	0.40	8.98	0.39	8.99	0.39	8.99	0.39	8.98	0.39	8.98	0.39	8.99	0.39	8.99	0.39	8.99	0.39	8.99	0.39
	Ridge	9.97	0.43	10.14	0.42	10.76	0.45	12.74	0.51	10.14	0.42	10.66	0.43	12.39	0.52	10.13	0.42	10.65	0.44	12.49	0.50
	Lasso	9.39	0.42	9.39	0.42	9.38	0.42	9.38	0.42	9.38	0.41	9.38	0.41	9.36	0.42	9.38	0.41	9.38	0.41	9.36	0.42
	E-net	9.39	0.42	9.39	0.42	9.38	0.42	9.38	0.42	9.38	0.42	9.39	0.41	9.36	0.42	9.39	0.41	9.38	0.42	9.36	0.41
	SCAD	8.98	0.39	8.97	0.39	8.97	0.39	8.97	0.39	8.97	0.39	8.97	0.40	8.97	0.39	8.98	0.39	8.98	0.40	8.97	0.39
	MCP	8.98	0.39	8.97	0.39	8.97	0.39	8.97	0.39	8.97	0.39	8.97	0.40	8.97	0.39	8.98	0.39	8.98	0.40	8.98	0.39
	XGBoost	6.62	0.33	6.64	0.33	6.64	0.30	6.28	2.18	6.64	0.35	6.63	0.32	6.51	1.88	6.64	0.31	6.65	0.33	7.06	0.34
	RF	3.14	0.12	3.20	0.12	3.00	0.12	2.14	0.10	3.18	0.13	3.35	0.13	2.50	0.11	3.17	0.14	3.37	0.14	2.64	0.12
	SVM	4.04	0.26	4.45	0.42	5.95	0.80	8.19	0.43	4.19	0.27	5.15	0.78	7.66	0.54	4.32	0.35	5.68	0.87	7.66	0.46
6	OLS	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56	35.73	1.56
	AIC B	35.83	1.56	35.83	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.83	1.57	35.82	1.56	35.83	1.57
	BIC B	35.95	1.60	35.93	1.58	35.94	1.56	35.95	1.58	35.94	1.57	35.93	1.56	35.93	1.57	35.95	1.57	35.95	1.57	35.94	1.57
	AIC SB	35.83	1.56	35.83	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.82	1.56	35.83	1.57	35.82	1.56	35.83	1.57
	BIC SB	35.95	1.60	35.93	1.58	35.94	1.56	35.95	1.58	35.94	1.57	35.93	1.56	35.93	1.57	35.95	1.57	35.95	1.57	35.94	1.57
	AIC F	35.83	1.56	35.83	1.56	35.83	1.56	35.82	1.56	35.83	1.56	35.84	1.56	35.85	1.56	35.83	1.57	35.83	1.57	35.84	1.56
	BIC F	35.95	1.60	35.93	1.58	35.95	1.56	35.95	1.58	35.94	1.57	35.93	1.56	35.94	1.58	35.95	1.57	35.95	1.57	35.94	1.57
	AIC SF	35.83	1.56	35.83	1.56	35.83	1.56	35.82	1.56	35.83	1.56	35.84	1.56	35.85	1.56	35.83	1.57	35.83	1.57	35.84	1.56
	BIC SF	35.95	1.60	35.93	1.58	35.95	1.56	35.95	1.58	35.94	1.57	35.93	1.56	35.94	1.58	35.95	1.57	35.95	1.57	35.94	1.57
	Ridge	39.89	1.73	40.57	1.68	43.03	1.79	50.97	2.04	40.54	1.69	42.64	1.72	49.55	2.09	40.53	1.68	42.61	1.74	49.95	2.01
	Lasso	37.57	1.67	37.54	1.66	37.53	1.67	37.53	1.68	37.51	1.66	37.54	1.65	37.45	1.66	37.54	1.65	37.52	1.65	37.44	1.67
	E-net	37.57	1.67	37.54	1.66	37.53	1.68	37.54	1.68	37.51	1.67	37.55	1.65	37.45	1.67	37.54	1.66	37.53	1.66	37.43	1.66
	SCAD	35.91	1.57	35.90	1.57	35.89	1.57	35.89	1.58	35.89	1.58	35.89	1.58	35.89	1.56	35.91	1.57	35.90	1.59	35.90	1.57
	MCP	35.91	1.56	35.89	1.56	35.90	1.58	35.89	1.58	35.89	1.57	35.89	1.59	35.88	1.56	35.91	1.57	35.90	1.59	35.90	1.57
	XGBoost	26.48	1.34	26.56	1.33	26.55	1.21	25.45	8.34	26.56	1.38	26.50	1.36	26.82	6.10	26.56	1.24	26.59	1.33	27.96	3.00
	RF	12.54	0.50	12.80	0.47	12.01	0.50	8.54	0.41	12.73	0.54	13.41	0.53	10.02	0.44	12.69	0.55	13.49	0.55	10.55	0.48
	SVM	16.16	1.04	17.81	1.68	23.79	3.20	32.74	1.72	16.77	1.06	20.59	3.10	30.65	2.15	17.29	1.38	22.72	3.48	30.66	1.84

Table 8: Mean and standard deviation of the training MSE for the linear simulations when $n = 1000$ and $p = 100$. See Figure 8 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05	0.90	0.05
	AIC F	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.95	0.05	0.96	0.05	0.94	0.05	0.94	0.05	0.96	0.05
	BIC F	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	1.00	0.05
	AIC SF	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.95	0.05	0.96	0.05	0.94	0.05	0.94	0.05	0.96	0.05
	BIC SF	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	1.00	0.05
	Ridge	1.02	0.05	1.05	0.05	1.12	0.05	1.37	0.07	1.04	0.05	1.09	0.06	1.30	0.06	1.04	0.05	1.12	0.06	1.35	0.06
	Lasso	1.05	0.05	1.05	0.05	1.05	0.05	1.04	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.04	0.05
	E-net	1.05	0.05	1.05	0.05	1.05	0.05	1.04	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.04	0.05
	SCAD	0.99	0.05	0.99	0.05	0.99	0.05	1.00	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05	0.99	0.05
	MCP	0.99	0.05	0.99	0.05	0.99	0.05	1.00	0.05	1.00	0.05	1.00	0.05	0.99	0.05	0.99	0.05	1.00	0.05	0.99	0.05
	XGBoost	0.51	0.03	0.52	0.03	0.56	0.03	0.58	0.26	0.51	0.03	0.53	0.03	0.48	0.29	0.52	0.03	0.55	0.03	0.42	0.33
	RF	0.43	0.02	0.45	0.02	0.41	0.02	0.25	0.01	0.44	0.02	0.46	0.02	0.28	0.01	0.44	0.02	0.40	0.02	0.25	0.01
	SVM	0.15	0.01	0.15	0.01	0.15	0.01	0.65	0.04	0.15	0.01	0.13	0.01	0.19	0.01	0.15	0.01	0.15	0.01	0.42	0.03
3	OLS	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41	8.11	0.41
	AIC F	8.47	0.43	8.48	0.43	8.47	0.43	8.47	0.44	8.47	0.44	8.52	0.45	8.69	0.46	8.47	0.43	8.51	0.43	8.66	0.45
	BIC F	8.91	0.45	8.93	0.44	8.92	0.44	8.92	0.43	8.91	0.45	8.93	0.44	8.95	0.43	8.90	0.43	8.93	0.44	8.95	0.43
	AIC SF	8.47	0.43	8.48	0.42	8.47	0.43	8.47	0.44	8.47	0.44	8.52	0.45	8.69	0.47	8.47	0.43	8.52	0.43	8.66	0.45
	BIC SF	8.91	0.45	8.93	0.44	8.92	0.44	8.92	0.43	8.91	0.45	8.93	0.44	8.95	0.43	8.91	0.43	8.93	0.44	8.95	0.43
	Ridge	9.16	0.48	9.39	0.46	10.09	0.44	12.30	0.62	9.34	0.47	9.88	0.51	11.73	0.55	9.38	0.44	10.03	0.48	12.16	0.55
	Lasso	9.44	0.47	9.44	0.47	9.43	0.48	9.40	0.48	9.45	0.48	9.47	0.48	9.42	0.49	9.44	0.48	9.43	0.48	9.39	0.48
	E-net	9.45	0.48	9.46	0.47	9.43	0.48	9.40	0.48	9.46	0.49	9.49	0.48	9.43	0.49	9.45	0.48	9.45	0.48	9.40	0.47
	SCAD	8.94	0.45	8.95	0.44	8.96	0.44	8.97	0.43	8.94	0.45	8.95	0.43	8.93	0.43	8.94	0.44	8.95	0.44	8.94	0.44
	MCP	8.95	0.44	8.96	0.44	8.96	0.44	8.97	0.43	8.96	0.44	8.96	0.43	8.94	0.43	8.95	0.45	8.95	0.44	8.95	0.44
	XGBoost	4.60	0.23	4.72	0.28	5.08	0.27	5.27	2.33	4.64	0.27	4.80	0.25	4.35	2.60	4.69	0.26	4.93	0.27	4.18	2.88
	RF	3.89	0.16	4.00	0.15	3.69	0.15	2.26	0.10	3.95	0.18	4.17	0.17	2.55	0.12	3.96	0.15	3.63	0.13	2.23	0.09
	SVM	1.39	0.06	1.35	0.06	1.34	0.11	5.84	0.41	1.32	0.06	1.20	0.05	1.67	0.13	1.34	0.07	1.30	0.08	3.75	0.30
6	OLS	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66	32.45	1.66
	AIC F	33.87	1.72	33.91	1.70	33.87	1.73	33.86	1.75	33.89	1.76	34.07	1.79	34.75	1.86	33.88	1.74	34.05	1.70	34.65	1.82
	BIC F	35.65	1.79	35.71	1.75	35.67	1.76	35.70	1.74	35.65	1.79	35.72	1.74	35.80	1.72	35.62	1.74	35.71	1.78	35.81	1.74
	AIC SF	33.87	1.72	33.92	1.70	33.88	1.74	33.87	1.75	33.89	1.76	34.09	1.79	34.75	1.86	33.89	1.74	34.06	1.70	34.66	1.81
	BIC SF	35.65	1.79	35.71	1.75	35.67	1.76	35.70	1.74	35.65	1.79	35.72	1.74	35.80	1.72	35.62	1.74	35.71	1.78	35.81	1.74
	Ridge	36.64	1.91	37.58	1.84	40.37	1.78	49.19	2.46	37.36	1.87	39.50	2.02	46.91	2.21	37.51	1.76	40.12	1.92	48.65	2.20
	Lasso	37.74	1.90	37.75	1.88	37.72	1.90	37.60	1.91	37.79	1.93	37.89	1.91	37.70	1.96	37.74	1.91	37.74	1.90	37.56	1.90
	E-net	37.82	1.92	37.82	1.88	37.74	1.92	37.60	1.92	37.85	1.95	37.96	1.93	37.70	1.97	37.79	1.93	37.79	1.91	37.60	1.90
	SCAD	35.76	1.80	35.79	1.77	35.83	1.75	35.88	1.71	35.76	1.80	35.81	1.73	35.73	1.72	35.78	1.77	35.79	1.77	35.78	1.74
	MCP	35.80	1.77	35.83	1.76	35.84	1.76	35.88	1.72	35.82	1.76	35.85	1.70	35.76	1.72	35.79	1.78	35.82	1.76	35.80	1.76
	XGBoost	18.39	0.92	18.87	1.10	20.32	1.10	21.07	9.31	18.54	1.08	19.18	0.99	18.46	9.67	18.76	1.03	19.70	1.07	16.19	11.69
	RF	15.56	0.64	15.98	0.59	14.74	0.58	9.03	0.41	15.81	0.73	16.68	0.70	10.18	0.48	15.84	0.60	14.51	0.53	8.91	0.37
	SVM	5.57	0.25	5.41	0.24	5.37	0.43	23.34	1.62	5.29	0.24	4.80	0.22	6.67	0.53	5.37	0.27	5.19	0.33	14.98	1.21

Table 9: Mean and standard deviation of the training MSE for the linear simulations when $n = 1000$ and $p = 2000$. See Figure 9 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	11.51	0.94	10.43	0.76	8.23	0.62	2.79	0.13	11.24	0.97	9.91	0.70	5.40	0.23	10.43	0.65	7.92	0.45	2.76	0.14
	Lasso	1.07	0.05	1.07	0.06	1.06	0.06	1.07	0.05	1.07	0.06	1.08	0.06	1.10	0.07	1.07	0.05	1.08	0.06	1.07	0.06
	E-net	1.08	0.06	1.07	0.06	1.06	0.06	1.07	0.05	1.08	0.06	1.09	0.06	1.10	0.07	1.08	0.05	1.08	0.06	1.07	0.06
	SCAD	1.00	0.05	1.00	0.05	1.01	0.05	1.04	0.08	1.00	0.05	1.00	0.05	1.05	0.09	1.00	0.05	1.01	0.05	1.03	0.05
	MCP	1.00	0.05	1.00	0.05	1.00	0.05	1.03	0.04	1.00	0.05	1.00	0.05	1.04	0.05	1.00	0.05	1.00	0.05	1.03	0.05
	XGBoost	0.24	0.01	0.27	0.01	0.33	0.02	0.45	0.21	0.25	0.01	0.27	0.01	0.01	0.06	0.26	0.01	0.31	0.02	0.02	0.09
	RF	0.54	0.02	0.56	0.02	0.50	0.02	0.28	0.01	0.54	0.02	0.57	0.02	0.28	0.01	0.55	0.02	0.50	0.02	0.27	0.01
	SVM	0.42	0.05	0.38	0.06	0.36	0.05	0.67	0.08	0.39	0.05	0.34	0.04	0.15	0.01	0.37	0.05	0.29	0.03	1.02	0.32
3	Ridge	103.60	8.48	94.37	6.77	74.04	4.85	24.97	1.21	101.17	8.14	89.35	6.30	48.73	2.19	92.71	6.31	71.54	4.28	24.75	1.25
	Lasso	9.66	0.49	9.62	0.50	9.54	0.51	9.64	0.47	9.65	0.50	9.73	0.51	9.94	0.62	9.65	0.51	9.68	0.49	9.61	0.50
	E-net	9.72	0.50	9.65	0.51	9.54	0.51	9.69	0.47	9.72	0.52	9.80	0.53	9.97	0.63	9.70	0.51	9.72	0.51	9.66	0.49
	SCAD	8.98	0.41	8.99	0.40	9.11	0.42	9.45	1.10	8.99	0.41	9.03	0.41	9.43	0.85	8.99	0.41	9.11	0.42	9.32	0.77
	MCP	8.97	0.41	8.97	0.40	8.97	0.41	9.26	0.41	8.97	0.41	8.97	0.41	9.33	0.42	8.96	0.41	8.97	0.41	9.26	0.42
	XGBoost	2.18	0.12	2.38	0.11	3.00	0.15	4.08	1.93	2.22	0.12	2.39	0.12	0.09	0.52	2.30	0.13	2.71	0.29	0.04	0.39
	RF	4.82	0.17	5.07	0.20	4.49	0.18	2.48	0.10	4.87	0.18	5.12	0.19	2.56	0.13	4.94	0.19	4.45	0.15	2.37	0.10
	SVM	3.81	0.46	3.48	0.42	3.19	0.37	6.00	0.63	3.56	0.45	3.05	0.39	1.35	0.12	3.22	0.41	2.52	0.25	9.13	2.88
6	Ridge	414.41	33.94	377.48	27.07	296.15	19.39	99.88	4.83	405.48	31.22	357.42	25.20	194.92	8.77	370.85	25.25	286.16	17.10	99.00	5.00
	Lasso	38.62	1.97	38.46	1.99	38.17	2.03	38.57	1.87	38.65	2.04	38.92	2.05	39.75	2.47	38.60	2.02	38.72	1.97	38.46	1.98
	E-net	38.87	1.99	38.61	2.03	38.18	2.03	38.75	1.88	38.88	2.06	39.21	2.11	39.90	2.53	38.82	2.06	38.90	2.04	38.62	1.98
	SCAD	35.93	1.63	35.97	1.62	36.45	1.69	37.79	4.40	35.96	1.62	36.12	1.65	37.74	3.42	35.95	1.62	36.45	1.66	37.29	3.08
	MCP	35.86	1.63	35.86	1.62	35.89	1.62	37.05	1.63	35.86	1.63	35.88	1.64	37.33	1.69	35.85	1.62	35.88	1.63	37.04	1.67
	XGBoost	8.71	0.46	9.53	0.44	12.01	0.59	16.90	7.19	8.91	0.46	9.54	0.48	0.25	1.75	9.20	0.51	10.92	0.55	0.00	0.00
	RF	19.27	0.69	20.27	0.82	17.96	0.70	9.93	0.40	19.45	0.72	20.47	0.77	10.24	0.51	19.77	0.78	17.79	0.60	9.49	0.42
	SVM	15.24	1.86	13.92	1.68	12.77	1.48	24.00	2.51	14.25	1.81	12.18	1.56	5.39	0.47	12.89	1.63	10.07	1.00	36.55	11.75

4.2 Tables for the testing MSE of the linear simulations

Table 10: Mean and standard deviation of the testing MSE for the linear simulations when $n = 50$ and $p = 10$. See Figure 10 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25	1.28	0.25
	AIC B	1.22	0.25	1.21	0.25	1.23	0.26	1.22	0.25	1.22	0.26	1.21	0.25	1.23	0.25	1.22	0.26	1.22	0.25	1.22	0.26
	BIC B	1.16	0.24	1.19	0.24	1.21	0.27	1.18	0.27	1.18	0.28	1.17	0.24	1.20	0.25	1.20	0.28	1.19	0.25	1.17	0.26
	AIC SB	1.22	0.25	1.21	0.25	1.23	0.26	1.22	0.25	1.22	0.26	1.21	0.25	1.23	0.25	1.22	0.26	1.22	0.25	1.22	0.26
	BIC SB	1.16	0.24	1.19	0.24	1.21	0.27	1.18	0.27	1.18	0.28	1.17	0.24	1.20	0.25	1.20	0.28	1.19	0.25	1.17	0.26
	AIC F	1.21	0.25	1.21	0.25	1.23	0.26	1.21	0.25	1.22	0.27	1.20	0.25	1.27	0.30	1.22	0.26	1.22	0.25	1.23	0.31
	BIC F	1.16	0.25	1.18	0.24	1.21	0.27	1.19	0.27	1.18	0.27	1.16	0.23	1.35	0.38	1.20	0.28	1.19	0.25	1.26	0.39
	AIC SF	1.21	0.25	1.21	0.25	1.23	0.26	1.21	0.25	1.22	0.27	1.20	0.25	1.27	0.30	1.22	0.26	1.22	0.25	1.23	0.31
	BIC SF	1.16	0.25	1.18	0.24	1.21	0.27	1.19	0.27	1.18	0.27	1.16	0.23	1.35	0.38	1.20	0.28	1.19	0.25	1.26	0.40
	Ridge	1.59	0.35	1.61	0.41	1.72	0.50	1.93	0.42	1.59	0.37	1.71	0.40	1.85	0.52	1.60	0.38	1.72	0.46	1.91	0.48
	Lasso	1.38	0.33	1.39	0.36	1.38	0.39	1.44	0.36	1.40	0.33	1.39	0.33	1.40	0.44	1.37	0.36	1.40	0.38	1.40	0.40
	E-net	1.38	0.33	1.40	0.36	1.39	0.39	1.44	0.35	1.40	0.33	1.40	0.32	1.41	0.44	1.38	0.37	1.41	0.39	1.41	0.40
	SCAD	1.20	0.24	1.20	0.26	1.21	0.26	1.22	0.31	1.20	0.26	1.19	0.24	1.20	0.27	1.21	0.27	1.20	0.26	1.17	0.25
	MCP	1.20	0.25	1.19	0.26	1.21	0.26	1.21	0.30	1.21	0.27	1.19	0.24	1.20	0.27	1.21	0.27	1.20	0.25	1.18	0.26
	XGBoost	3.77	1.23	3.73	1.04	3.68	1.07	2.84	0.77	3.68	0.97	3.80	1.14	2.95	0.73	3.86	1.08	3.74	1.17	2.86	0.73
	RF	6.90	1.76	6.50	1.66	5.17	1.34	2.66	0.65	6.78	1.75	5.80	1.32	2.78	0.63	6.73	1.53	5.85	1.47	2.91	0.66
	SVM	5.77	1.71	5.41	1.72	4.33	1.69	3.00	1.43	5.62	1.83	4.99	1.54	3.43	1.36	5.30	1.45	4.79	1.53	3.20	1.08
3	OLS	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26	11.48	2.26
	AIC B	10.96	2.24	10.99	2.37	10.96	2.30	10.96	2.27	10.91	2.30	11.16	2.49	11.09	2.28	10.97	2.25	11.05	2.39	11.10	2.29
	BIC B	10.47	2.19	10.56	2.33	10.81	2.45	10.68	2.26	10.59	2.36	10.95	2.43	10.76	2.19	10.62	2.30	10.92	2.39	10.69	2.15
	AIC SB	10.96	2.24	10.98	2.36	10.96	2.31	10.96	2.27	10.91	2.30	11.16	2.49	11.07	2.25	10.97	2.25	11.07	2.38	11.10	2.29
	BIC SB	10.47	2.19	10.56	2.33	10.81	2.45	10.68	2.26	10.59	2.36	10.92	2.42	10.76	2.19	10.62	2.30	10.92	2.39	10.70	2.17
	AIC F	10.88	2.22	10.92	2.34	10.94	2.31	10.90	2.26	10.83	2.34	11.07	2.45	11.15	2.63	10.88	2.24	11.00	2.33	11.00	2.31
	BIC F	10.43	2.27	10.49	2.25	10.75	2.47	10.81	2.63	10.61	2.35	10.90	2.41	12.52	3.69	10.62	2.30	10.82	2.31	11.17	2.98
	AIC SF	10.88	2.22	10.92	2.34	10.94	2.31	10.90	2.26	10.81	2.31	11.07	2.46	11.15	2.68	10.88	2.24	11.02	2.36	11.01	2.31
	BIC SF	10.43	2.27	10.49	2.25	10.73	2.44	10.81	2.63	10.61	2.35	10.90	2.41	12.52	3.69	10.62	2.30	10.81	2.30	11.17	2.98
	Ridge	14.28	3.13	14.76	3.73	15.83	4.41	16.52	3.86	14.53	3.95	15.46	3.63	16.69	4.26	14.76	3.81	15.83	3.86	16.58	4.47
	Lasso	12.45	2.93	12.43	2.98	12.60	3.77	12.33	3.19	12.80	3.49	12.88	3.21	12.48	3.71	12.67	3.50	12.74	3.02	12.63	3.64
	E-net	12.45	2.94	12.48	2.95	12.70	3.89	12.40	3.21	12.84	3.51	12.95	3.27	12.55	3.72	12.74	3.48	12.83	3.06	12.67	3.64
	SCAD	10.78	2.20	10.65	2.23	10.94	2.32	10.83	2.28	10.81	2.35	10.97	2.36	10.95	2.27	10.87	2.33	11.02	2.15	10.77	2.54
	MCP	10.78	2.26	10.79	2.28	10.95	2.39	10.80	2.32	10.81	2.39	10.98	2.35	10.95	2.29	10.83	2.33	11.04	2.16	10.79	2.58
	XGBoost	33.98	10.78	32.77	7.22	35.35	9.76	24.49	6.47	34.84	10.04	33.36	8.71	26.31	7.49	33.34	9.91	34.35	9.96	26.26	5.93
	RF	62.03	15.76	58.75	13.48	47.81	11.28	22.82	5.39	62.44	15.73	52.84	12.10	24.71	6.27	61.25	17.22	52.87	13.17	25.48	6.02
	SVM	51.93	15.39	49.28	14.49	39.69	13.86	26.89	13.84	49.16	15.22	45.65	13.83	29.18	11.98	49.59	15.44	41.73	14.36	29.15	11.83
6	OLS	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03	45.93	9.03
	AIC B	43.85	8.96	43.95	9.48	43.82	9.22	43.84	9.07	43.65	9.20	44.63	9.96	44.35	9.13	43.87	8.99	44.19	9.55	44.39	9.15
	BIC B	41.89	8.76	42.23	9.31	43.26	9.81	42.74	9.03	42.35	9.46	43.82	9.74	43.05	8.76	42.49	9.20	43.66	9.56	42.75	8.60
	AIC SB	43.85	8.96	43.93	9.44	43.83	9.23	43.84	9.07	43.65	9.20	44.63	9.96	44.29	9.00	43.87	8.99	44.27	9.50	44.39	9.15
	BIC SB	41.89	8.76	42.25	9.30	43.26	9.81	42.74	9.03	42.35	9.46	43.67	9.69	43.05	8.76	42.49	9.20	43.66	9.56	42.80	8.67
	AIC F	43.53	8.89	43.69	9.35	43.76	9.24	43.58	9.04	43.31	9.37	44.28	9.82	44.62	10.52	43.53	8.95	43.99	9.33	44.00	9.25
	BIC F	41.72	9.09	41.98	9.00	43.00	9.87	43.25	10.50	42.43	9.41	43.60	9.63	50.08	14.76	42.46	9.20	43.30	9.25	44.70	11.92
	AIC SF	43.53	8.89	43.69	9.35	43.76	9.24	43.58	9.04	43.26	9.24	44.29	9.83	44.59	10.71	43.53	8.95	44.09	9.42	44.03	9.23
	BIC SF	41.72	9.09	41.98	9.00	42.93	9.78	43.25	10.50	42.43	9.41	43.60	9.63	50.08	14.76	42.46	9.20	43.25	9.18	44.70	11.92
	Ridge	57.10	12.52	59.04	14.93	63.31	17.65	66.07	15.44	58.14	15.81	61.86	14.53	66.75	17.06	59.05	15.22	63.33	15.43	66.31	17.89
	Lasso	49.81	11.71	49.71	11.93	50.42	15.09	49.32	12.76	51.21	13.98	51.53	12.83	49.91	14.84	50.70	13.98	50.96	12.09	50.52	14.55
	E-net	49.78	11.75	49.91	11.82	50.79	15.58	49.60	12.82	51.38	14.04	51.78	13.08	50.20	14.89	50.95	13.91	51.30	12.26	50.70	14.58
	SCAD	43.13	8.80	42.60	8.91	43.78	9.28	43.31	9.13	43.26	9.40	43.88	9.43	43.79	9.06	43.49	9.32	44.06	8.60	43.07	10.14
	MCP	43.11	9.06	43.16	9.11	43.81	9.56	43.21	9.29	43.23	9.54	43.93	9.38	43.78	9.17	43.31	9.32	44.16	8.66	43.18	10.33
	XGBoost	135.14	42.27	130.40	31.97	140.36	39.19	98.96	27.35	139.77	39.97	135.79	36.04	106.84	29.00	137.05	43.08	137.13	40.92	105.88	25.90
	RF	248.10	63.21	234.96	53.56	191.50	45.02	91.31	21.77	249.60	63.00	211.29	48.38	98.71	24.80	245.15	68.82	211.40	52.49	101.87	24.11
	SVM	207.71	61.55	197.11	57.98	159.04	55.73	107.77	55.70	196.65	60.89	182.60	55.31	116.76	48.12	198.36	61.76	166.94	57.46	116.65	48.17

Table 11: Mean and standard deviation of the testing MSE for the linear simulations when $n = 50$ and $p = 100$. See Figure 11 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	18.51	3.90	15.63	3.59	10.83	2.32	3.43	0.87	17.49	3.48	14.57	2.86	7.83	1.69	16.27	3.51	11.94	2.74	4.71	0.94
	Lasso	1.92	0.65	1.89	0.62	1.77	0.46	1.87	0.57	2.02	0.74	2.06	0.68	2.16	0.66	1.82	0.53	1.92	0.71	1.83	0.50
	E-net	2.01	0.71	1.98	0.68	1.85	0.49	1.90	0.55	2.14	0.80	2.20	0.73	2.22	0.69	1.92	0.58	2.04	0.75	1.88	0.50
	SCAD	1.30	0.31	1.24	0.27	1.22	0.29	1.60	0.62	1.33	0.35	1.28	0.29	1.77	0.56	1.26	0.28	1.25	0.28	1.60	0.51
	MCP	1.29	0.31	1.23	0.27	1.23	0.27	1.58	0.62	1.33	0.35	1.28	0.30	1.77	0.51	1.26	0.29	1.28	0.32	1.55	0.52
	XGBoost	6.74	2.46	6.76	1.98	6.29	1.61	3.20	0.76	7.25	2.44	6.70	1.84	3.35	0.89	6.79	2.55	6.15	1.65	3.14	0.80
	RF	11.11	3.11	9.82	2.21	7.30	1.67	2.95	0.65	10.62	2.69	7.78	1.89	3.19	1.00	9.49	2.48	6.86	1.52	2.93	0.74
	SVM	15.26	3.20	12.86	2.73	9.14	1.97	3.84	1.37	14.69	2.89	11.91	2.28	6.32	1.63	13.25	3.00	9.85	2.05	5.32	1.63
3	Ridge	166.58	35.12	146.49	29.65	100.52	21.75	31.74	8.08	156.80	33.54	130.27	25.90	70.46	15.25	154.31	37.41	113.86	29.99	41.15	8.65
	Lasso	17.31	5.86	17.67	4.92	17.37	5.17	16.77	4.56	17.25	6.83	19.15	8.23	19.61	6.05	16.89	5.78	17.43	6.11	16.92	4.39
	E-net	18.12	6.35	18.58	5.17	18.34	5.48	17.22	4.76	18.31	8.02	20.67	9.37	20.14	6.39	17.95	6.23	18.54	6.80	17.39	4.40
	SCAD	11.72	2.76	11.51	2.70	11.18	2.59	14.86	5.24	11.49	2.57	11.56	2.63	16.15	5.04	11.62	2.85	11.04	2.23	14.61	5.16
	MCP	11.57	2.76	11.38	2.68	11.30	2.82	14.86	5.67	11.43	2.75	11.49	2.72	16.23	4.97	11.83	3.15	11.12	2.35	14.40	5.60
	XGBoost	60.79	22.15	61.23	19.91	59.02	16.41	30.04	7.65	64.66	22.84	58.64	17.35	29.40	8.20	65.29	24.72	54.70	14.36	30.14	7.51
	RF	99.91	28.06	90.95	21.92	67.66	14.67	27.40	6.60	94.63	25.22	68.99	16.25	28.45	8.93	91.36	24.31	65.25	16.79	27.45	6.03
	SVM	137.17	29.08	119.12	22.96	85.63	17.58	35.49	12.53	132.14	29.74	107.00	21.71	56.73	14.52	126.79	29.55	93.70	22.88	48.56	13.77
6	Ridge	666.34	140.48	585.98	118.58	402.09	86.99	126.97	32.31	627.21	134.14	521.08	103.61	281.85	61.00	617.24	149.63	455.45	119.98	164.62	34.62
	Lasso	69.24	23.45	70.66	19.70	69.49	20.69	67.07	18.26	69.00	27.33	76.61	32.91	78.42	24.21	67.58	23.12	69.74	24.45	67.66	17.57
	E-net	72.48	25.40	74.31	20.69	73.37	21.93	68.88	19.05	73.22	32.08	82.68	37.49	80.55	25.58	71.78	24.93	74.15	27.19	69.58	17.60
	SCAD	46.89	11.04	46.03	10.80	44.70	10.34	59.44	20.96	45.96	10.28	46.22	10.53	64.60	20.15	46.47	11.40	44.15	8.94	58.44	20.66
	MCP	46.29	11.03	45.51	10.72	45.18	11.30	59.44	22.66	45.73	11.00	45.95	10.89	64.93	19.89	47.33	12.59	44.50	9.39	57.58	22.39
	XGBoost	245.25	97.07	248.21	81.12	238.05	61.65	121.91	30.26	262.52	93.47	232.99	70.12	119.33	32.43	265.31	101.58	218.01	59.65	120.72	28.45
	RF	398.68	111.80	364.36	88.11	271.02	59.26	109.62	26.27	377.42	99.99	275.74	64.80	113.58	35.70	365.86	97.51	261.06	67.10	109.81	23.97
	SVM	549.06	116.25	476.33	90.43	342.46	70.89	141.92	50.27	528.25	118.21	428.04	86.09	227.35	59.29	506.23	118.23	373.93	91.39	193.51	54.17

Table 12: Mean and standard deviation of the testing MSE for the linear simulations when $n = 50$ and $p = 2000$. See Figure 12 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	18.26	4.09	16.45	3.62	11.07	2.61	3.24	0.83	17.70	3.71	15.45	2.64	12.86	2.74	17.19	3.53	15.28	3.46	5.26	1.64
	Lasso	3.93	2.62	4.29	3.55	4.05	2.20	2.56	0.74	5.04	3.76	6.20	2.28	2.68	0.74	5.38	3.74	5.67	2.40	2.26	0.57
	E-net	4.94	3.33	4.94	3.75	4.56	2.32	2.63	0.75	5.97	3.97	6.79	2.27	2.84	0.79	6.32	3.87	6.11	2.40	2.39	0.61
	SCAD	1.32	0.32	1.33	0.28	1.36	0.72	2.13	0.77	1.35	0.36	2.69	2.02	1.94	0.44	1.38	0.56	1.64	1.13	1.96	0.56
	MCP	1.31	0.27	1.33	0.29	1.47	0.92	2.01	0.73	1.49	1.42	3.11	2.11	1.94	0.42	1.41	0.56	2.14	2.22	2.00	0.50
	XGBoost	13.07	4.31	11.25	3.27	9.00	2.21	3.45	0.80	12.15	3.90	9.36	2.26	4.01	1.26	11.23	3.36	8.77	2.42	3.54	0.91
	RF	15.12	3.90	12.37	2.89	9.19	2.08	3.07	0.69	13.18	3.65	9.76	2.01	4.25	1.42	12.53	3.15	9.23	2.37	3.40	0.86
	SVM	18.21	4.09	15.34	3.07	10.81	2.45	4.04	1.54	17.59	3.69	15.31	2.66	12.28	2.62	16.72	3.48	14.30	3.21	7.52	1.74
3	Ridge	164.35	36.81	150.51	32.67	97.78	23.37	28.75	7.20	159.29	32.76	138.96	23.87	116.54	25.33	154.77	32.38	134.34	28.18	47.45	14.78
	Lasso	35.41	23.54	39.56	31.53	36.76	18.69	22.65	7.29	46.96	36.21	57.89	21.14	24.45	7.53	40.63	26.95	48.49	17.55	20.31	4.58
	E-net	44.50	29.99	45.86	33.20	41.16	19.31	23.33	7.02	55.23	39.39	62.92	22.16	25.84	7.87	49.11	28.88	52.55	17.53	21.39	4.62
	SCAD	11.87	2.86	11.83	3.01	11.76	4.85	18.98	7.47	12.02	3.26	23.02	17.75	17.31	3.32	12.46	6.68	14.02	9.41	18.62	4.86
	MCP	11.81	2.45	12.02	3.17	13.14	8.51	19.18	7.39	12.55	5.32	25.93	19.00	17.21	3.36	12.14	3.50	17.08	13.36	19.18	5.37
	XGBoost	117.95	37.64	101.44	28.63	79.55	18.57	30.29	7.55	109.00	30.53	81.55	18.59	37.71	12.68	98.03	23.80	77.15	20.33	31.76	7.92
	RF	135.80	34.62	112.34	27.49	81.23	15.94	27.61	6.93	119.64	31.55	87.90	20.24	38.83	13.27	112.97	29.21	79.94	20.82	30.55	7.88
	SVM	163.59	36.25	139.97	27.07	97.76	21.06	36.16	14.44	158.19	32.83	137.72	23.81	112.21	24.66	151.22	31.29	125.19	25.12	68.14	15.74
6	Ridge	657.41	147.23	602.03	130.67	391.11	93.49	114.98	28.81	635.49	129.34	555.83	95.49	466.18	101.34	619.07	129.52	537.36	112.74	189.79	59.14
	Lasso	141.66	94.14	158.24	126.14	147.04	74.76	90.58	29.17	191.58	142.86	231.54	84.58	97.80	30.12	162.51	107.79	193.95	70.18	81.23	18.30
	E-net	178.00	119.95	183.44	132.80	164.64	77.22	93.33	28.07	222.48	149.93	251.66	88.64	103.37	31.48	196.43	115.53	210.21	70.10	85.55	18.46
	SCAD	47.50	11.43	47.32	12.04	47.03	19.41	75.91	29.87	47.31	12.16	92.09	71.01	69.25	13.26	49.83	26.73	56.09	37.62	74.47	19.45
	MCP	47.24	9.79	48.09	12.66	52.55	34.03	76.73	29.56	52.76	45.99	103.71	76.00	68.85	13.43	48.56	14.01	68.31	53.44	76.72	21.48
	XGBoost	469.79	153.10	410.24	124.20	321.26	76.75	120.60	32.85	427.40	130.84	323.66	75.19	149.85	51.63	401.51	100.54	307.25	84.34	125.67	32.82
	RF	544.40	138.21	449.51	110.71	323.89	63.22	110.63	27.86	475.33	125.96	351.50	80.88	155.18	52.79	451.61	116.15	319.99	83.11	122.12	31.12
	SVM	655.31	147.70	562.14	109.84	390.52	84.30	144.29	57.22	631.61	128.77	551.01	97.28	448.94	97.82	604.68	124.27	501.74	101.37	272.56	62.96

Table 13: Mean and standard deviation of the testing MSE for the linear simulations when $n = 200$ and $p = 10$. See Figure 13 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11	1.05	0.11
	AIC B	1.04	0.11	1.04	0.11	1.03	0.11	1.04	0.11	1.03	0.10	1.04	0.11	1.04	0.11	1.04	0.11	1.03	0.11	1.04	0.11
	BIC B	1.02	0.10	1.02	0.10	1.02	0.11	1.03	0.11	1.02	0.11	1.02	0.10	1.03	0.11	1.02	0.10	1.02	0.11	1.03	0.11
	AIC SB	1.04	0.11	1.04	0.11	1.03	0.11	1.04	0.11	1.03	0.10	1.04	0.11	1.04	0.11	1.04	0.11	1.03	0.11	1.04	0.11
	BIC SB	1.02	0.10	1.02	0.10	1.02	0.11	1.03	0.11	1.02	0.11	1.02	0.10	1.03	0.11	1.02	0.10	1.02	0.11	1.03	0.11
	AIC F	1.04	0.11	1.03	0.11	1.03	0.11	1.04	0.11	1.03	0.10	1.04	0.10	1.03	0.11	1.04	0.11	1.03	0.11	1.03	0.11
	BIC F	1.02	0.10	1.02	0.10	1.02	0.11	1.03	0.11	1.02	0.11	1.02	0.10	1.03	0.11	1.02	0.10	1.02	0.10	1.03	0.11
	AIC SF	1.04	0.11	1.03	0.11	1.03	0.11	1.04	0.11	1.03	0.10	1.04	0.10	1.03	0.11	1.04	0.11	1.03	0.11	1.03	0.11
	BIC SF	1.02	0.10	1.02	0.10	1.02	0.11	1.03	0.11	1.02	0.11	1.02	0.10	1.03	0.11	1.02	0.10	1.02	0.10	1.03	0.11
	Ridge	1.21	0.14	1.25	0.15	1.31	0.17	1.54	0.17	1.23	0.14	1.31	0.16	1.48	0.17	1.25	0.14	1.30	0.16	1.52	0.16
	Lasso	1.12	0.13	1.11	0.13	1.11	0.14	1.12	0.13	1.11	0.12	1.12	0.13	1.12	0.13	1.11	0.12	1.11	0.14	1.12	0.13
	E-net	1.12	0.13	1.12	0.13	1.11	0.14	1.12	0.13	1.11	0.12	1.13	0.13	1.12	0.13	1.11	0.13	1.11	0.14	1.13	0.13
	SCAD	1.02	0.10	1.02	0.10	1.02	0.11	1.03	0.11	1.02	0.10	1.02	0.10	1.04	0.11	1.02	0.10	1.02	0.11	1.04	0.11
	MCP	1.02	0.11	1.02	0.11	1.02	0.11	1.03	0.11	1.02	0.10	1.02	0.11	1.04	0.10	1.02	0.10	1.02	0.11	1.04	0.11
	XGBoost	1.74	0.24	1.81	0.24	1.77	0.28	1.71	0.24	1.76	0.26	1.77	0.25	1.76	0.28	1.75	0.22	1.77	0.23	1.73	0.24
	RF	3.51	0.53	3.65	0.52	3.18	0.41	1.81	0.19	3.52	0.51	3.62	0.47	2.02	0.24	3.61	0.53	3.64	0.51	2.14	0.22
	SVM	3.31	0.56	3.07	0.53	2.34	0.50	1.60	0.41	3.10	0.49	2.72	0.48	1.77	0.42	3.03	0.51	2.43	0.49	1.67	0.26
3	OLS	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98	9.43	0.98
	AIC B	9.33	0.97	9.32	0.98	9.31	0.96	9.35	0.98	9.30	0.96	9.30	0.97	9.31	0.98	9.30	0.96	9.31	0.95	9.33	0.97
	BIC B	9.19	0.94	9.21	0.96	9.17	0.95	9.26	0.96	9.20	0.92	9.20	0.93	9.29	0.92	9.21	0.95	9.18	0.92	9.26	0.96
	AIC SB	9.33	0.97	9.32	0.98	9.31	0.96	9.35	0.98	9.30	0.96	9.30	0.97	9.31	0.98	9.30	0.96	9.31	0.95	9.33	0.97
	BIC SB	9.19	0.94	9.21	0.96	9.17	0.95	9.26	0.96	9.20	0.92	9.20	0.93	9.29	0.92	9.21	0.95	9.18	0.92	9.26	0.96
	AIC F	9.33	0.97	9.32	0.98	9.30	0.96	9.33	0.98	9.29	0.96	9.30	0.97	9.29	0.97	9.29	0.96	9.30	0.95	9.30	0.96
	BIC F	9.19	0.94	9.21	0.96	9.17	0.95	9.25	0.95	9.20	0.92	9.19	0.94	9.28	0.91	9.20	0.95	9.17	0.92	9.25	0.98
	AIC SF	9.33	0.97	9.32	0.98	9.30	0.96	9.33	0.98	9.29	0.96	9.30	0.97	9.29	0.97	9.29	0.96	9.30	0.95	9.30	0.96
	BIC SF	9.19	0.94	9.21	0.96	9.17	0.95	9.25	0.95	9.20	0.92	9.19	0.94	9.27	0.91	9.20	0.95	9.17	0.92	9.25	0.98
	Ridge	10.91	1.25	11.23	1.26	11.85	1.50	13.72	1.65	11.13	1.31	11.77	1.55	13.21	1.60	11.12	1.34	11.77	1.38	13.66	1.84
	Lasso	10.09	1.18	10.17	1.14	10.06	1.13	10.07	1.19	10.10	1.15	10.06	1.24	10.07	1.22	10.01	1.24	9.98	1.09	9.99	1.31
	E-net	10.10	1.18	10.19	1.14	10.08	1.14	10.06	1.20	10.10	1.15	10.08	1.25	10.08	1.22	10.02	1.23	10.00	1.09	10.01	1.32
	SCAD	9.22	0.94	9.21	0.97	9.20	0.95	9.33	1.00	9.18	0.93	9.20	0.93	9.35	0.94	9.19	0.92	9.19	0.94	9.33	0.98
	MCP	9.22	0.95	9.22	0.98	9.20	0.95	9.33	1.00	9.18	0.93	9.20	0.93	9.37	0.94	9.20	0.93	9.19	0.94	9.34	0.98
	XGBoost	15.58	2.00	16.16	2.44	16.15	2.00	15.29	2.42	16.02	2.12	16.04	2.25	15.54	2.34	15.87	2.19	15.88	2.00	15.44	2.07
	RF	31.64	4.75	32.85	4.75	28.97	4.01	16.25	2.26	32.44	4.66	32.31	4.55	17.87	2.13	32.17	5.06	31.90	3.85	19.16	2.41
	SVM	29.78	5.08	27.23	5.11	21.54	4.34	14.17	3.81	28.19	4.64	23.99	3.91	15.92	3.71	27.32	5.18	21.34	3.50	15.54	3.21
6	OLS	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91	37.70	3.91
	AIC B	37.31	3.90	37.29	3.91	37.22	3.85	37.39	3.92	37.21	3.86	37.22	3.88	37.25	3.91	37.19	3.83	37.22	3.80	37.30	3.88
	BIC B	36.75	3.76	36.84	3.84	36.67	3.78	37.06	3.85	36.78	3.68	36.79	3.71	37.15	3.67	36.82	3.82	36.72	3.70	37.03	3.86
	AIC SB	37.31	3.90	37.29	3.91	37.22	3.85	37.39	3.92	37.21	3.86	37.22	3.88	37.25	3.91	37.19	3.83	37.22	3.80	37.30	3.88
	BIC SB	36.75	3.76	36.84	3.84	36.67	3.78	37.06	3.85	36.78	3.68	36.79	3.71	37.15	3.67	36.82	3.82	36.72	3.70	37.03	3.86
	AIC F	37.30	3.88	37.29	3.91	37.22	3.85	37.32	3.93	37.18	3.82	37.21	3.87	37.15	3.89	37.18	3.82	37.20	3.78	37.21	3.84
	BIC F	36.75	3.76	36.84	3.84	36.67	3.78	37.01	3.80	36.78	3.68	36.75	3.75	37.10	3.66	36.82	3.81	36.68	3.70	37.01	3.90
	AIC SF	37.30	3.88	37.29	3.91	37.22	3.85	37.32	3.93	37.18	3.82	37.21	3.87	37.15	3.89	37.18	3.82	37.20	3.78	37.20	3.84
	BIC SF	36.75	3.76	36.84	3.84	36.67	3.78	37.01	3.80	36.78	3.68	36.75	3.75	37.09	3.64	36.82	3.81	36.68	3.70	37.01	3.90
	Ridge	43.63	4.99	44.93	5.03	47.39	6.01	54.89	6.61	44.53	5.23	47.08	6.22	52.84	6.42	44.47	5.36	47.08	5.54	54.62	7.36
	Lasso	40.35	4.71	40.68	4.55	40.26	4.54	40.28	4.74	40.40	4.62	40.22	4.97	40.28	4.88	40.03	4.96	39.91	4.35	39.97	5.25
	E-net	40.41	4.72	40.75	4.55	40.32	4.57	40.26	4.79	40.42	4.59	40.31	5.00	40.33	4.87	40.10	4.92	40.00	4.37	40.03	5.27
	SCAD	36.86	3.78	36.86	3.87	36.78	3.78	37.31	3.99	36.71	3.74	36.80	3.73	37.40	3.75	36.78	3.69	36.75	3.75	37.34	3.93
	MCP	36.88	3.81	36.89	3.93	36.81	3.81	37.31	4.01	36.73	3.73	36.81	3.74	37.48	3.77	36.79	3.74	36.75	3.74	37.34	3.91
	XGBoost	62.13	7.92	64.48	9.29	65.16	9.26	60.70	8.03	64.10	8.41	64.53	8.87	62.70	9.49	63.99	9.03	63.65	7.75	61.81	8.13
	RF	126.58	18.92	131.48	19.00	115.91	16.03	65.01	9.07	129.72	18.65	129.29	18.29	71.50	8.58	128.72	20.24	127.61	15.45	76.65	9.62
	SVM	119.13	20.32	108.91	20.46	86.15	17.37	56.81	15.64	112.76	18.58	95.97	15.63	63.83	14.76	109.26	20.71	85.38	13.99	62.11	12.87

Table 14: Mean and standard deviation of the testing MSE for the linear simulations when $n = 200$ and $p = 100$. See Figure 14 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28	2.05	0.28
	AIC F	1.50	0.23	1.49	0.21	1.47	0.22	1.49	0.23	1.51	0.23	1.42	0.20	1.25	0.20	1.46	0.21	1.47	0.20	1.26	0.20
	BIC F	1.11	0.14	1.11	0.14	1.10	0.14	1.11	0.14	1.11	0.13	1.10	0.12	1.08	0.15	1.10	0.13	1.08	0.12	1.06	0.12
	AIC SF	1.51	0.23	1.50	0.21	1.47	0.23	1.50	0.23	1.52	0.23	1.42	0.20	1.25	0.20	1.46	0.21	1.49	0.22	1.27	0.23
	BIC SF	1.11	0.13	1.11	0.14	1.10	0.14	1.11	0.14	1.11	0.13	1.10	0.12	1.08	0.15	1.10	0.13	1.08	0.12	1.06	0.12
	Ridge	2.23	0.38	2.27	0.35	2.25	0.35	1.91	0.22	2.29	0.37	2.32	0.33	1.96	0.24	2.27	0.36	2.24	0.32	1.94	0.24
	Lasso	1.21	0.16	1.18	0.12	1.18	0.15	1.18	0.13	1.21	0.17	1.23	0.15	1.23	0.15	1.20	0.14	1.18	0.15	1.21	0.16
	E-net	1.22	0.17	1.20	0.13	1.19	0.15	1.20	0.13	1.23	0.17	1.25	0.15	1.25	0.15	1.22	0.14	1.20	0.15	1.22	0.16
	SCAD	1.03	0.12	1.04	0.11	1.03	0.11	1.05	0.12	1.05	0.11	1.04	0.11	1.06	0.11	1.04	0.11	1.04	0.12	1.06	0.11
	MCP	1.03	0.12	1.04	0.11	1.04	0.12	1.05	0.12	1.04	0.11	1.04	0.11	1.06	0.11	1.03	0.11	1.04	0.12	1.06	0.12
	XGBoost	2.26	0.33	2.25	0.33	2.33	0.33	2.05	0.25	2.24	0.32	2.30	0.34	2.23	0.26	2.23	0.31	2.28	0.34	2.08	0.28
	RF	5.48	0.77	5.66	0.75	4.65	0.53	2.21	0.25	5.63	0.81	5.21	0.56	2.21	0.25	5.57	0.80	4.45	0.58	2.09	0.23
	SVM	8.39	0.84	7.54	0.82	5.18	0.64	2.32	0.34	8.19	0.99	7.05	0.64	3.92	0.48	7.76	0.90	6.09	0.69	3.21	0.45
3	OLS	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55	18.46	2.55
	AIC F	13.48	2.06	13.53	1.78	13.50	2.14	13.51	1.92	13.56	2.06	12.69	1.65	11.26	1.61	13.32	1.90	12.94	1.90	11.23	1.75
	BIC F	10.01	1.22	9.84	1.25	9.88	1.21	10.07	1.24	9.97	1.13	9.86	1.10	9.72	1.32	9.87	1.16	9.74	1.10	9.67	1.15
	AIC SF	13.56	2.04	13.56	1.73	13.54	2.11	13.55	1.96	13.59	2.06	12.68	1.64	11.25	1.70	13.40	1.98	13.00	1.93	11.20	1.69
	BIC SF	10.00	1.21	9.84	1.24	9.88	1.21	10.08	1.25	9.98	1.13	9.87	1.10	9.72	1.33	9.88	1.17	9.74	1.11	9.67	1.15
	Ridge	20.09	3.38	20.56	3.56	20.27	2.80	16.79	2.15	20.53	3.12	20.70	3.32	17.67	2.17	19.91	3.20	20.68	3.36	17.35	2.13
	Lasso	10.87	1.47	10.70	1.27	10.91	1.43	10.65	1.41	10.83	1.46	11.05	1.33	11.11	1.35	10.72	1.33	10.73	1.36	10.96	1.47
	E-net	11.02	1.51	10.83	1.31	11.02	1.41	10.74	1.42	10.94	1.49	11.20	1.37	11.20	1.34	10.85	1.35	10.84	1.40	11.08	1.48
	SCAD	9.30	1.06	9.31	1.02	9.33	1.05	9.60	1.14	9.33	0.97	9.36	1.04	9.52	1.05	9.29	0.99	9.35	1.03	9.49	1.08
	MCP	9.27	1.05	9.30	1.02	9.31	1.04	9.59	1.13	9.31	0.97	9.34	1.02	9.56	1.07	9.27	0.99	9.32	1.05	9.49	1.08
	XGBoost	20.30	3.04	20.51	2.81	21.01	2.95	18.51	2.56	20.31	2.91	20.81	3.37	19.81	2.34	20.50	3.49	20.58	3.12	18.56	2.46
	RF	49.29	6.97	50.03	6.71	42.19	4.73	19.64	2.36	49.84	7.85	46.91	5.75	19.85	2.37	50.11	7.19	41.09	5.37	18.97	2.13
	SVM	75.55	7.59	65.95	7.59	46.92	5.58	20.73	2.96	72.85	9.51	63.65	6.84	35.29	4.32	70.26	8.28	56.81	6.45	29.01	3.91
6	OLS	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20	73.85	10.20
	AIC F	53.93	8.26	54.10	7.14	54.00	8.55	54.05	7.68	54.24	8.23	50.77	6.60	45.04	6.44	53.27	7.61	51.78	7.59	44.91	6.99
	BIC F	40.05	4.89	39.37	4.98	39.53	4.85	40.29	4.97	39.88	4.51	39.43	4.40	38.86	5.28	39.50	4.64	38.95	4.39	38.68	4.60
	AIC SF	54.26	8.17	54.23	6.93	54.14	8.43	54.21	7.84	54.36	8.24	50.72	6.57	44.99	6.80	53.61	7.93	51.99	7.73	44.80	6.75
	BIC SF	40.00	4.83	39.36	4.97	39.51	4.85	40.31	5.00	39.90	4.50	39.46	4.39	38.89	5.30	39.50	4.67	38.97	4.46	38.68	4.60
	Ridge	80.38	13.51	82.26	14.25	81.09	11.18	67.17	8.61	82.13	12.49	82.79	13.27	70.69	8.69	79.64	12.80	82.72	13.44	69.39	8.50
	Lasso	43.50	5.87	42.82	5.08	43.65	5.70	42.61	5.64	43.32	5.86	44.21	5.34	44.44	5.41	42.88	5.31	42.92	5.44	43.84	5.87
	E-net	44.08	6.04	43.31	5.25	44.09	5.64	42.96	5.67	43.76	5.98	44.81	5.47	44.79	5.37	43.41	5.39	43.37	5.61	44.33	5.91
	SCAD	37.18	4.23	37.24	4.07	37.30	4.19	38.40	4.55	37.34	3.88	37.45	4.17	38.09	4.19	37.15	3.97	37.38	4.10	37.95	4.32
	MCP	37.07	4.21	37.20	4.09	37.23	4.15	38.38	4.54	37.23	3.87	37.35	4.09	38.25	4.27	37.09	3.95	37.27	4.20	37.96	4.31
	XGBoost	81.50	11.91	81.88	10.71	83.66	11.57	73.85	10.38	81.59	12.06	83.32	11.49	79.39	9.53	81.52	13.48	82.41	12.54	74.43	10.21
	RF	197.24	27.79	200.16	26.69	168.74	18.86	78.56	9.45	199.18	31.30	187.66	23.04	79.45	9.49	200.43	28.80	164.34	21.50	75.85	8.45
	SVM	302.19	30.36	263.81	30.37	187.68	22.31	82.96	11.89	291.40	38.02	254.60	27.34	141.17	17.27	281.04	33.10	227.25	25.80	116.19	15.89

Table 15: Mean and standard deviation of the testing MSE for the linear simulations when $n = 200$ and $p = 2000$. See Figure 15 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	18.24	1.78	15.37	1.72	10.03	1.14	2.95	0.34	17.08	1.69	15.13	1.50	9.21	1.15	16.55	1.94	10.99	1.39	3.41	0.40
	Lasso	1.36	0.16	1.36	0.20	1.35	0.18	1.31	0.17	1.36	0.17	1.44	0.18	1.91	0.23	1.38	0.21	1.41	0.18	1.48	0.26
	E-net	1.41	0.17	1.40	0.21	1.39	0.19	1.34	0.18	1.41	0.18	1.50	0.20	1.94	0.24	1.43	0.23	1.46	0.19	1.51	0.27
	SCAD	1.08	0.11	1.07	0.12	1.08	0.11	1.17	0.30	1.08	0.11	1.09	0.12	1.43	0.39	1.08	0.11	1.10	0.13	1.25	0.36
	MCP	1.06	0.11	1.06	0.11	1.07	0.12	1.08	0.14	1.07	0.11	1.07	0.11	1.28	0.35	1.06	0.11	1.08	0.12	1.13	0.25
	XGBoost	2.86	0.42	2.92	0.46	3.22	0.56	2.54	0.32	2.96	0.46	3.34	0.57	2.46	0.29	3.02	0.58	3.23	0.60	2.51	0.32
	RF	7.80	1.21	7.80	1.02	6.01	0.74	2.56	0.32	7.91	1.05	6.41	0.81	2.41	0.32	7.70	1.05	5.49	0.70	2.39	0.27
	SVM	17.61	1.69	14.70	1.50	9.67	1.07	3.03	0.50	16.49	1.64	14.45	1.39	9.73	1.15	15.73	1.65	10.77	1.14	4.54	0.54
3	Ridge	164.19	15.99	137.35	13.97	88.81	9.56	26.52	2.98	153.91	14.22	136.63	13.51	83.56	9.80	147.09	15.34	100.31	11.60	30.21	3.33
	Lasso	12.26	1.45	12.07	1.55	11.97	1.51	12.02	1.58	12.31	1.53	12.92	1.60	17.23	2.16	12.48	1.80	12.63	1.61	12.98	2.05
	E-net	12.67	1.57	12.43	1.65	12.33	1.59	12.29	1.61	12.74	1.66	13.48	1.71	17.55	2.18	12.90	1.92	13.05	1.71	13.31	2.13
	SCAD	9.71	1.02	9.68	1.01	9.76	1.03	10.86	2.96	9.76	0.99	9.80	1.03	12.91	3.67	9.82	1.10	9.84	1.08	11.24	3.18
	MCP	9.51	0.97	9.52	0.95	9.60	1.02	9.89	1.67	9.61	0.97	9.61	1.01	11.58	3.11	9.66	1.02	9.67	1.08	10.51	2.70
	XGBoost	25.69	3.90	26.96	5.37	28.35	5.28	22.88	2.49	26.77	4.41	30.29	5.09	22.52	2.55	27.44	4.72	29.13	4.40	21.98	2.74
	RF	70.19	10.91	69.60	9.68	52.80	6.29	22.99	2.40	70.83	10.21	57.90	7.36	21.57	2.68	68.14	8.93	49.46	6.04	20.88	2.45
	SVM	158.45	15.21	129.86	11.43	85.01	9.37	27.14	4.26	148.54	13.88	130.69	12.51	87.63	9.18	139.80	12.99	98.33	9.93	39.83	4.25
6	Ridge	656.77	63.95	549.41	55.90	355.23	38.25	106.09	11.90	614.56	57.65	546.52	54.05	334.26	39.19	588.38	61.37	401.23	46.40	120.84	13.30
	Lasso	49.05	5.79	48.26	6.19	47.88	6.04	48.10	6.33	48.92	6.01	51.69	6.38	68.92	8.64	49.92	7.20	50.53	6.42	51.92	8.18
	E-net	50.68	6.27	49.72	6.61	49.33	6.38	49.17	6.44	50.62	6.46	53.91	6.82	70.20	8.73	51.59	7.68	52.19	6.83	53.25	8.51
	SCAD	38.84	4.09	38.73	4.03	39.03	4.11	43.43	11.82	38.85	3.85	39.19	4.12	51.64	14.67	39.30	4.40	39.36	4.30	44.96	12.71
	MCP	38.04	3.89	38.07	3.81	38.41	4.07	39.57	6.70	38.27	3.79	38.44	4.06	46.32	12.46	38.63	4.10	38.70	4.33	42.04	10.80
	XGBoost	102.38	14.70	107.83	20.20	113.79	21.45	90.81	9.34	106.42	17.13	122.32	20.64	89.52	10.49	109.21	18.04	117.61	19.04	88.38	11.54
	RF	280.84	43.37	278.41	38.51	211.28	25.28	91.89	9.60	283.70	40.27	231.76	29.52	86.35	10.76	272.60	35.67	197.82	24.23	83.58	9.82
	SVM	633.86	60.83	519.38	45.68	340.05	37.47	108.60	17.11	592.76	56.91	523.03	50.00	350.50	36.72	558.84	51.50	393.34	39.70	159.33	16.98

Table 16: Mean and standard deviation of the testing MSE for the linear simulations when $n = 1000$ and $p = 10$. See Figure 16 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	AIC B	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	BIC B	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	AIC SB	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	BIC SB	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	AIC F	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	BIC F	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	AIC SF	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	BIC SF	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	Ridge	1.14	0.06	1.15	0.06	1.22	0.06	1.44	0.08	1.15	0.06	1.21	0.07	1.40	0.06	1.15	0.06	1.20	0.06	1.41	0.07
	Lasso	1.06	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05
	E-net	1.06	0.05	1.05	0.05	1.05	0.05	1.06	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05	1.05	0.05
	SCAD	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	MCP	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04
	XGBoost	1.22	0.07	1.23	0.06	1.22	0.06	1.22	0.06	1.22	0.06	1.22	0.05	1.21	0.06	1.22	0.06	1.21	0.06	1.21	0.06
	RF	2.03	0.15	2.05	0.15	1.93	0.11	1.37	0.06	2.04	0.14	2.17	0.13	1.61	0.08	2.03	0.15	2.16	0.14	1.68	0.08
	SVM	1.85	0.14	1.78	0.12	1.55	0.11	1.16	0.08	1.81	0.12	1.66	0.12	1.26	0.09	1.78	0.12	1.61	0.10	1.23	0.08
3	OLS	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40	9.13	0.40
	AIC B	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.40	9.10	0.40
	BIC B	9.07	0.40	9.08	0.40	9.07	0.40	9.07	0.39	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40
	AIC SB	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.40	9.10	0.40
	BIC SB	9.07	0.40	9.08	0.40	9.07	0.40	9.07	0.39	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40
	AIC F	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.40	9.09	0.40	9.10	0.40	9.10	0.40	9.10	0.40
	BIC F	9.07	0.40	9.08	0.40	9.07	0.40	9.07	0.39	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40
	AIC SF	9.10	0.40	9.10	0.40	9.10	0.39	9.10	0.40	9.10	0.40	9.10	0.40	9.09	0.40	9.10	0.40	9.10	0.40	9.10	0.40
	BIC SF	9.07	0.40	9.08	0.40	9.07	0.40	9.07	0.39	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40	9.07	0.40
	Ridge	10.24	0.50	10.38	0.50	10.93	0.58	12.85	0.64	10.34	0.52	10.85	0.58	12.68	0.58	10.29	0.52	10.82	0.61	12.63	0.66
	Lasso	9.51	0.45	9.48	0.44	9.47	0.45	9.47	0.45	9.48	0.46	9.47	0.44	9.50	0.43	9.46	0.47	9.44	0.45	9.46	0.45
	E-net	9.51	0.45	9.48	0.44	9.47	0.45	9.47	0.45	9.47	0.46	9.48	0.45	9.50	0.44	9.46	0.47	9.45	0.46	9.46	0.44
	SCAD	9.07	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.39	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40
	MCP	9.07	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40	9.08	0.40
	XGBoost	11.00	0.59	10.94	0.50	10.91	0.52	11.03	0.69	10.98	0.55	10.94	0.55	11.07	0.71	10.97	0.57	10.93	0.53	10.87	0.50
	RF	18.28	1.33	18.29	1.11	17.19	1.02	12.36	0.59	18.25	1.36	19.44	1.14	14.55	0.69	18.33	1.24	19.33	1.17	15.06	0.67
	SVM	16.69	1.28	16.02	1.07	13.84	0.88	10.42	0.75	16.22	1.11	14.93	1.04	11.24	0.76	16.04	0.95	14.39	0.91	11.08	0.67
6	OLS	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59	36.50	1.59
	AIC B	36.41	1.60	36.40	1.59	36.40	1.57	36.41	1.60	36.40	1.60	36.41	1.57	36.39	1.62	36.41	1.58	36.41	1.61	36.39	1.60
	BIC B	36.28	1.60	36.30	1.60	36.28	1.59	36.26	1.58	36.30	1.60	36.29	1.59	36.29	1.61	36.29	1.60	36.28	1.60	36.28	1.59
	AIC SB	36.41	1.60	36.40	1.59	36.40	1.57	36.41	1.60	36.40	1.60	36.41	1.57	36.39	1.62	36.41	1.58	36.41	1.61	36.39	1.60
	BIC SB	36.28	1.60	36.30	1.60	36.28	1.59	36.26	1.58	36.30	1.60	36.29	1.59	36.29	1.61	36.29	1.60	36.28	1.60	36.28	1.59
	AIC F	36.41	1.60	36.40	1.59	36.40	1.58	36.41	1.60	36.40	1.60	36.39	1.58	36.37	1.60	36.41	1.58	36.40	1.61	36.39	1.61
	BIC F	36.28	1.60	36.30	1.60	36.27	1.59	36.26	1.58	36.30	1.60	36.29	1.59	36.28	1.62	36.29	1.60	36.28	1.60	36.28	1.59
	AIC SF	36.41	1.60	36.40	1.59	36.40	1.58	36.41	1.60	36.40	1.60	36.39	1.58	36.37	1.60	36.41	1.58	36.40	1.61	36.39	1.61
	BIC SF	36.28	1.60	36.30	1.60	36.27	1.59	36.26	1.58	36.30	1.60	36.29	1.59	36.28	1.62	36.29	1.60	36.28	1.60	36.28	1.59
	Ridge	40.95	2.01	41.53	2.02	43.71	2.31	51.41	2.54	41.35	2.08	43.42	2.32	50.71	2.31	41.16	2.09	43.29	2.44	50.53	2.65
	Lasso	38.04	1.82	37.90	1.76	37.87	1.81	37.86	1.79	37.90	1.84	37.90	1.78	37.99	1.73	37.85	1.88	37.78	1.82	37.83	1.78
	E-net	38.04	1.81	37.91	1.76	37.87	1.82	37.88	1.79	37.90	1.83	37.91	1.79	38.01	1.74	37.86	1.89	37.81	1.84	37.84	1.76
	SCAD	36.29	1.58	36.32	1.59	36.33	1.59	36.33	1.59	36.32	1.61	36.32	1.58	36.32	1.61	36.31	1.59	36.32	1.58	36.33	1.62
	MCP	36.30	1.58	36.32	1.59	36.32	1.59	36.33	1.59	36.32	1.61	36.32	1.58	36.32	1.61	36.31	1.59	36.32	1.58	36.33	1.62
	XGBoost	44.01	2.36	43.77	2.01	43.65	2.07	44.17	2.82	43.91	2.19	43.78	2.25	44.12	2.58	43.87	2.29	43.71	2.14	43.52	2.05
	RF	73.13	5.32	73.15	4.43	68.75	4.08	49.43	2.36	73.01	5.46	77.77	4.55	58.20	2.78	73.33	4.97	77.34	4.71	60.24	2.69
	SVM	66.76	5.12	64.09	4.27	55.37	3.53	41.67	3.02	64.87	4.45	59.74	4.16	44.95	3.05	64.14	3.79	57.57	3.65	44.34	2.68

Table 17: Mean and standard deviation of the testing MSE for the linear simulations when $n = 1000$ and $p = 100$. See Figure 17 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05	1.11	0.05
	AIC F	1.07	0.05	1.07	0.05	1.07	0.05	1.07	0.05	1.07	0.05	1.06	0.05	1.04	0.05	1.06	0.05	1.06	0.05	1.04	0.05
	BIC F	1.01	0.05	1.01	0.04	1.01	0.05	1.01	0.05	1.01	0.04	1.01	0.04	1.01	0.05	1.02	0.05	1.01	0.04	1.01	0.05
	AIC SF	1.07	0.05	1.07	0.05	1.07	0.05	1.07	0.05	1.07	0.05	1.06	0.05	1.04	0.05	1.06	0.05	1.06	0.05	1.04	0.05
	BIC SF	1.01	0.05	1.01	0.04	1.01	0.05	1.01	0.05	1.01	0.04	1.01	0.04	1.01	0.05	1.02	0.05	1.01	0.04	1.01	0.05
	Ridge	1.23	0.06	1.25	0.07	1.33	0.08	1.51	0.09	1.25	0.06	1.32	0.08	1.46	0.08	1.27	0.07	1.33	0.07	1.50	0.08
	Lasso	1.05	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.07	0.05	1.06	0.05	1.06	0.05	1.06	0.05
	E-net	1.06	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.06	0.05	1.07	0.05	1.06	0.05	1.06	0.05	1.06	0.05
	SCAD	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.05	1.01	0.04	1.01	0.04	1.01	0.04
	MCP	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.04	1.01	0.05	1.01	0.04	1.01	0.04	1.01	0.04
	XGBoost	1.32	0.07	1.32	0.07	1.32	0.07	1.32	0.08	1.33	0.08	1.33	0.07	1.36	0.08	1.33	0.07	1.31	0.06	1.34	0.09
	RF	2.76	0.21	2.84	0.19	2.65	0.18	1.63	0.09	2.80	0.21	2.99	0.20	1.82	0.08	2.84	0.21	2.59	0.14	1.57	0.08
	SVM	2.42	0.15	2.42	0.17	1.95	0.14	1.43	0.09	2.44	0.14	2.53	0.15	2.23	0.13	2.56	0.14	2.48	0.15	1.81	0.12
3	OLS	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45	10.00	0.45
	AIC F	9.59	0.46	9.59	0.42	9.61	0.45	9.59	0.46	9.58	0.45	9.54	0.45	9.37	0.45	9.59	0.44	9.53	0.46	9.38	0.46
	BIC F	9.11	0.41	9.10	0.42	9.12	0.41	9.11	0.41	9.11	0.41	9.10	0.41	9.09	0.41	9.13	0.41	9.10	0.41	9.08	0.41
	AIC SF	9.59	0.46	9.59	0.42	9.60	0.45	9.58	0.45	9.58	0.45	9.53	0.45	9.37	0.45	9.58	0.44	9.53	0.46	9.38	0.46
	BIC SF	9.11	0.41	9.10	0.42	9.12	0.41	9.11	0.41	9.11	0.41	9.10	0.41	9.09	0.41	9.13	0.41	9.10	0.41	9.08	0.41
	Ridge	11.07	0.54	11.28	0.56	12.00	0.71	13.67	0.66	11.29	0.54	11.86	0.67	13.13	0.71	11.29	0.68	11.96	0.71	13.56	0.73
	Lasso	9.49	0.45	9.50	0.46	9.52	0.48	9.54	0.42	9.51	0.44	9.57	0.45	9.59	0.44	9.52	0.48	9.53	0.50	9.53	0.44
	E-net	9.52	0.46	9.53	0.46	9.54	0.49	9.56	0.42	9.53	0.45	9.59	0.46	9.62	0.44	9.54	0.49	9.56	0.50	9.55	0.44
	SCAD	9.05	0.40	9.05	0.40	9.05	0.40	9.06	0.40	9.05	0.41	9.05	0.40	9.09	0.41	9.06	0.41	9.05	0.39	9.08	0.41
	MCP	9.05	0.40	9.05	0.40	9.06	0.40	9.06	0.40	9.05	0.41	9.05	0.39	9.09	0.41	9.06	0.41	9.05	0.39	9.08	0.41
	XGBoost	11.85	0.64	11.87	0.61	11.89	0.61	11.96	0.74	11.89	0.62	11.92	0.64	12.28	0.75	11.83	0.62	11.80	0.59	12.09	0.64
	RF	24.80	1.93	25.38	1.78	23.66	1.45	14.79	0.69	25.37	1.82	26.91	1.85	16.32	0.77	25.14	1.94	23.47	1.39	14.26	0.64
	SVM	21.78	1.35	21.74	1.54	17.65	1.28	12.96	0.77	22.00	1.14	22.72	1.38	20.11	1.13	22.84	1.49	22.27	1.44	16.41	0.91
6	OLS	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82	40.01	1.82
	AIC F	38.35	1.82	38.35	1.69	38.42	1.79	38.34	1.82	38.32	1.82	38.15	1.80	37.49	1.82	38.34	1.75	38.11	1.83	37.52	1.83
	BIC F	36.46	1.63	36.41	1.69	36.47	1.63	36.43	1.62	36.46	1.64	36.41	1.62	36.36	1.64	36.51	1.64	36.39	1.64	36.31	1.64
	AIC SF	38.35	1.82	38.35	1.69	38.41	1.79	38.33	1.82	38.32	1.82	38.14	1.79	37.49	1.81	38.33	1.75	38.11	1.82	37.51	1.83
	BIC SF	36.46	1.63	36.41	1.69	36.47	1.63	36.43	1.62	36.46	1.64	36.41	1.62	36.36	1.64	36.50	1.64	36.39	1.64	36.31	1.64
	Ridge	44.28	2.16	45.14	2.23	48.00	2.84	54.66	2.64	45.17	2.18	47.43	2.67	52.52	2.85	45.17	2.71	47.83	2.83	54.24	2.93
	Lasso	37.97	1.79	38.00	1.83	38.06	1.93	38.16	1.66	38.04	1.77	38.27	1.81	38.38	1.77	38.10	1.94	38.12	1.99	38.13	1.76
	E-net	38.07	1.84	38.11	1.85	38.15	1.95	38.24	1.68	38.14	1.78	38.38	1.82	38.46	1.77	38.17	1.96	38.23	1.99	38.21	1.76
	SCAD	36.21	1.59	36.22	1.60	36.21	1.59	36.26	1.61	36.20	1.64	36.22	1.58	36.34	1.65	36.23	1.62	36.21	1.58	36.30	1.64
	MCP	36.21	1.60	36.22	1.61	36.22	1.59	36.24	1.59	36.20	1.64	36.22	1.58	36.35	1.66	36.24	1.63	36.20	1.57	36.32	1.62
	XGBoost	47.39	2.56	47.50	2.42	47.56	2.45	47.85	2.96	47.58	2.48	47.68	2.58	48.83	2.97	47.32	2.48	47.18	2.36	48.47	2.81
	RF	99.19	7.73	101.52	7.11	94.67	5.82	59.16	2.74	101.49	7.30	107.66	7.45	65.28	3.08	100.55	7.76	93.89	5.55	57.07	2.58
	SVM	87.11	5.38	86.96	6.15	70.61	5.12	51.82	3.09	88.02	4.57	90.87	5.51	80.44	4.52	91.34	5.95	89.09	5.76	65.65	3.63

Table 18: Mean and standard deviation of the testing MSE for the linear simulations when $n = 1000$ and $p = 2000$. See Figure 18 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	16.02	0.72	13.43	0.71	9.13	0.46	2.81	0.13	15.24	0.73	13.09	0.67	6.76	0.32	13.72	0.64	9.35	0.44	2.96	0.13
	Lasso	1.08	0.05	1.09	0.05	1.08	0.05	1.09	0.06	1.08	0.05	1.09	0.05	1.17	0.06	1.09	0.06	1.08	0.05	1.10	0.05
	E-net	1.09	0.05	1.09	0.05	1.09	0.05	1.10	0.06	1.09	0.05	1.10	0.05	1.18	0.06	1.09	0.06	1.09	0.05	1.11	0.06
	SCAD	1.01	0.04	1.01	0.04	1.03	0.05	1.05	0.10	1.01	0.04	1.01	0.04	1.06	0.10	1.01	0.04	1.02	0.05	1.04	0.04
	MCP	1.01	0.04	1.01	0.04	1.01	0.04	1.04	0.04	1.01	0.04	1.01	0.04	1.05	0.04	1.01	0.04	1.01	0.04	1.04	0.04
	XGBoost	1.42	0.08	1.44	0.07	1.45	0.08	1.48	0.08	1.42	0.07	1.46	0.08	1.70	0.10	1.42	0.08	1.44	0.09	1.56	0.08
	RF	3.62	0.26	3.86	0.27	3.40	0.22	1.89	0.10	3.64	0.24	3.89	0.25	1.92	0.10	3.69	0.28	3.35	0.20	1.79	0.08
	SVM	14.80	0.66	12.24	0.60	7.98	0.39	2.56	0.14	13.98	0.61	11.79	0.57	5.46	0.25	12.59	0.58	8.82	0.40	3.71	0.18
3	Ridge	144.14	6.47	120.54	5.17	82.87	4.01	25.16	1.14	137.01	6.46	117.91	6.16	60.80	3.01	124.21	6.22	85.45	3.89	26.35	1.29
	Lasso	9.75	0.46	9.72	0.47	9.72	0.48	9.85	0.47	9.74	0.45	9.86	0.49	10.51	0.56	9.76	0.49	9.84	0.50	9.87	0.48
	E-net	9.81	0.46	9.78	0.47	9.77	0.48	9.94	0.47	9.82	0.47	9.95	0.50	10.65	0.56	9.82	0.50	9.91	0.51	9.95	0.49
	SCAD	9.07	0.37	9.08	0.40	9.24	0.44	9.54	1.17	9.08	0.39	9.11	0.38	9.54	0.86	9.09	0.39	9.24	0.45	9.39	0.82
	MCP	9.05	0.37	9.05	0.39	9.07	0.39	9.35	0.40	9.05	0.39	9.05	0.38	9.42	0.38	9.06	0.38	9.07	0.39	9.32	0.39
	XGBoost	12.77	0.68	12.82	0.68	13.06	0.73	13.25	0.65	12.78	0.54	13.19	0.72	15.22	0.88	12.87	0.71	13.07	0.74	13.86	0.67
	RF	32.62	2.32	33.79	2.41	30.43	1.97	16.83	0.82	32.76	2.23	35.04	2.26	17.35	0.88	33.63	2.42	30.35	1.77	15.90	0.74
	SVM	133.24	5.90	109.90	4.45	72.46	3.28	22.81	1.06	125.71	5.40	106.06	5.17	49.15	2.38	114.38	5.38	80.51	3.58	32.75	1.54
6	Ridge	576.56	25.87	482.14	20.69	331.47	16.05	100.64	4.58	548.28	25.71	471.63	24.65	243.21	12.05	496.84	24.88	341.80	15.58	105.42	5.15
	Lasso	38.98	1.82	38.89	1.88	38.87	1.91	39.38	1.86	39.00	1.81	39.44	1.95	42.06	2.23	39.03	1.96	39.34	1.99	39.48	1.93
	E-net	39.24	1.84	39.13	1.90	39.09	1.94	39.74	1.90	39.26	1.83	39.81	1.98	42.60	2.24	39.29	2.00	39.63	2.04	39.80	1.95
	SCAD	36.27	1.49	36.32	1.58	36.95	1.76	38.16	4.69	36.31	1.58	36.45	1.53	38.16	3.44	36.35	1.54	36.96	1.82	37.55	3.27
	MCP	36.19	1.49	36.19	1.55	36.30	1.56	37.39	1.62	36.21	1.55	36.19	1.51	37.69	1.53	36.23	1.51	36.26	1.55	37.29	1.57
	XGBoost	51.08	2.73	51.24	2.72	52.21	2.96	52.85	2.67	51.44	2.71	52.78	2.88	60.95	3.75	51.48	2.83	52.20	2.85	55.40	2.96
	RF	130.46	9.29	135.14	9.66	121.75	7.87	67.30	3.26	130.90	8.92	140.14	9.02	69.44	3.53	134.46	9.61	121.42	7.05	63.58	2.97
	SVM	532.95	23.61	439.60	17.79	289.85	13.10	91.22	4.25	502.81	21.47	424.26	20.66	196.59	9.51	457.51	21.50	322.04	14.34	131.03	6.13

4.3 Tables for the β-sensitivity of the linear simulations

Table 19: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 50$ and $p = 10$. See Figure 19 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	AIC B	0.998	0.0200	0.990	0.0438	0.978	0.0629	0.892	0.1002	0.998	0.0200	0.980	0.0603	0.876	0.1016	0.992	0.0394	0.972	0.0697	0.886	0.0995
	BIC B	0.990	0.0438	0.974	0.0676	0.956	0.0833	0.854	0.0937	0.986	0.0513	0.962	0.0789	0.840	0.0899	0.986	0.0513	0.952	0.0858	0.848	0.0858
	AIC SB	0.998	0.0200	0.990	0.0438	0.978	0.0629	0.892	0.1002	0.998	0.0200	0.980	0.0603	0.874	0.1011	0.992	0.0394	0.972	0.0697	0.886	0.0995
	BIC SB	0.990	0.0438	0.974	0.0676	0.956	0.0833	0.854	0.0937	0.986	0.0513	0.962	0.0789	0.840	0.0899	0.986	0.0513	0.952	0.0858	0.848	0.0858
	AIC F	0.998	0.0200	0.986	0.0513	0.974	0.0676	0.886	0.0995	0.992	0.0394	0.980	0.0603	0.832	0.1626	0.992	0.0394	0.970	0.0718	0.872	0.1190
	BIC F	0.990	0.0438	0.970	0.0718	0.950	0.0870	0.844	0.1008	0.986	0.0513	0.962	0.0789	0.730	0.1997	0.986	0.0513	0.950	0.0870	0.816	0.1496
	AIC SF	0.998	0.0200	0.986	0.0513	0.974	0.0676	0.886	0.0995	0.992	0.0394	0.980	0.0603	0.828	0.1609	0.992	0.0394	0.970	0.0718	0.870	0.1185
	BIC SF	0.990	0.0438	0.970	0.0718	0.950	0.0870	0.844	0.1008	0.986	0.0513	0.962	0.0789	0.728	0.1980	0.986	0.0513	0.950	0.0870	0.816	0.1496
	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.990	0.0438	0.984	0.0545	0.974	0.0676	0.834	0.1506	0.992	0.0394	0.984	0.0545	0.872	0.1408	0.980	0.0603	0.952	0.0858	0.838	0.1229
	E-net	0.992	0.0394	0.988	0.0477	0.984	0.0545	0.854	0.1417	0.994	0.0343	0.992	0.0394	0.904	0.1154	0.988	0.0477	0.954	0.0846	0.844	0.1225
	SCAD	0.976	0.0653	0.970	0.0718	0.946	0.0892	0.846	0.1019	0.978	0.0629	0.942	0.0912	0.836	0.0916	0.976	0.0653	0.944	0.0903	0.856	0.0903
	MCP	0.972	0.0697	0.968	0.0737	0.936	0.0938	0.844	0.1085	0.976	0.0653	0.938	0.0930	0.832	0.0886	0.972	0.0697	0.942	0.0912	0.850	0.0916
3	OLS	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	AIC B	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.996	0.0281	0.970	0.0718	0.866	0.0945	0.986	0.0513	0.978	0.0629	0.910	0.1040
	BIC B	0.990	0.0438	0.972	0.0697	0.960	0.0804	0.860	0.0921	0.986	0.0513	0.948	0.0882	0.842	0.0867	0.978	0.0629	0.952	0.0858	0.872	0.1006
	AIC SB	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.996	0.0281	0.970	0.0718	0.868	0.0952	0.986	0.0513	0.978	0.0629	0.910	0.1040
	BIC SB	0.990	0.0438	0.972	0.0697	0.960	0.0804	0.860	0.0921	0.986	0.0513	0.950	0.0870	0.842	0.0867	0.978	0.0629	0.952	0.0858	0.872	0.1006
	AIC F	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.994	0.0343	0.972	0.0697	0.858	0.1342	0.988	0.0477	0.974	0.0676	0.902	0.1155
	BIC F	0.990	0.0438	0.970	0.0718	0.958	0.0819	0.832	0.1162	0.982	0.0575	0.948	0.0882	0.718	0.2148	0.978	0.0629	0.948	0.0882	0.840	0.1477
	AIC SF	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.994	0.0343	0.972	0.0697	0.854	0.1329	0.988	0.0477	0.972	0.0697	0.902	0.1155
	BIC SF	0.990	0.0438	0.970	0.0718	0.958	0.0819	0.832	0.1162	0.982	0.0575	0.948	0.0882	0.718	0.2148	0.978	0.0629	0.948	0.0882	0.840	0.1477
	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.990	0.0438	0.984	0.0545	0.972	0.0697	0.878	0.1360	0.992	0.0394	0.988	0.0477	0.890	0.1314	0.968	0.0737	0.962	0.0789	0.856	0.1336
	E-net	0.992	0.0394	0.986	0.0513	0.976	0.0653	0.896	0.1188	0.994	0.0343	0.990	0.0438	0.908	0.1285	0.972	0.0697	0.972	0.0697	0.870	0.1283
	SCAD	0.976	0.0653	0.960	0.0804	0.928	0.0965	0.868	0.1072	0.976	0.0653	0.940	0.0921	0.846	0.1058	0.966	0.0755	0.930	0.0959	0.862	0.0972
	MCP	0.972	0.0697	0.956	0.0833	0.926	0.0970	0.866	0.1066	0.968	0.0737	0.922	0.0980	0.836	0.1040	0.958	0.0819	0.918	0.0989	0.856	0.0988
6	OLS	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	AIC B	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.996	0.0281	0.970	0.0718	0.866	0.0945	0.986	0.0513	0.978	0.0629	0.910	0.1040
	BIC B	0.990	0.0438	0.972	0.0697	0.960	0.0804	0.860	0.0921	0.986	0.0513	0.948	0.0882	0.842	0.0867	0.978	0.0629	0.952	0.0858	0.872	0.1006
	AIC SB	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.996	0.0281	0.970	0.0718	0.868	0.0952	0.986	0.0513	0.978	0.0629	0.910	0.1040
	BIC SB	0.990	0.0438	0.972	0.0697	0.960	0.0804	0.860	0.0921	0.986	0.0513	0.950	0.0870	0.842	0.0867	0.978	0.0629	0.952	0.0858	0.872	0.1006
	AIC F	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.994	0.0343	0.972	0.0697	0.858	0.1342	0.988	0.0477	0.974	0.0676	0.902	0.1155
	BIC F	0.990	0.0438	0.970	0.0718	0.958	0.0819	0.832	0.1162	0.982	0.0575	0.948	0.0882	0.718	0.2148	0.978	0.0629	0.948	0.0882	0.840	0.1477
	AIC SF	0.998	0.0200	0.980	0.0603	0.978	0.0629	0.898	0.1005	0.994	0.0343	0.972	0.0697	0.854	0.1329	0.988	0.0477	0.972	0.0697	0.902	0.1155
	BIC SF	0.990	0.0438	0.970	0.0718	0.958	0.0819	0.832	0.1162	0.982	0.0575	0.948	0.0882	0.718	0.2148	0.978	0.0629	0.948	0.0882	0.840	0.1477
	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.990	0.0438	0.984	0.0545	0.972	0.0697	0.878	0.1360	0.992	0.0394	0.988	0.0477	0.890	0.1314	0.968	0.0737	0.962	0.0789	0.856	0.1336
	E-net	0.992	0.0394	0.986	0.0513	0.976	0.0653	0.896	0.1188	0.994	0.0343	0.990	0.0438	0.908	0.1285	0.972	0.0697	0.972	0.0697	0.870	0.1283
	SCAD	0.976	0.0653	0.960	0.0804	0.928	0.0965	0.868	0.1072	0.976	0.0653	0.940	0.0921	0.846	0.1058	0.966	0.0755	0.930	0.0959	0.862	0.0972
	MCP	0.972	0.0697	0.956	0.0833	0.926	0.0970	0.866	0.1066	0.968	0.0737	0.922	0.0980	0.836	0.1040	0.958	0.0819	0.918	0.0989	0.856	0.0988

Table 20: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 50$ and $p = 100$. See Figure 20 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.936	0.0938	0.936	0.0938	0.912	0.0998	0.694	0.1347	0.948	0.0882	0.958	0.0819	0.614	0.1664	0.946	0.0892	0.922	0.1021	0.702	0.1620
	E-net	0.938	0.0930	0.940	0.0921	0.912	0.0998	0.710	0.1283	0.958	0.0819	0.968	0.0737	0.716	0.1339	0.956	0.0833	0.928	0.1006	0.744	0.1506
	SCAD	0.948	0.0882	0.948	0.0882	0.886	0.0995	0.610	0.1738	0.934	0.0945	0.890	0.1000	0.504	0.1595	0.938	0.0930	0.874	0.0970	0.612	0.1903
	MCP	0.934	0.0945	0.926	0.0970	0.864	0.0938	0.610	0.1872	0.912	0.0998	0.876	0.0976	0.488	0.1486	0.916	0.0992	0.842	0.0819	0.618	0.1888
3	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.936	0.0938	0.926	0.0970	0.906	0.1003	0.736	0.1630	0.956	0.0833	0.954	0.0979	0.622	0.1580	0.934	0.0945	0.914	0.1073	0.716	0.1454
	E-net	0.938	0.0930	0.922	0.0980	0.908	0.1002	0.746	0.1527	0.964	0.0772	0.960	0.0943	0.710	0.1374	0.932	0.0952	0.920	0.1064	0.738	0.1469
	SCAD	0.948	0.0882	0.934	0.0945	0.876	0.0976	0.630	0.1894	0.940	0.0921	0.896	0.1004	0.498	0.1544	0.930	0.0959	0.868	0.0952	0.624	0.1892
	MCP	0.934	0.0945	0.908	0.1002	0.850	0.0870	0.616	0.1963	0.932	0.0952	0.872	0.0965	0.478	0.1474	0.900	0.1005	0.842	0.0819	0.630	0.1894
6	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.936	0.0938	0.926	0.0970	0.906	0.1003	0.736	0.1630	0.956	0.0833	0.954	0.0979	0.622	0.1580	0.934	0.0945	0.914	0.1073	0.716	0.1454
	E-net	0.938	0.0930	0.922	0.0980	0.908	0.1002	0.746	0.1527	0.964	0.0772	0.960	0.0943	0.710	0.1374	0.932	0.0952	0.920	0.1064	0.738	0.1469
	SCAD	0.948	0.0882	0.934	0.0945	0.876	0.0976	0.630	0.1894	0.940	0.0921	0.896	0.1004	0.498	0.1544	0.930	0.0959	0.868	0.0952	0.624	0.1892
	MCP	0.934	0.0945	0.908	0.1002	0.850	0.0870	0.616	0.1963	0.932	0.0952	0.872	0.0965	0.478	0.1474	0.900	0.1005	0.842	0.0819	0.630	0.1894

Table 21: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 50$ and $p = 2000$. See Figure 21 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.816	0.0972	0.798	0.1463	0.754	0.1298	0.538	0.1162	0.796	0.1928	0.558	0.2016	0.550	0.1514	0.754	0.1726	0.636	0.1185	0.606	0.0722
	E-net	0.792	0.1061	0.776	0.1512	0.750	0.1219	0.556	0.1157	0.784	0.1942	0.558	0.2016	0.668	0.1246	0.736	0.1703	0.636	0.1115	0.632	0.0886
	SCAD	0.894	0.1003	0.898	0.1005	0.842	0.0912	0.466	0.1451	0.902	0.1005	0.746	0.1772	0.412	0.0477	0.892	0.1116	0.806	0.1003	0.412	0.0686
	MCP	0.864	0.0938	0.860	0.0921	0.794	0.0874	0.454	0.1388	0.862	0.1162	0.648	0.1972	0.410	0.0438	0.840	0.0943	0.748	0.1382	0.406	0.0528
3	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.816	0.0972	0.794	0.1434	0.732	0.1399	0.534	0.1241	0.788	0.1838	0.534	0.1799	0.544	0.1479	0.788	0.1297	0.646	0.1096	0.610	0.0916
	E-net	0.792	0.1061	0.784	0.1441	0.716	0.1369	0.542	0.1216	0.766	0.1950	0.528	0.1875	0.668	0.1309	0.772	0.1334	0.640	0.0899	0.642	0.0955
	SCAD	0.894	0.1003	0.872	0.0965	0.840	0.0804	0.470	0.1460	0.888	0.0998	0.750	0.1714	0.410	0.0438	0.882	0.0989	0.800	0.1064	0.414	0.0586
	MCP	0.864	0.0938	0.842	0.0819	0.794	0.0827	0.448	0.1425	0.866	0.0945	0.694	0.1852	0.408	0.0394	0.850	0.0870	0.756	0.1351	0.404	0.0400
6	Ridge	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000
	Lasso	0.816	0.0972	0.794	0.1434	0.732	0.1399	0.534	0.1241	0.780	0.1959	0.534	0.1799	0.544	0.1479	0.788	0.1297	0.646	0.1096	0.610	0.0916
	E-net	0.792	0.1061	0.784	0.1441	0.716	0.1369	0.542	0.1216	0.754	0.2047	0.528	0.1875	0.668	0.1309	0.772	0.1334	0.640	0.0899	0.642	0.0955
	SCAD	0.894	0.1003	0.872	0.0965	0.840	0.0804	0.470	0.1460	0.900	0.1005	0.750	0.1714	0.410	0.0438	0.882	0.0989	0.800	0.1064	0.414	0.0586
	MCP	0.864	0.0938	0.842	0.0819	0.794	0.0827	0.448	0.1425	0.864	0.1059	0.694	0.1852	0.408	0.0394	0.850	0.0870	0.756	0.1351	0.404	0.0400

Table 22: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 200$ and $p = 10$. See Figure 22 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC B	1	0	1	0	1	0	0.960	0.0804	1	0	1.000	0.00	0.976	0.0653	1	0	1	0	0.978	0.0629
	BIC B	1	0	1	0	1	0	0.918	0.0989	1	0	1.000	0.00	0.930	0.0959	1	0	1	0	0.938	0.0930
	AIC SB	1	0	1	0	1	0	0.960	0.0804	1	0	1.000	0.00	0.976	0.0653	1	0	1	0	0.978	0.0629
	BIC SB	1	0	1	0	1	0	0.918	0.0989	1	0	1.000	0.00	0.930	0.0959	1	0	1	0	0.940	0.0921
	AIC F	1	0	1	0	1	0	0.958	0.0819	1	0	1.000	0.00	0.972	0.0697	1	0	1	0	0.972	0.0697
	BIC F	1	0	1	0	1	0	0.914	0.0995	1	0	1.000	0.00	0.932	0.0952	1	0	1	0	0.938	0.0930
	AIC SF	1	0	1	0	1	0	0.958	0.0819	1	0	1.000	0.00	0.972	0.0697	1	0	1	0	0.972	0.0697
	BIC SF	1	0	1	0	1	0	0.914	0.0995	1	0	1.000	0.00	0.932	0.0952	1	0	1	0	0.938	0.0930
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.968	0.0737	1	0	1.000	0.00	0.992	0.0394	1	0	1	0	0.938	0.0930
	E-net	1	0	1	0	1	0	0.972	0.0697	1	0	1.000	0.00	0.996	0.0281	1	0	1	0	0.954	0.0846
	SCAD	1	0	1	0	1	0	0.920	0.0985	1	0	1.000	0.00	0.930	0.0959	1	0	1	0	0.930	0.0959
	MCP	1	0	1	0	1	0	0.914	0.0995	1	0	1.000	0.00	0.930	0.0959	1	0	1	0	0.926	0.0970
3	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC B	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.980	0.0603	1	0	1	0	0.972	0.0697
	BIC B	1	0	1	0	1	0	0.924	0.0976	1	0	0.998	0.02	0.934	0.0945	1	0	1	0	0.930	0.0959
	AIC SB	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.980	0.0603	1	0	1	0	0.972	0.0697
	BIC SB	1	0	1	0	1	0	0.924	0.0976	1	0	0.998	0.02	0.934	0.0945	1	0	1	0	0.930	0.0959
	AIC F	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.978	0.0629	1	0	1	0	0.970	0.0718
	BIC F	1	0	1	0	1	0	0.920	0.0985	1	0	0.998	0.02	0.936	0.0938	1	0	1	0	0.926	0.0970
	AIC SF	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.978	0.0629	1	0	1	0	0.970	0.0718
	BIC SF	1	0	1	0	1	0	0.920	0.0985	1	0	0.998	0.02	0.936	0.0938	1	0	1	0	0.926	0.0970
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.954	0.0846	1	0	1.000	0.00	0.992	0.0394	1	0	1	0	0.924	0.0976
	E-net	1	0	1	0	1	0	0.972	0.0697	1	0	1.000	0.00	0.994	0.0343	1	0	1	0	0.944	0.0903
	SCAD	1	0	1	0	1	0	0.930	0.0959	1	0	1.000	0.00	0.936	0.0938	1	0	1	0	0.930	0.0959
	MCP	1	0	1	0	1	0	0.924	0.0976	1	0	1.000	0.00	0.932	0.0952	1	0	1	0	0.932	0.0952
6	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC B	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.980	0.0603	1	0	1	0	0.972	0.0697
	BIC B	1	0	1	0	1	0	0.924	0.0976	1	0	0.998	0.02	0.934	0.0945	1	0	1	0	0.930	0.0959
	AIC SB	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.980	0.0603	1	0	1	0	0.972	0.0697
	BIC SB	1	0	1	0	1	0	0.924	0.0976	1	0	0.998	0.02	0.934	0.0945	1	0	1	0	0.930	0.0959
	AIC F	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.978	0.0629	1	0	1	0	0.970	0.0718
	BIC F	1	0	1	0	1	0	0.920	0.0985	1	0	0.998	0.02	0.936	0.0938	1	0	1	0	0.926	0.0970
	AIC SF	1	0	1	0	1	0	0.970	0.0718	1	0	1.000	0.00	0.978	0.0629	1	0	1	0	0.970	0.0718
	BIC SF	1	0	1	0	1	0	0.920	0.0985	1	0	0.998	0.02	0.936	0.0938	1	0	1	0	0.926	0.0970
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1.000	0.00	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.954	0.0846	1	0	1.000	0.00	0.992	0.0394	1	0	1	0	0.924	0.0976
	E-net	1	0	1	0	1	0	0.972	0.0697	1	0	1.000	0.00	0.994	0.0343	1	0	1	0	0.944	0.0903
	SCAD	1	0	1	0	1	0	0.930	0.0959	1	0	1.000	0.00	0.936	0.0938	1	0	1	0	0.930	0.0959
	MCP	1	0	1	0	1	0	0.924	0.0976	1	0	1.000	0.00	0.932	0.0952	1	0	1	0	0.932	0.0952

Table 23: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 200$ and $p = 100$. See Figure 23 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	AIC F	1	0	1	0	1.000	0.00	0.952	0.0858	1	0	1.000	0.0000	0.966	0.0755	1	0	1.000	0.0000	0.954	0.0846
	BIC F	1	0	1	0	1.000	0.00	0.880	0.0985	1	0	1.000	0.0000	0.920	0.1101	1	0	1.000	0.0000	0.920	0.0985
	AIC SF	1	0	1	0	1.000	0.00	0.950	0.0870	1	0	1.000	0.0000	0.960	0.0804	1	0	0.998	0.0200	0.950	0.0870
	BIC SF	1	0	1	0	1.000	0.00	0.880	0.0985	1	0	1.000	0.0000	0.920	0.1101	1	0	1.000	0.0000	0.920	0.0985
	Ridge	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	Lasso	1	0	1	0	1.000	0.00	0.904	0.1004	1	0	1.000	0.0000	0.972	0.0697	1	0	1.000	0.0000	0.940	0.0921
	E-net	1	0	1	0	1.000	0.00	0.916	0.0992	1	0	1.000	0.0000	0.980	0.0603	1	0	1.000	0.0000	0.948	0.0882
	SCAD	1	0	1	0	1.000	0.00	0.826	0.0676	1	0	0.994	0.0343	0.832	0.0737	1	0	0.996	0.0281	0.842	0.0819
	MCP	1	0	1	0	0.998	0.02	0.828	0.0697	1	0	0.996	0.0281	0.820	0.0603	1	0	0.996	0.0281	0.834	0.0755
3	OLS	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	AIC F	1	0	1	0	1.000	0.00	0.960	0.0804	1	0	1.000	0.0000	0.962	0.0789	1	0	1.000	0.0000	0.946	0.0892
	BIC F	1	0	1	0	1.000	0.00	0.898	0.1005	1	0	1.000	0.0000	0.924	0.1093	1	0	1.000	0.0000	0.900	0.1005
	AIC SF	1	0	1	0	1.000	0.00	0.958	0.0819	1	0	1.000	0.0000	0.962	0.0789	1	0	1.000	0.0000	0.942	0.0912
	BIC SF	1	0	1	0	1.000	0.00	0.896	0.1004	1	0	1.000	0.0000	0.922	0.1097	1	0	1.000	0.0000	0.900	0.1005
	Ridge	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	Lasso	1	0	1	0	0.998	0.02	0.910	0.1000	1	0	1.000	0.0000	0.972	0.0697	1	0	1.000	0.0000	0.914	0.0995
	E-net	1	0	1	0	1.000	0.00	0.922	0.0980	1	0	1.000	0.0000	0.984	0.0545	1	0	1.000	0.0000	0.926	0.0970
	SCAD	1	0	1	0	1.000	0.00	0.834	0.0755	1	0	0.998	0.0200	0.828	0.0697	1	0	0.994	0.0343	0.836	0.0772
	MCP	1	0	1	0	0.998	0.02	0.836	0.0772	1	0	0.998	0.0200	0.816	0.0545	1	0	0.994	0.0343	0.834	0.0755
6	OLS	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	AIC F	1	0	1	0	1.000	0.00	0.960	0.0804	1	0	1.000	0.0000	0.962	0.0789	1	0	1.000	0.0000	0.946	0.0892
	BIC F	1	0	1	0	1.000	0.00	0.898	0.1005	1	0	1.000	0.0000	0.924	0.1093	1	0	1.000	0.0000	0.900	0.1005
	AIC SF	1	0	1	0	1.000	0.00	0.958	0.0819	1	0	1.000	0.0000	0.962	0.0789	1	0	1.000	0.0000	0.942	0.0912
	BIC SF	1	0	1	0	1.000	0.00	0.896	0.1004	1	0	1.000	0.0000	0.922	0.1097	1	0	1.000	0.0000	0.900	0.1005
	Ridge	1	0	1	0	1.000	0.00	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000	1	0	1.000	0.0000	1.000	0.0000
	Lasso	1	0	1	0	0.998	0.02	0.910	0.1000	1	0	1.000	0.0000	0.972	0.0697	1	0	1.000	0.0000	0.914	0.0995
	E-net	1	0	1	0	1.000	0.00	0.922	0.0980	1	0	1.000	0.0000	0.984	0.0545	1	0	1.000	0.0000	0.926	0.0970
	SCAD	1	0	1	0	1.000	0.00	0.834	0.0755	1	0	0.998	0.0200	0.828	0.0697	1	0	0.994	0.0343	0.836	0.0772
	MCP	1	0	1	0	0.998	0.02	0.836	0.0772	1	0	0.998	0.0200	0.816	0.0545	1	0	0.994	0.0343	0.834	0.0755

Table 24: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 200$ and $p = 2000$. See Figure 24 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1	0	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.00	1.000	0.0000	1.000	0.0000
	Lasso	1	0	0.996	0.0281	0.990	0.0438	0.848	0.0904	0.998	0.0200	0.998	0.0200	0.674	0.1050	1.000	0.00	0.994	0.0343	0.806	0.1406
	E-net	1	0	0.996	0.0281	0.990	0.0438	0.858	0.0955	0.998	0.0200	1.000	0.0000	0.782	0.0642	1.000	0.00	0.996	0.0281	0.820	0.1407
	SCAD	1	0	0.996	0.0281	0.986	0.0513	0.770	0.0772	0.996	0.0281	0.992	0.0394	0.656	0.1635	1.000	0.00	0.966	0.0755	0.750	0.1251
	MCP	1	0	0.996	0.0281	0.972	0.0697	0.792	0.0486	0.996	0.0281	0.992	0.0394	0.714	0.1484	1.000	0.00	0.968	0.0737	0.772	0.1026
3	Ridge	1	0	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.00	1.000	0.0000	1.000	0.0000
	Lasso	1	0	0.998	0.0200	0.994	0.0343	0.836	0.0916	0.998	0.0200	0.998	0.0200	0.670	0.1000	0.998	0.02	0.994	0.0343	0.826	0.1440
	E-net	1	0	1.000	0.0000	0.994	0.0343	0.844	0.0925	0.998	0.0200	1.000	0.0000	0.784	0.0615	0.998	0.02	0.998	0.0200	0.842	0.1512
	SCAD	1	0	1.000	0.0000	0.996	0.0281	0.774	0.0787	0.996	0.0281	0.994	0.0343	0.664	0.1580	1.000	0.00	0.980	0.0603	0.730	0.1403
	MCP	1	0	1.000	0.0000	0.980	0.0603	0.786	0.0711	0.996	0.0281	0.994	0.0343	0.714	0.1511	1.000	0.00	0.976	0.0653	0.746	0.1359
6	Ridge	1	0	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.0000	1.000	0.00	1.000	0.0000	1.000	0.0000
	Lasso	1	0	0.998	0.0200	0.994	0.0343	0.836	0.0916	0.998	0.0200	0.998	0.0200	0.670	0.1000	0.998	0.02	0.994	0.0343	0.826	0.1440
	E-net	1	0	1.000	0.0000	0.994	0.0343	0.844	0.0925	0.998	0.0200	1.000	0.0000	0.784	0.0615	0.998	0.02	0.998	0.0200	0.842	0.1512
	SCAD	1	0	1.000	0.0000	0.996	0.0281	0.774	0.0787	0.996	0.0281	0.994	0.0343	0.664	0.1580	1.000	0.00	0.980	0.0603	0.730	0.1403
	MCP	1	0	1.000	0.0000	0.980	0.0603	0.786	0.0711	0.996	0.0281	0.994	0.0343	0.714	0.1511	1.000	0.00	0.976	0.0653	0.746	0.1359

Table 25: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 1000$ and $p = 10$. See Figure 25 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC B	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC B	1	0	1	0	1	0	1	0	1	0	1	0	0.998	0.02	1	0	1	0	1.000	0.00
	AIC SB	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SB	1	0	1	0	1	0	1	0	1	0	1	0	0.998	0.02	1	0	1	0	1.000	0.00
	AIC F	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC F	1	0	1	0	1	0	1	0	1	0	1	0	0.998	0.02	1	0	1	0	1.000	0.00
	AIC SF	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SF	1	0	1	0	1	0	1	0	1	0	1	0	0.998	0.02	1	0	1	0	1.000	0.00
	Ridge	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	E-net	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	SCAD	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	MCP	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
3	OLS	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC B	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC B	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC SB	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SB	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC F	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC F	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC SF	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SF	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	Ridge	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	0.998	0.02
	E-net	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	0.998	0.02
	SCAD	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	MCP	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
6	OLS	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC B	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC B	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC SB	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SB	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC F	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC F	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	AIC SF	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	BIC SF	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	Ridge	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	0.998	0.02
	E-net	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	0.998	0.02
	SCAD	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00
	MCP	1	0	1	0	1	0	1	0	1	0	1	0	1.000	0.00	1	0	1	0	1.000	0.00

Table 26: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 1000$ and $p = 100$. See Figure 26 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC F	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC F	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC SF	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC SF	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	E-net	1	0	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	SCAD	1	0	1	0	1	0	0.994	0.0343	1	0	1	0	0.994	0.0343	1	0	1	0	0.998	0.0200
	MCP	1	0	1	0	1	0	0.994	0.0343	1	0	1	0	0.992	0.0394	1	0	1	0	1.000	0.0000
3	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC F	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC F	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC SF	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC SF	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	E-net	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	SCAD	1	0	1	0	1	0	0.994	0.0343	1	0	1	0	0.994	0.0343	1	0	1	0	0.996	0.0281
	MCP	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	0.992	0.0394	1	0	1	0	0.994	0.0343
6	OLS	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC F	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC F	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	AIC SF	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	BIC SF	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	Lasso	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	E-net	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000
	SCAD	1	0	1	0	1	0	0.994	0.0343	1	0	1	0	0.994	0.0343	1	0	1	0	0.996	0.0281
	MCP	1	0	1	0	1	0	0.996	0.0281	1	0	1	0	0.992	0.0394	1	0	1	0	0.994	0.0343

Table 27: Mean and standard deviation of the β-sensitivity for the linear simulations when $n = 1000$ and $p = 2000$. See Figure 27 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	0.992	0.0394	1	0	1	0	0.998	0.0200	1	0	1	0	1.000	0.00
	E-net	1	0	1	0	1	0	0.992	0.0394	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	SCAD	1	0	1	0	1	0	0.798	0.0200	1	0	1	0	0.796	0.0281	1	0	1	0	0.800	0.00
	MCP	1	0	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.00
3	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	0.992	0.0394	1	0	1	0	0.998	0.0200	1	0	1	0	0.998	0.02
	E-net	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	SCAD	1	0	1	0	1	0	0.796	0.0281	1	0	1	0	0.796	0.0281	1	0	1	0	0.800	0.00
	MCP	1	0	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.00
6	Ridge	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	Lasso	1	0	1	0	1	0	0.992	0.0394	1	0	1	0	0.998	0.0200	1	0	1	0	0.998	0.02
	E-net	1	0	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.0000	1	0	1	0	1.000	0.00
	SCAD	1	0	1	0	1	0	0.796	0.0281	1	0	1	0	0.796	0.0281	1	0	1	0	0.800	0.00
	MCP	1	0	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.0000	1	0	1	0	0.800	0.00

4.4 Tables for the β-specificity of the linear simulations

Table 28: Mean and standard deviation of the β-specificity for the linear simulations when $n = 50$ and $p = 10$. See Figure 28 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.7600	0.1929	0.7817	0.1846	0.8050	0.1774	0.7767	0.1823	0.7500	0.1932	0.7617	0.1854	0.7550	0.2030	0.7900	0.1814	0.7933	0.1806	0.7483	0.1873
	BIC B	0.9133	0.1450	0.9150	0.1431	0.9067	0.1261	0.9200	0.1123	0.9167	0.1350	0.9200	0.1123	0.8850	0.1355	0.9300	0.1090	0.9267	0.1094	0.9183	0.1391
	AIC SB	0.7600	0.1929	0.7817	0.1846	0.8050	0.1774	0.7767	0.1823	0.7500	0.1932	0.7600	0.1840	0.7500	0.2003	0.7883	0.1802	0.7917	0.1810	0.7483	0.1873
	BIC SB	0.9133	0.1450	0.9150	0.1431	0.9050	0.1281	0.9200	0.1123	0.9167	0.1350	0.9200	0.1123	0.8850	0.1355	0.9300	0.1090	0.9267	0.1094	0.9167	0.1391
	AIC F	0.7783	0.1836	0.8083	0.1731	0.8183	0.1677	0.8183	0.1555	0.7767	0.1808	0.7950	0.1639	0.8250	0.1630	0.8117	0.1735	0.8133	0.1663	0.8150	0.1587
	BIC F	0.9333	0.1231	0.9333	0.1136	0.9233	0.1044	0.9267	0.1094	0.9333	0.0977	0.9367	0.0970	0.9400	0.0963	0.9300	0.1090	0.9367	0.0999	0.9333	0.1086
	AIC SF	0.7783	0.1836	0.8083	0.1731	0.8200	0.1636	0.8183	0.1555	0.7767	0.1808	0.7967	0.1634	0.8333	0.1607	0.8117	0.1735	0.8133	0.1663	0.8167	0.1598
	BIC SF	0.9333	0.1231	0.9333	0.1136	0.9233	0.1044	0.9267	0.1094	0.9333	0.0977	0.9383	0.0967	0.9483	0.0908	0.9300	0.1090	0.9367	0.0999	0.9367	0.1054
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.8317	0.2072	0.8283	0.1946	0.8067	0.2075	0.8050	0.1881	0.8250	0.2084	0.7717	0.1991	0.7367	0.1776	0.8367	0.1804	0.7683	0.2403	0.7117	0.1878
	E-net	0.7867	0.2261	0.8000	0.2132	0.7767	0.2108	0.7667	0.2079	0.7950	0.2104	0.7333	0.1895	0.6883	0.1751	0.8000	0.1953	0.7333	0.2416	0.6550	0.1957
	SCAD	0.7383	0.3091	0.7750	0.2905	0.8417	0.2432	0.8367	0.2669	0.7283	0.3184	0.8050	0.2322	0.8067	0.2389	0.7967	0.2558	0.7950	0.2821	0.8433	0.2709
	MCP	0.7967	0.2955	0.8133	0.3055	0.8783	0.2130	0.8600	0.2342	0.7700	0.3331	0.8450	0.2499	0.8233	0.2460	0.8483	0.2405	0.8333	0.2773	0.8533	0.2714
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.7600	0.1929	0.7867	0.1710	0.7967	0.1701	0.7767	0.1942	0.7683	0.1923	0.7933	0.1710	0.7683	0.2064	0.8000	0.2010	0.7917	0.1681	0.7767	0.1838
	BIC B	0.9133	0.1450	0.9183	0.1124	0.9033	0.1258	0.9100	0.1285	0.9183	0.1019	0.9083	0.1193	0.8900	0.1445	0.9317	0.1062	0.9017	0.1300	0.9233	0.1070
	AIC SB	0.7600	0.1929	0.7850	0.1713	0.7950	0.1689	0.7767	0.1942	0.7683	0.1923	0.7933	0.1710	0.7683	0.2064	0.8000	0.2010	0.7867	0.1660	0.7767	0.1838
	BIC SB	0.9133	0.1450	0.9167	0.1124	0.9033	0.1258	0.9100	0.1285	0.9183	0.1019	0.9083	0.1193	0.8900	0.1445	0.9317	0.1062	0.9017	0.1300	0.9217	0.1071
	AIC F	0.7783	0.1836	0.8000	0.1675	0.8067	0.1512	0.8133	0.1761	0.8000	0.1741	0.8100	0.1741	0.8283	0.1827	0.8200	0.1752	0.8100	0.1554	0.8317	0.1451
	BIC F	0.9333	0.1231	0.9233	0.1017	0.9200	0.1018	0.9250	0.1095	0.9250	0.0987	0.9233	0.1044	0.9383	0.0967	0.9350	0.1030	0.9233	0.1122	0.9333	0.0977
	AIC SF	0.7783	0.1836	0.8000	0.1675	0.8067	0.1512	0.8133	0.1761	0.8017	0.1703	0.8117	0.1703	0.8483	0.1677	0.8200	0.1752	0.8100	0.1554	0.8333	0.1441
	BIC SF	0.9333	0.1231	0.9233	0.1017	0.9217	0.0990	0.9250	0.1095	0.9250	0.0987	0.9233	0.1044	0.9417	0.0959	0.9350	0.1030	0.9250	0.1121	0.9333	0.0977
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.8317	0.2072	0.8000	0.2065	0.7883	0.1878	0.7683	0.2036	0.8383	0.1842	0.7867	0.1896	0.7483	0.1873	0.8283	0.2351	0.7650	0.1806	0.7367	0.1970
	E-net	0.7867	0.2261	0.7600	0.2214	0.7467	0.1857	0.7300	0.2142	0.8067	0.1935	0.7533	0.1975	0.7083	0.1944	0.7917	0.2489	0.7250	0.1794	0.6967	0.2084
	SCAD	0.7383	0.3091	0.7800	0.2761	0.8250	0.2631	0.8083	0.2905	0.7367	0.3099	0.8033	0.2577	0.7900	0.2955	0.7533	0.3057	0.8217	0.2213	0.8500	0.2557
	MCP	0.7967	0.2955	0.8033	0.3009	0.8483	0.2733	0.8333	0.2638	0.7800	0.3186	0.8500	0.2445	0.8217	0.2587	0.8117	0.3131	0.8750	0.1886	0.8600	0.2436
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.7600	0.1929	0.7867	0.1710	0.7967	0.1701	0.7767	0.1942	0.7683	0.1923	0.7933	0.1710	0.7683	0.2064	0.8000	0.2010	0.7917	0.1681	0.7767	0.1838
	BIC B	0.9133	0.1450	0.9183	0.1124	0.9033	0.1258	0.9100	0.1285	0.9183	0.1019	0.9083	0.1193	0.8900	0.1445	0.9317	0.1062	0.9017	0.1300	0.9233	0.1070
	AIC SB	0.7600	0.1929	0.7850	0.1713	0.7950	0.1689	0.7767	0.1942	0.7683	0.1923	0.7933	0.1710	0.7683	0.2064	0.8000	0.2010	0.7867	0.1660	0.7767	0.1838
	BIC SB	0.9133	0.1450	0.9167	0.1124	0.9033	0.1258	0.9100	0.1285	0.9183	0.1019	0.9083	0.1193	0.8900	0.1445	0.9317	0.1062	0.9017	0.1300	0.9217	0.1071
	AIC F	0.7783	0.1836	0.8000	0.1675	0.8067	0.1512	0.8133	0.1761	0.8000	0.1741	0.8100	0.1741	0.8283	0.1827	0.8200	0.1752	0.8100	0.1554	0.8317	0.1451
	BIC F	0.9333	0.1231	0.9233	0.1017	0.9200	0.1018	0.9250	0.1095	0.9250	0.0987	0.9233	0.1044	0.9383	0.0967	0.9350	0.1030	0.9233	0.1122	0.9333	0.0977
	AIC SF	0.7783	0.1836	0.8000	0.1675	0.8067	0.1512	0.8133	0.1761	0.8017	0.1703	0.8117	0.1703	0.8483	0.1677	0.8200	0.1752	0.8100	0.1554	0.8333	0.1441
	BIC SF	0.9333	0.1231	0.9233	0.1017	0.9217	0.0990	0.9250	0.1095	0.9250	0.0987	0.9233	0.1044	0.9417	0.0959	0.9350	0.1030	0.9250	0.1121	0.9333	0.0977
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.8317	0.2072	0.8000	0.2065	0.7883	0.1878	0.7683	0.2036	0.8383	0.1842	0.7867	0.1896	0.7483	0.1873	0.8283	0.2351	0.7650	0.1806	0.7367	0.1970
	E-net	0.7867	0.2261	0.7600	0.2214	0.7467	0.1857	0.7300	0.2142	0.8067	0.1935	0.7533	0.1975	0.7083	0.1944	0.7917	0.2489	0.7250	0.1794	0.6967	0.2084
	SCAD	0.7383	0.3091	0.7800	0.2761	0.8250	0.2631	0.8083	0.2905	0.7367	0.3099	0.8033	0.2577	0.7900	0.2955	0.7533	0.3057	0.8217	0.2213	0.8500	0.2557
	MCP	0.7967	0.2955	0.8033	0.3009	0.8483	0.2733	0.8333	0.2638	0.7800	0.3186	0.8500	0.2445	0.8217	0.2587	0.8117	0.3131	0.8750	0.1886	0.8600	0.2436

Table 29: Mean and standard deviation of the β-specificity for the linear simulations when $n = 50$ and $p = 100$. See Figure 29 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9611	0.0382	0.9552	0.0464	0.9400	0.0505	0.9600	0.0315	0.9588	0.0409	0.9455	0.0395	0.9781	0.0434	0.9577	0.0403	0.9384	0.0470	0.9634	0.0368
	E-net	0.9525	0.0386	0.9433	0.0485	0.9273	0.0531	0.9426	0.0315	0.9462	0.0520	0.9336	0.0418	0.9718	0.0397	0.9475	0.0429	0.9262	0.0517	0.9499	0.0338
	SCAD	0.9559	0.0458	0.9665	0.0364	0.9833	0.0192	0.9971	0.0054	0.9666	0.0346	0.9738	0.0353	0.9817	0.0228	0.9628	0.0376	0.9777	0.0249	0.9852	0.0134
	MCP	0.9836	0.0208	0.9870	0.0176	0.9944	0.0105	0.9978	0.0048	0.9877	0.0182	0.9880	0.0203	0.9899	0.0153	0.9862	0.0181	0.9902	0.0154	0.9909	0.0091
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9611	0.0382	0.9495	0.0561	0.9416	0.0491	0.9568	0.0297	0.9464	0.0594	0.9384	0.0483	0.9803	0.0391	0.9490	0.0468	0.9424	0.0415	0.9628	0.0429
	E-net	0.9525	0.0386	0.9406	0.0543	0.9308	0.0512	0.9385	0.0304	0.9369	0.0585	0.9289	0.0471	0.9729	0.0365	0.9383	0.0485	0.9305	0.0459	0.9484	0.0409
	SCAD	0.9559	0.0458	0.9659	0.0342	0.9845	0.0182	0.9962	0.0117	0.9649	0.0405	0.9679	0.0372	0.9838	0.0216	0.9642	0.0329	0.9825	0.0245	0.9850	0.0145
	MCP	0.9836	0.0208	0.9873	0.0162	0.9952	0.0080	0.9970	0.0063	0.9843	0.0230	0.9869	0.0211	0.9925	0.0122	0.9836	0.0204	0.9931	0.0114	0.9897	0.0105
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9611	0.0382	0.9495	0.0561	0.9416	0.0491	0.9568	0.0297	0.9464	0.0594	0.9384	0.0483	0.9803	0.0391	0.9490	0.0468	0.9424	0.0415	0.9628	0.0429
	E-net	0.9525	0.0386	0.9406	0.0543	0.9308	0.0512	0.9385	0.0304	0.9369	0.0585	0.9289	0.0471	0.9729	0.0365	0.9383	0.0485	0.9305	0.0459	0.9484	0.0409
	SCAD	0.9559	0.0458	0.9659	0.0342	0.9845	0.0182	0.9962	0.0117	0.9649	0.0405	0.9679	0.0372	0.9838	0.0216	0.9642	0.0329	0.9825	0.0245	0.9850	0.0145
	MCP	0.9836	0.0208	0.9873	0.0162	0.9952	0.0080	0.9970	0.0063	0.9843	0.0230	0.9869	0.0211	0.9925	0.0122	0.9836	0.0204	0.9931	0.0114	0.9897	0.0105

Table 30: Mean and standard deviation of the β-specificity for the linear simulations when $n = 50$ and $p = 2000$. See Figure 30 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9976	0.0023	0.9964	0.0026	0.9955	0.0032	0.9961	0.0022	0.9977	0.0022	0.9983	0.0029	0.9995	0.0012	0.9977	0.0024	0.9987	0.0020	0.9988	0.0014
	E-net	0.9972	0.0025	0.9958	0.0032	0.9948	0.0031	0.9928	0.0024	0.9972	0.0027	0.9983	0.0028	0.9991	0.0011	0.9974	0.0027	0.9986	0.0020	0.9969	0.0018
	SCAD	0.9972	0.0033	0.9973	0.0028	0.9984	0.0019	0.9990	0.0019	0.9972	0.0029	0.9964	0.0035	0.9981	0.0031	0.9974	0.0028	0.9966	0.0029	0.9990	0.0019
	MCP	0.9993	0.0010	0.9994	0.0009	0.9997	0.0005	0.9998	0.0003	0.9994	0.0009	0.9994	0.0010	0.9993	0.0012	0.9994	0.0010	0.9991	0.0012	0.9996	0.0009
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9976	0.0023	0.9962	0.0029	0.9964	0.0030	0.9958	0.0020	0.9976	0.0025	0.9987	0.0021	0.9994	0.0014	0.9972	0.0028	0.9984	0.0030	0.9987	0.0013
	E-net	0.9972	0.0025	0.9958	0.0030	0.9955	0.0030	0.9924	0.0023	0.9973	0.0026	0.9986	0.0022	0.9987	0.0027	0.9971	0.0026	0.9983	0.0029	0.9969	0.0017
	SCAD	0.9972	0.0033	0.9972	0.0026	0.9982	0.0021	0.9989	0.0021	0.9971	0.0031	0.9960	0.0032	0.9985	0.0028	0.9970	0.0031	0.9973	0.0025	0.9990	0.0019
	MCP	0.9993	0.0010	0.9994	0.0008	0.9996	0.0006	0.9998	0.0004	0.9994	0.0009	0.9988	0.0015	0.9995	0.0009	0.9995	0.0008	0.9996	0.0008	0.9996	0.0008
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9976	0.0023	0.9962	0.0029	0.9964	0.0030	0.9958	0.0020	0.9976	0.0027	0.9987	0.0021	0.9994	0.0014	0.9972	0.0028	0.9984	0.0030	0.9987	0.0013
	E-net	0.9972	0.0025	0.9958	0.0030	0.9955	0.0030	0.9924	0.0023	0.9975	0.0023	0.9986	0.0022	0.9987	0.0027	0.9971	0.0026	0.9983	0.0029	0.9969	0.0017
	SCAD	0.9972	0.0033	0.9972	0.0026	0.9982	0.0021	0.9989	0.0021	0.9971	0.0029	0.9960	0.0032	0.9985	0.0028	0.9970	0.0031	0.9973	0.0025	0.9990	0.0019
	MCP	0.9993	0.0010	0.9994	0.0008	0.9996	0.0006	0.9998	0.0004	0.9994	0.0009	0.9988	0.0015	0.9995	0.0009	0.9995	0.0008	0.9996	0.0008	0.9996	0.0008

Table 31: Mean and standard deviation of the β-specificity for the linear simulations when $n = 200$ and $p = 10$. See Figure 31 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8017	0.1752	0.7967	0.1564	0.8017	0.1752	0.7933	0.1609	0.8117	0.1767	0.8033	0.1648	0.7750	0.1944	0.7700	0.1585	0.8267	0.1534	0.7700	0.1753
	BIC B	0.9717	0.0672	0.9767	0.0581	0.9750	0.0686	0.9633	0.0840	0.9683	0.0738	0.9683	0.0877	0.9550	0.1107	0.9667	0.0711	0.9700	0.0763	0.9633	0.0771
	AIC SB	0.8017	0.1752	0.7967	0.1564	0.8017	0.1752	0.7933	0.1609	0.8117	0.1767	0.8017	0.1636	0.7750	0.1944	0.7700	0.1585	0.8267	0.1534	0.7683	0.1755
	BIC SB	0.9717	0.0672	0.9767	0.0581	0.9750	0.0686	0.9633	0.0840	0.9683	0.0738	0.9683	0.0877	0.9550	0.1107	0.9667	0.0711	0.9700	0.0763	0.9633	0.0771
	AIC F	0.8050	0.1659	0.8133	0.1446	0.8217	0.1679	0.8050	0.1642	0.8300	0.1691	0.8333	0.1498	0.8517	0.1439	0.7767	0.1575	0.8467	0.1492	0.8083	0.1698
	BIC F	0.9717	0.0672	0.9767	0.0581	0.9750	0.0686	0.9633	0.0840	0.9683	0.0738	0.9783	0.0697	0.9783	0.0611	0.9667	0.0711	0.9733	0.0700	0.9683	0.0699
	AIC SF	0.8050	0.1659	0.8133	0.1446	0.8217	0.1679	0.8050	0.1642	0.8300	0.1691	0.8333	0.1498	0.8517	0.1439	0.7767	0.1575	0.8467	0.1492	0.8083	0.1698
	BIC SF	0.9717	0.0672	0.9767	0.0581	0.9750	0.0686	0.9633	0.0840	0.9683	0.0738	0.9783	0.0697	0.9783	0.0611	0.9667	0.0711	0.9733	0.0700	0.9683	0.0699
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9167	0.1733	0.8833	0.1716	0.8683	0.1612	0.8433	0.1689	0.9167	0.1391	0.8983	0.1496	0.7983	0.1594	0.8883	0.1608	0.8600	0.1653	0.7433	0.1579
	E-net	0.8983	0.1739	0.8617	0.1820	0.8217	0.1914	0.8000	0.1880	0.8833	0.1733	0.8517	0.1690	0.7617	0.1745	0.8467	0.1815	0.8317	0.1667	0.6917	0.1763
	SCAD	0.8017	0.2624	0.8333	0.2369	0.8650	0.2329	0.8600	0.2635	0.8550	0.2305	0.8583	0.2137	0.8050	0.2873	0.7683	0.2977	0.8850	0.1891	0.8317	0.2906
	MCP	0.8567	0.2518	0.8700	0.2388	0.9033	0.2121	0.8650	0.2635	0.8933	0.2165	0.9050	0.1943	0.8067	0.2956	0.8217	0.2933	0.9100	0.1901	0.8533	0.2609
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8017	0.1752	0.8150	0.1587	0.8033	0.1613	0.7950	0.1639	0.8017	0.1584	0.7917	0.1731	0.7783	0.1925	0.8333	0.1553	0.7817	0.1905	0.7750	0.1731
	BIC B	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9583	0.0898	0.9700	0.0686	0.9717	0.0713	0.9500	0.1019	0.9650	0.0796	0.9633	0.0840	0.9650	0.0796
	AIC SB	0.8017	0.1752	0.8150	0.1587	0.8033	0.1613	0.7950	0.1639	0.8017	0.1584	0.7917	0.1731	0.7783	0.1925	0.8333	0.1553	0.7817	0.1905	0.7750	0.1731
	BIC SB	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9583	0.0898	0.9700	0.0686	0.9717	0.0713	0.9500	0.1019	0.9650	0.0796	0.9633	0.0840	0.9650	0.0796
	AIC F	0.8050	0.1659	0.8150	0.1587	0.8067	0.1584	0.8133	0.1680	0.8100	0.1499	0.8167	0.1615	0.8300	0.1553	0.8400	0.1552	0.8083	0.1714	0.8217	0.1663
	BIC F	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9717	0.0713	0.9700	0.0686	0.9783	0.0563	0.9650	0.0796	0.9683	0.0738	0.9700	0.0726	0.9750	0.0643
	AIC SF	0.8050	0.1659	0.8150	0.1587	0.8067	0.1584	0.8133	0.1680	0.8100	0.1499	0.8167	0.1615	0.8317	0.1526	0.8400	0.1552	0.8083	0.1714	0.8233	0.1638
	BIC SF	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9717	0.0713	0.9700	0.0686	0.9783	0.0563	0.9667	0.0786	0.9683	0.0738	0.9700	0.0726	0.9750	0.0643
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9167	0.1733	0.9133	0.1371	0.8583	0.1747	0.8817	0.1541	0.9183	0.1329	0.8917	0.1369	0.7917	0.1794	0.9183	0.1265	0.8567	0.1642	0.7633	0.1791
	E-net	0.8983	0.1739	0.8867	0.1656	0.8317	0.1932	0.8533	0.1745	0.9017	0.1423	0.8533	0.1558	0.7417	0.1901	0.8983	0.1399	0.7950	0.1817	0.7083	0.1794
	SCAD	0.8017	0.2624	0.8467	0.2389	0.8617	0.2346	0.8067	0.3095	0.8650	0.1963	0.8400	0.2209	0.8000	0.2670	0.8567	0.2171	0.8433	0.2425	0.8250	0.2943
	MCP	0.8567	0.2518	0.8917	0.2289	0.8817	0.2349	0.8183	0.2969	0.9083	0.1944	0.8833	0.2017	0.8100	0.2773	0.9067	0.1929	0.8850	0.2281	0.8233	0.2957
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8017	0.1752	0.8150	0.1587	0.8033	0.1613	0.7950	0.1639	0.8017	0.1584	0.7917	0.1731	0.7783	0.1925	0.8333	0.1553	0.7817	0.1905	0.7750	0.1731
	BIC B	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9583	0.0898	0.9700	0.0686	0.9717	0.0713	0.9500	0.1019	0.9650	0.0796	0.9633	0.0840	0.9650	0.0796
	AIC SB	0.8017	0.1752	0.8150	0.1587	0.8033	0.1613	0.7950	0.1639	0.8017	0.1584	0.7917	0.1731	0.7783	0.1925	0.8333	0.1553	0.7817	0.1905	0.7750	0.1731
	BIC SB	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9583	0.0898	0.9700	0.0686	0.9717	0.0713	0.9500	0.1019	0.9650	0.0796	0.9633	0.0840	0.9650	0.0796
	AIC F	0.8050	0.1659	0.8150	0.1587	0.8067	0.1584	0.8133	0.1680	0.8100	0.1499	0.8167	0.1615	0.8300	0.1553	0.8400	0.1552	0.8083	0.1714	0.8217	0.1663
	BIC F	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9717	0.0713	0.9700	0.0686	0.9783	0.0563	0.9650	0.0796	0.9683	0.0738	0.9700	0.0726	0.9750	0.0643
	AIC SF	0.8050	0.1659	0.8150	0.1587	0.8067	0.1584	0.8133	0.1680	0.8100	0.1499	0.8167	0.1615	0.8317	0.1526	0.8400	0.1552	0.8083	0.1714	0.8233	0.1638
	BIC SF	0.9717	0.0672	0.9717	0.0713	0.9650	0.0864	0.9717	0.0713	0.9700	0.0686	0.9783	0.0563	0.9667	0.0786	0.9683	0.0738	0.9700	0.0726	0.9750	0.0643
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9167	0.1733	0.9133	0.1371	0.8583	0.1747	0.8817	0.1541	0.9183	0.1329	0.8917	0.1369	0.7917	0.1794	0.9183	0.1265	0.8567	0.1642	0.7633	0.1791
	E-net	0.8983	0.1739	0.8867	0.1656	0.8317	0.1932	0.8533	0.1745	0.9017	0.1423	0.8533	0.1558	0.7417	0.1901	0.8983	0.1399	0.7950	0.1817	0.7083	0.1794
	SCAD	0.8017	0.2624	0.8467	0.2389	0.8617	0.2346	0.8067	0.3095	0.8650	0.1963	0.8400	0.2209	0.8000	0.2670	0.8567	0.2171	0.8433	0.2425	0.8250	0.2943
	MCP	0.8567	0.2518	0.8917	0.2289	0.8817	0.2349	0.8183	0.2969	0.9083	0.1944	0.8833	0.2017	0.8100	0.2773	0.9067	0.1929	0.8850	0.2281	0.8233	0.2957

Table 32: Mean and standard deviation of the β-specificity for the linear simulations when $n = 200$ and $p = 100$. See Figure 32 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7760	0.0636	0.7742	0.0629	0.7844	0.0596	0.7791	0.0664	0.7776	0.0623	0.8079	0.0655	0.8916	0.0676	0.7840	0.0607	0.7899	0.0639	0.8858	0.0711
	BIC F	0.9732	0.0155	0.9757	0.0181	0.9771	0.0149	0.9781	0.0171	0.9754	0.0182	0.9795	0.0151	0.9894	0.0121	0.9774	0.0166	0.9831	0.0156	0.9908	0.0114
	AIC SF	0.7794	0.0571	0.7812	0.0566	0.7901	0.0573	0.7837	0.0623	0.7808	0.0586	0.8162	0.0619	0.8968	0.0628	0.7876	0.0596	0.7931	0.0658	0.8869	0.0733
	BIC SF	0.9736	0.0148	0.9758	0.0178	0.9771	0.0150	0.9781	0.0171	0.9756	0.0177	0.9795	0.0151	0.9894	0.0121	0.9774	0.0166	0.9832	0.0155	0.9908	0.0114
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9900	0.0144	0.9743	0.0248	0.9669	0.0260	0.9602	0.0304	0.9857	0.0204	0.9774	0.0259	0.9111	0.0376	0.9838	0.0191	0.9703	0.0216	0.9568	0.0243
	E-net	0.9854	0.0169	0.9659	0.0285	0.9578	0.0271	0.9473	0.0322	0.9791	0.0264	0.9686	0.0318	0.8998	0.0403	0.9785	0.0206	0.9619	0.0238	0.9473	0.0277
	SCAD	0.9625	0.0383	0.9567	0.0374	0.9760	0.0254	0.9979	0.0066	0.9601	0.0460	0.9581	0.0377	0.9772	0.0299	0.9624	0.0372	0.9585	0.0322	0.9874	0.0170
	MCP	0.9866	0.0200	0.9861	0.0229	0.9942	0.0116	0.9980	0.0055	0.9839	0.0254	0.9856	0.0224	0.9907	0.0159	0.9873	0.0226	0.9858	0.0162	0.9909	0.0150
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7760	0.0636	0.7662	0.0549	0.7760	0.0629	0.7783	0.0557	0.7682	0.0619	0.8160	0.0554	0.8895	0.0673	0.7869	0.0525	0.8017	0.0635	0.8929	0.0670
	BIC F	0.9732	0.0155	0.9789	0.0179	0.9805	0.0177	0.9783	0.0150	0.9760	0.0174	0.9793	0.0139	0.9889	0.0121	0.9786	0.0155	0.9833	0.0159	0.9896	0.0121
	AIC SF	0.7794	0.0571	0.7708	0.0567	0.7851	0.0555	0.7829	0.0488	0.7784	0.0559	0.8212	0.0542	0.8971	0.0589	0.7919	0.0528	0.8065	0.0589	0.8974	0.0603
	BIC SF	0.9736	0.0148	0.9791	0.0174	0.9807	0.0175	0.9782	0.0151	0.9760	0.0174	0.9795	0.0137	0.9890	0.0122	0.9786	0.0156	0.9834	0.0157	0.9896	0.0121
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9900	0.0144	0.9769	0.0245	0.9694	0.0268	0.9690	0.0243	0.9864	0.0226	0.9774	0.0291	0.9120	0.0362	0.9833	0.0209	0.9719	0.0193	0.9556	0.0236
	E-net	0.9854	0.0169	0.9671	0.0289	0.9566	0.0310	0.9568	0.0293	0.9778	0.0286	0.9668	0.0346	0.9011	0.0391	0.9767	0.0247	0.9620	0.0222	0.9465	0.0267
	SCAD	0.9625	0.0383	0.9676	0.0355	0.9800	0.0231	0.9953	0.0156	0.9605	0.0388	0.9570	0.0375	0.9791	0.0280	0.9631	0.0373	0.9645	0.0304	0.9883	0.0170
	MCP	0.9866	0.0200	0.9877	0.0210	0.9959	0.0094	0.9958	0.0144	0.9869	0.0235	0.9849	0.0223	0.9916	0.0135	0.9849	0.0203	0.9881	0.0145	0.9929	0.0130
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7760	0.0636	0.7662	0.0549	0.7760	0.0629	0.7783	0.0557	0.7682	0.0619	0.8160	0.0554	0.8895	0.0673	0.7869	0.0525	0.8017	0.0635	0.8929	0.0670
	BIC F	0.9732	0.0155	0.9789	0.0179	0.9805	0.0177	0.9783	0.0150	0.9760	0.0174	0.9793	0.0139	0.9889	0.0121	0.9786	0.0155	0.9833	0.0159	0.9896	0.0121
	AIC SF	0.7794	0.0571	0.7708	0.0567	0.7851	0.0555	0.7829	0.0488	0.7784	0.0559	0.8212	0.0542	0.8971	0.0589	0.7919	0.0528	0.8065	0.0589	0.8974	0.0603
	BIC SF	0.9736	0.0148	0.9791	0.0174	0.9807	0.0175	0.9782	0.0151	0.9760	0.0174	0.9795	0.0137	0.9890	0.0122	0.9786	0.0156	0.9834	0.0157	0.9896	0.0121
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9900	0.0144	0.9769	0.0245	0.9694	0.0268	0.9690	0.0243	0.9864	0.0226	0.9774	0.0291	0.9120	0.0362	0.9833	0.0209	0.9719	0.0193	0.9556	0.0236
	E-net	0.9854	0.0169	0.9671	0.0289	0.9566	0.0310	0.9568	0.0293	0.9778	0.0286	0.9668	0.0346	0.9011	0.0391	0.9767	0.0247	0.9620	0.0222	0.9465	0.0267
	SCAD	0.9625	0.0383	0.9676	0.0355	0.9800	0.0231	0.9953	0.0156	0.9605	0.0388	0.9570	0.0375	0.9791	0.0280	0.9631	0.0373	0.9645	0.0304	0.9883	0.0170
	MCP	0.9866	0.0200	0.9877	0.0210	0.9959	0.0094	0.9958	0.0144	0.9869	0.0235	0.9849	0.0223	0.9916	0.0135	0.9849	0.0203	0.9881	0.0145	0.9929	0.0130

Table 33: Mean and standard deviation of the β-specificity for the linear simulations when $n = 200$ and $p = 2000$. See Figure 33 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9989	0.0017	0.9971	0.0029	0.9958	0.0026	0.9958	0.0026	0.9989	0.0015	0.9971	0.0040	0.9996	0.0026	0.9981	0.0032	0.9968	0.0025	0.9930	0.0050
	E-net	0.9984	0.0021	0.9960	0.0031	0.9945	0.0027	0.9946	0.0028	0.9983	0.0017	0.9961	0.0047	0.9992	0.0029	0.9975	0.0037	0.9954	0.0030	0.9920	0.0051
	SCAD	0.9943	0.0051	0.9957	0.0036	0.9981	0.0018	1.0000	0.0000	0.9951	0.0046	0.9939	0.0047	0.9947	0.0048	0.9944	0.0047	0.9963	0.0032	0.9989	0.0011
	MCP	0.9987	0.0016	0.9990	0.0013	0.9996	0.0007	1.0000	0.0000	0.9985	0.0021	0.9979	0.0024	0.9972	0.0023	0.9984	0.0023	0.9986	0.0016	0.9995	0.0006
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9989	0.0017	0.9974	0.0022	0.9953	0.0028	0.9957	0.0023	0.9988	0.0017	0.9971	0.0033	0.9996	0.0026	0.9985	0.0019	0.9966	0.0028	0.9928	0.0049
	E-net	0.9984	0.0021	0.9961	0.0027	0.9939	0.0031	0.9945	0.0024	0.9983	0.0021	0.9961	0.0040	0.9991	0.0027	0.9978	0.0025	0.9952	0.0032	0.9920	0.0047
	SCAD	0.9943	0.0051	0.9956	0.0037	0.9979	0.0020	1.0000	0.0000	0.9952	0.0043	0.9934	0.0047	0.9954	0.0040	0.9945	0.0048	0.9964	0.0028	0.9990	0.0012
	MCP	0.9987	0.0016	0.9987	0.0016	0.9996	0.0007	1.0000	0.0000	0.9986	0.0021	0.9979	0.0021	0.9977	0.0022	0.9983	0.0020	0.9987	0.0014	0.9995	0.0007
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9989	0.0017	0.9974	0.0022	0.9953	0.0028	0.9957	0.0023	0.9986	0.0022	0.9971	0.0033	0.9996	0.0026	0.9985	0.0019	0.9966	0.0028	0.9928	0.0049
	E-net	0.9984	0.0021	0.9961	0.0027	0.9939	0.0031	0.9945	0.0024	0.9979	0.0026	0.9961	0.0040	0.9991	0.0027	0.9978	0.0025	0.9952	0.0032	0.9920	0.0047
	SCAD	0.9943	0.0051	0.9956	0.0037	0.9979	0.0020	1.0000	0.0000	0.9947	0.0047	0.9934	0.0047	0.9954	0.0040	0.9945	0.0048	0.9964	0.0028	0.9990	0.0012
	MCP	0.9987	0.0016	0.9987	0.0016	0.9996	0.0007	1.0000	0.0000	0.9984	0.0021	0.9979	0.0021	0.9977	0.0022	0.9983	0.0020	0.9987	0.0014	0.9995	0.0007

Table 34: Mean and standard deviation of the β-specificity for the linear simulations when $n = 1000$ and $p = 10$. See Figure 34 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8317	0.1526	0.8350	0.1431	0.8200	0.1548	0.8317	0.1562	0.8367	0.1479	0.8050	0.1774	0.8067	0.1949	0.8417	0.1542	0.8300	0.1724	0.8350	0.1700
	BIC B	0.9917	0.0365	0.9867	0.0454	0.9917	0.0435	0.9933	0.0328	0.9883	0.0489	0.9900	0.0398	0.9817	0.0707	0.9933	0.0328	0.9950	0.0286	0.9883	0.0427
	AIC SB	0.8317	0.1526	0.8350	0.1431	0.8200	0.1548	0.8317	0.1562	0.8367	0.1479	0.8050	0.1774	0.8050	0.1954	0.8417	0.1542	0.8300	0.1724	0.8350	0.1700
	BIC SB	0.9917	0.0365	0.9867	0.0454	0.9917	0.0435	0.9933	0.0328	0.9883	0.0489	0.9900	0.0398	0.9817	0.0707	0.9933	0.0328	0.9950	0.0286	0.9883	0.0427
	AIC F	0.8317	0.1526	0.8383	0.1430	0.8400	0.1478	0.8483	0.1443	0.8400	0.1439	0.8333	0.1589	0.8700	0.1528	0.8417	0.1542	0.8467	0.1686	0.8517	0.1622
	BIC F	0.9917	0.0365	0.9867	0.0454	0.9950	0.0286	0.9933	0.0328	0.9917	0.0365	0.9900	0.0398	0.9917	0.0435	0.9933	0.0328	0.9950	0.0286	0.9883	0.0427
	AIC SF	0.8317	0.1526	0.8383	0.1430	0.8400	0.1478	0.8483	0.1443	0.8400	0.1439	0.8333	0.1589	0.8700	0.1528	0.8417	0.1542	0.8467	0.1686	0.8517	0.1622
	BIC SF	0.9917	0.0365	0.9867	0.0454	0.9950	0.0286	0.9933	0.0328	0.9917	0.0365	0.9900	0.0398	0.9917	0.0435	0.9933	0.0328	0.9950	0.0286	0.9883	0.0427
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9933	0.0328	0.9783	0.0611	0.9633	0.0771	0.9400	0.1073	0.9917	0.0365	0.9733	0.0658	0.8700	0.1373	0.9783	0.0697	0.9433	0.0983	0.8000	0.1658
	E-net	0.9850	0.0479	0.9633	0.0840	0.9433	0.0954	0.9150	0.1219	0.9867	0.0512	0.9467	0.0944	0.8100	0.1461	0.9600	0.0890	0.9067	0.1283	0.7250	0.1731
	SCAD	0.8900	0.2275	0.8900	0.2275	0.8950	0.2353	0.9417	0.1429	0.8833	0.2178	0.8533	0.2845	0.9183	0.1989	0.8967	0.2232	0.9017	0.2310	0.9267	0.1972
	MCP	0.9117	0.2002	0.8983	0.2308	0.9000	0.2439	0.9450	0.1320	0.8867	0.2271	0.8650	0.2810	0.9217	0.1827	0.9133	0.2216	0.9233	0.2189	0.9333	0.1925
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8317	0.1526	0.8450	0.1576	0.8217	0.1729	0.8183	0.1573	0.8317	0.1633	0.8250	0.1747	0.8200	0.1934	0.8183	0.1710	0.8183	0.1726	0.8317	0.1633
	BIC B	0.9917	0.0365	0.9883	0.0489	0.9900	0.0463	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9850	0.0631	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC SB	0.8317	0.1526	0.8450	0.1576	0.8217	0.1729	0.8183	0.1573	0.8317	0.1633	0.8250	0.1747	0.8183	0.1926	0.8183	0.1710	0.8183	0.1726	0.8317	0.1633
	BIC SB	0.9917	0.0365	0.9883	0.0489	0.9900	0.0463	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9850	0.0631	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC F	0.8317	0.1526	0.8467	0.1601	0.8250	0.1698	0.8217	0.1540	0.8383	0.1525	0.8600	0.1530	0.8717	0.1399	0.8250	0.1613	0.8400	0.1640	0.8517	0.1551
	BIC F	0.9917	0.0365	0.9883	0.0489	0.9933	0.0328	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9917	0.0435	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC SF	0.8317	0.1526	0.8483	0.1573	0.8250	0.1698	0.8217	0.1540	0.8383	0.1525	0.8600	0.1530	0.8717	0.1399	0.8250	0.1613	0.8400	0.1640	0.8517	0.1551
	BIC SF	0.9917	0.0365	0.9883	0.0489	0.9933	0.0328	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9917	0.0435	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9933	0.0328	0.9767	0.0581	0.9567	0.0966	0.9317	0.1062	0.9883	0.0427	0.9683	0.0738	0.8733	0.1404	0.9900	0.0619	0.9333	0.1059	0.8267	0.1400
	E-net	0.9850	0.0479	0.9650	0.0796	0.9367	0.1155	0.9050	0.1237	0.9750	0.0598	0.9550	0.0849	0.8167	0.1633	0.9800	0.0760	0.8933	0.1287	0.7467	0.1411
	SCAD	0.8900	0.2275	0.9100	0.2057	0.8933	0.2375	0.9100	0.2030	0.8833	0.2278	0.8833	0.2363	0.9067	0.2083	0.9150	0.2165	0.8950	0.2458	0.9267	0.1915
	MCP	0.9117	0.2002	0.9183	0.1961	0.9133	0.2241	0.9100	0.1872	0.8983	0.2183	0.9033	0.2250	0.9083	0.2043	0.9250	0.2111	0.9117	0.2302	0.9317	0.1867
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC B	0.8317	0.1526	0.8450	0.1576	0.8217	0.1729	0.8183	0.1573	0.8317	0.1633	0.8250	0.1747	0.8200	0.1934	0.8183	0.1710	0.8183	0.1726	0.8317	0.1633
	BIC B	0.9917	0.0365	0.9883	0.0489	0.9900	0.0463	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9850	0.0631	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC SB	0.8317	0.1526	0.8450	0.1576	0.8217	0.1729	0.8183	0.1573	0.8317	0.1633	0.8250	0.1747	0.8183	0.1926	0.8183	0.1710	0.8183	0.1726	0.8317	0.1633
	BIC SB	0.9917	0.0365	0.9883	0.0489	0.9900	0.0463	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9850	0.0631	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC F	0.8317	0.1526	0.8467	0.1601	0.8250	0.1698	0.8217	0.1540	0.8383	0.1525	0.8600	0.1530	0.8717	0.1399	0.8250	0.1613	0.8400	0.1640	0.8517	0.1551
	BIC F	0.9917	0.0365	0.9883	0.0489	0.9933	0.0328	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9917	0.0435	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	AIC SF	0.8317	0.1526	0.8483	0.1573	0.8250	0.1698	0.8217	0.1540	0.8383	0.1525	0.8600	0.1530	0.8717	0.1399	0.8250	0.1613	0.8400	0.1640	0.8517	0.1551
	BIC SF	0.9917	0.0365	0.9883	0.0489	0.9933	0.0328	0.9950	0.0371	0.9883	0.0427	0.9850	0.0535	0.9917	0.0435	0.9933	0.0328	0.9917	0.0365	0.9917	0.0365
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9933	0.0328	0.9767	0.0581	0.9567	0.0966	0.9317	0.1062	0.9883	0.0427	0.9683	0.0738	0.8733	0.1404	0.9900	0.0619	0.9333	0.1059	0.8267	0.1400
	E-net	0.9850	0.0479	0.9650	0.0796	0.9367	0.1155	0.9050	0.1237	0.9750	0.0598	0.9550	0.0849	0.8167	0.1633	0.9800	0.0760	0.8933	0.1287	0.7467	0.1411
	SCAD	0.8900	0.2275	0.9100	0.2057	0.8933	0.2375	0.9100	0.2030	0.8833	0.2278	0.8833	0.2363	0.9067	0.2083	0.9150	0.2165	0.8950	0.2458	0.9267	0.1915
	MCP	0.9117	0.2002	0.9183	0.1961	0.9133	0.2241	0.9100	0.1872	0.8983	0.2183	0.9033	0.2250	0.9083	0.2043	0.9250	0.2111	0.9117	0.2302	0.9317	0.1867

Table 35: Mean and standard deviation of the β-specificity for the linear simulations when $n = 1000$ and $p = 100$. See Figure 35 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8329	0.0391	0.8362	0.0458	0.8345	0.0429	0.8382	0.0428	0.8299	0.0395	0.8538	0.0436	0.9081	0.0481	0.8422	0.0382	0.8484	0.0457	0.9079	0.0434
	BIC F	0.9905	0.0112	0.9928	0.0093	0.9929	0.0092	0.9920	0.0099	0.9907	0.0098	0.9927	0.0097	0.9959	0.0061	0.9896	0.0108	0.9930	0.0084	0.9972	0.0053
	AIC SF	0.8334	0.0389	0.8364	0.0459	0.8353	0.0424	0.8391	0.0430	0.8307	0.0390	0.8556	0.0421	0.9110	0.0455	0.8434	0.0372	0.8492	0.0452	0.9096	0.0429
	BIC SF	0.9905	0.0112	0.9928	0.0093	0.9929	0.0092	0.9920	0.0099	0.9907	0.0098	0.9929	0.0086	0.9959	0.0061	0.9896	0.0108	0.9930	0.0084	0.9972	0.0053
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9969	0.0087	0.9919	0.0163	0.9865	0.0191	0.9788	0.0231	0.9965	0.0093	0.9935	0.0125	0.9441	0.0307	0.9943	0.0104	0.9897	0.0153	0.9670	0.0227
	E-net	0.9943	0.0145	0.9874	0.0214	0.9788	0.0236	0.9655	0.0259	0.9944	0.0126	0.9885	0.0191	0.9329	0.0330	0.9919	0.0130	0.9842	0.0188	0.9595	0.0238
	SCAD	0.9791	0.0413	0.9829	0.0335	0.9875	0.0261	0.9972	0.0091	0.9834	0.0384	0.9832	0.0364	0.9693	0.0306	0.9825	0.0328	0.9851	0.0267	0.9805	0.0172
	MCP	0.9898	0.0211	0.9920	0.0165	0.9941	0.0178	0.9977	0.0083	0.9916	0.0223	0.9922	0.0189	0.9844	0.0165	0.9908	0.0203	0.9956	0.0101	0.9876	0.0140
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8329	0.0391	0.8353	0.0419	0.8341	0.0421	0.8306	0.0481	0.8366	0.0447	0.8506	0.0408	0.9124	0.0434	0.8367	0.0438	0.8538	0.0428	0.9071	0.0505
	BIC F	0.9905	0.0112	0.9928	0.0099	0.9919	0.0087	0.9922	0.0088	0.9906	0.0098	0.9932	0.0076	0.9960	0.0061	0.9901	0.0103	0.9929	0.0087	0.9967	0.0071
	AIC SF	0.8334	0.0389	0.8364	0.0413	0.8354	0.0403	0.8316	0.0474	0.8377	0.0436	0.8530	0.0397	0.9152	0.0421	0.8390	0.0416	0.8548	0.0421	0.9080	0.0494
	BIC SF	0.9905	0.0112	0.9928	0.0099	0.9919	0.0087	0.9922	0.0088	0.9906	0.0098	0.9932	0.0076	0.9960	0.0061	0.9902	0.0100	0.9929	0.0087	0.9967	0.0071
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9969	0.0087	0.9936	0.0141	0.9882	0.0161	0.9788	0.0243	0.9960	0.0086	0.9954	0.0089	0.9436	0.0320	0.9943	0.0129	0.9874	0.0174	0.9696	0.0209
	E-net	0.9943	0.0145	0.9883	0.0195	0.9778	0.0222	0.9696	0.0268	0.9934	0.0124	0.9906	0.0145	0.9311	0.0361	0.9907	0.0168	0.9804	0.0229	0.9617	0.0225
	SCAD	0.9791	0.0413	0.9828	0.0353	0.9889	0.0207	0.9972	0.0082	0.9785	0.0443	0.9846	0.0384	0.9727	0.0277	0.9834	0.0349	0.9840	0.0310	0.9826	0.0174
	MCP	0.9898	0.0211	0.9915	0.0193	0.9962	0.0095	0.9984	0.0050	0.9911	0.0176	0.9931	0.0173	0.9850	0.0168	0.9895	0.0234	0.9928	0.0159	0.9900	0.0106
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8329	0.0391	0.8353	0.0419	0.8341	0.0421	0.8306	0.0481	0.8366	0.0447	0.8506	0.0408	0.9124	0.0434	0.8367	0.0438	0.8538	0.0428	0.9071	0.0505
	BIC F	0.9905	0.0112	0.9928	0.0099	0.9919	0.0087	0.9922	0.0088	0.9906	0.0098	0.9932	0.0076	0.9960	0.0061	0.9901	0.0103	0.9929	0.0087	0.9967	0.0071
	AIC SF	0.8334	0.0389	0.8364	0.0413	0.8354	0.0403	0.8316	0.0474	0.8377	0.0436	0.8530	0.0397	0.9152	0.0421	0.8390	0.0416	0.8548	0.0421	0.9080	0.0494
	BIC SF	0.9905	0.0112	0.9928	0.0099	0.9919	0.0087	0.9922	0.0088	0.9906	0.0098	0.9932	0.0076	0.9960	0.0061	0.9902	0.0100	0.9929	0.0087	0.9967	0.0071
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9969	0.0087	0.9936	0.0141	0.9882	0.0161	0.9788	0.0243	0.9960	0.0086	0.9954	0.0089	0.9436	0.0320	0.9943	0.0129	0.9874	0.0174	0.9696	0.0209
	E-net	0.9943	0.0145	0.9883	0.0195	0.9778	0.0222	0.9696	0.0268	0.9934	0.0124	0.9906	0.0145	0.9311	0.0361	0.9907	0.0168	0.9804	0.0229	0.9617	0.0225
	SCAD	0.9791	0.0413	0.9828	0.0353	0.9889	0.0207	0.9972	0.0082	0.9785	0.0443	0.9846	0.0384	0.9727	0.0277	0.9834	0.0349	0.9840	0.0310	0.9826	0.0174
	MCP	0.9898	0.0211	0.9915	0.0193	0.9962	0.0095	0.9984	0.0050	0.9911	0.0176	0.9931	0.0173	0.9850	0.0168	0.9895	0.0234	0.9928	0.0159	0.9900	0.0106

Table 36: Mean and standard deviation of the β-specificity for the linear simulations when $n = 1000$ and $p = 2000$. See Figure 36 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9999	3e − 04	0.9992	0.0012	0.9977	0.0022	0.9973	0.0019	0.9997	0.0008	0.9994	0.0015	0.9886	0.0052	0.9998	6e − 04	0.9991	0.0015	0.9949	0.0021
	E-net	0.9998	4e − 04	0.9985	0.0017	0.9964	0.0025	0.9959	0.0022	0.9996	0.0011	0.9990	0.0019	0.9863	0.0058	0.9996	8e − 04	0.9985	0.0019	0.9938	0.0023
	SCAD	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000
	MCP	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000
3	Ridge	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9999	3e − 04	0.9991	0.0013	0.9977	0.0018	0.9974	0.0020	0.9997	0.0009	0.9995	0.0011	0.9890	0.0048	0.9998	6e − 04	0.9991	0.0012	0.9949	0.0024
	E-net	0.9998	4e − 04	0.9985	0.0017	0.9963	0.0022	0.9962	0.0024	0.9995	0.0011	0.9991	0.0016	0.9867	0.0052	0.9996	9e − 04	0.9985	0.0016	0.9938	0.0027
	SCAD	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000
	MCP	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000
6	Ridge	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0e + 00	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9999	3e − 04	0.9991	0.0013	0.9977	0.0018	0.9974	0.0020	0.9997	0.0009	0.9995	0.0011	0.9890	0.0048	0.9998	6e − 04	0.9991	0.0012	0.9949	0.0024
	E-net	0.9998	4e − 04	0.9985	0.0017	0.9963	0.0022	0.9962	0.0024	0.9996	0.0010	0.9991	0.0016	0.9867	0.0052	0.9996	9e − 04	0.9985	0.0016	0.9938	0.0027
	SCAD	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000
	MCP	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0001	1.0000	0.0000	1.0000	0.0000	1.0000	0e + 00	1.0000	0.0000	1.0000	0.0000

5 Tables from the non-linear simulations

5.1 Tables for the training MSE of the non-linear simulations

Table 37: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 50$ and $p = 10$. See Figure 37 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	4.99	1.44	5.39	1.30	5.24	1.51	5.73	1.58	5.06	1.24	4.99	1.17	5.13	1.55	5.06	1.35	4.98	1.34	5.12	1.54
	AIC B	5.31	1.59	5.73	1.40	5.60	1.62	6.14	1.70	5.39	1.33	5.30	1.26	5.45	1.68	5.37	1.47	5.28	1.43	5.45	1.69
	BIC B	5.68	1.69	6.11	1.51	5.95	1.64	6.57	1.80	5.76	1.42	5.70	1.38	5.74	1.71	5.84	1.56	5.63	1.64	5.84	1.76
	AIC SB	5.31	1.59	5.73	1.40	5.60	1.62	6.14	1.70	5.39	1.33	5.30	1.26	5.45	1.68	5.37	1.47	5.28	1.43	5.44	1.69
	BIC SB	5.68	1.69	6.11	1.51	5.94	1.64	6.57	1.81	5.76	1.42	5.70	1.38	5.74	1.71	5.85	1.58	5.63	1.64	5.84	1.76
	AIC F	5.33	1.60	5.81	1.42	5.64	1.61	6.29	1.71	5.41	1.35	5.41	1.27	5.62	1.69	5.41	1.48	5.38	1.59	5.55	1.70
	BIC F	5.72	1.68	6.22	1.60	6.00	1.64	6.65	1.81	5.82	1.44	5.78	1.34	5.93	1.74	5.92	1.59	5.72	1.65	5.94	1.83
	AIC SF	5.33	1.60	5.81	1.42	5.65	1.61	6.29	1.71	5.42	1.35	5.41	1.27	5.64	1.69	5.41	1.48	5.38	1.59	5.58	1.71
	BIC SF	5.72	1.68	6.22	1.60	6.00	1.64	6.66	1.81	5.82	1.44	5.77	1.34	5.95	1.75	5.92	1.59	5.72	1.65	5.99	1.83
	Ridge	7.64	3.48	8.36	2.98	8.33	3.11	9.20	3.19	7.48	2.40	7.55	2.84	8.30	3.01	7.58	2.72	7.80	2.91	8.03	3.01
	Lasso	7.86	2.77	8.28	2.54	7.77	2.58	8.23	2.86	7.79	2.17	7.47	2.24	7.37	2.65	7.91	2.72	7.41	2.45	7.25	2.87
	E-net	7.87	2.80	8.29	2.55	7.74	2.57	8.27	2.85	7.81	2.20	7.45	2.26	7.39	2.68	7.91	2.72	7.41	2.50	7.27	2.90
	SCAD	5.80	1.79	6.30	1.57	6.01	1.82	6.60	1.87	5.95	1.55	5.85	1.39	5.84	1.81	5.97	1.76	5.88	1.67	5.74	1.97
	MCP	5.85	1.83	6.44	1.62	6.07	1.90	6.59	1.90	5.98	1.62	5.88	1.38	5.82	1.87	6.05	1.77	5.95	1.72	5.84	2.04
	XGBoost	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.02	0.02
	RF	1.39	0.28	1.35	0.34	1.14	0.33	0.67	0.24	1.34	0.27	1.36	0.29	1.00	0.24	1.37	0.29	1.29	0.29	1.11	0.25
	SVM	0.76	0.70	0.89	0.97	1.07	0.90	1.62	0.80	0.78	0.65	0.96	0.88	1.55	0.84	0.94	1.01	1.03	0.87	1.72	0.81
3	OLS	124.27	64.80	135.92	64.28	127.72	68.62	121.50	63.02	122.36	63.24	133.23	68.31	123.59	69.03	131.64	65.01	129.48	64.95	116.63	60.41
	AIC B	133.48	68.73	145.07	68.00	136.72	72.97	130.26	67.08	131.53	67.67	142.74	75.11	132.31	75.35	141.40	69.78	139.36	71.13	124.53	63.52
	BIC B	145.55	73.75	154.50	70.24	146.54	77.60	140.04	71.30	141.99	72.15	153.22	80.08	140.37	77.29	151.40	76.37	149.22	76.75	131.44	67.45
	AIC SB	133.44	68.74	145.07	68.00	136.72	72.97	130.21	67.09	131.52	67.67	142.40	74.52	132.26	75.37	141.33	69.77	139.19	71.18	124.47	63.51
	BIC SB	145.55	73.75	154.50	70.24	146.46	77.70	139.94	71.34	142.18	72.90	153.00	80.20	140.35	77.33	151.15	75.96	149.22	76.75	131.44	67.45
	AIC F	135.07	69.26	146.71	68.72	139.23	73.61	134.89	70.30	133.13	68.46	145.07	76.04	137.22	74.71	143.53	72.56	142.83	74.94	130.03	67.10
	BIC F	146.57	73.44	156.20	70.40	150.31	78.23	145.12	73.00	143.09	74.12	155.87	80.64	147.05	89.22	152.87	76.04	153.72	80.50	136.05	72.54
	AIC SF	135.07	69.26	146.71	68.72	139.22	73.61	134.94	70.32	133.17	68.44	145.12	76.01	137.80	76.42	143.55	72.54	142.84	74.94	130.06	66.97
	BIC SF	146.57	73.44	156.20	70.40	150.53	78.28	145.20	73.01	143.09	74.12	155.87	80.64	147.52	89.38	152.87	76.04	153.76	80.45	136.06	72.53
	Ridge	223.67	106.71	247.35	114.68	231.15	115.10	216.51	134.88	218.74	106.89	243.97	119.13	224.39	141.49	235.39	114.43	235.95	113.27	204.80	98.73
	Lasso	218.27	107.62	240.70	113.58	220.12	113.39	203.41	134.69	213.30	108.40	234.30	116.17	213.44	143.05	227.29	118.06	228.26	113.63	195.77	99.27
	E-net	219.18	107.79	241.24	113.95	220.23	113.20	203.41	135.57	214.21	108.06	234.77	115.76	213.59	142.52	228.60	117.65	228.71	113.68	195.84	99.28
	SCAD	152.31	85.32	164.37	83.14	155.41	90.77	142.84	79.66	151.87	90.15	162.55	93.73	146.79	90.47	161.90	84.44	155.95	89.31	136.91	74.17
	MCP	152.32	81.54	163.86	81.56	152.53	86.65	141.02	78.10	152.52	85.68	164.39	95.01	145.66	90.12	162.04	82.69	158.48	91.53	136.89	73.93
	XGBoost	0.10	0.11	0.10	0.11	0.14	0.14	0.09	0.15	0.12	0.13	0.13	0.12	0.13	0.15	0.11	0.11	0.12	0.13	0.15	0.19
	RF	24.58	11.30	26.67	14.08	23.51	11.68	14.02	12.41	23.28	12.36	24.84	13.01	17.75	13.42	26.16	14.39	24.25	10.80	17.43	7.05
	SVM	20.03	18.12	24.13	25.99	21.94	33.49	22.33	40.56	19.42	25.55	20.06	19.43	20.41	40.37	23.12	23.95	20.07	19.90	17.79	19.71
6	OLS	1862.10	1007.22	2043.56	1008.78	1897.59	1077.30	1796.53	968.68	1834.81	1012.53	2000.52	1052.33	1853.66	1054.10	1986.77	1043.11	1962.07	1032.92	1728.95	941.85
	AIC B	2020.38	1082.74	2197.58	1078.92	2051.35	1179.20	1922.67	1026.71	1984.03	1104.50	2161.73	1153.92	1980.64	1124.63	2145.73	1133.12	2101.71	1096.03	1847.13	993.27
	BIC B	2188.99	1156.36	2369.72	1162.31	2190.12	1210.93	2071.96	1119.25	2150.02	1236.62	2321.75	1249.56	2100.63	1155.00	2309.91	1226.73	2272.28	1233.88	1967.21	1062.66
	AIC SB	2017.39	1077.21	2197.58	1078.92	2050.88	1178.59	1921.64	1025.53	1980.99	1096.71	2157.83	1149.88	1979.34	1123.34	2142.84	1131.17	2101.71	1096.03	1846.56	993.65
	BIC SB	2188.99	1156.36	2369.72	1162.31	2190.12	1210.93	2068.66	1115.90	2148.46	1237.76	2315.87	1236.87	2099.27	1156.20	2306.07	1227.36	2268.56	1233.10	1965.53	1062.55
	AIC F	2038.74	1075.83	2243.78	1115.76	2098.40	1189.68	2012.68	1095.66	1995.88	1101.20	2194.35	1169.05	2090.45	1283.45	2179.63	1152.23	2165.66	1152.33	1915.58	1087.42
	BIC F	2214.93	1165.89	2417.29	1205.08	2265.88	1240.92	2164.77	1178.25	2168.97	1233.87	2339.38	1235.98	2182.46	1284.83	2320.72	1231.95	2313.72	1249.85	2032.92	1132.30
	AIC SF	2039.41	1077.35	2244.43	1115.40	2101.31	1191.36	2014.72	1098.59	1995.85	1101.23	2195.56	1169.31	2094.56	1287.42	2179.86	1152.09	2170.95	1156.95	1916.98	1087.32
	BIC SF	2215.99	1165.90	2420.57	1205.39	2265.88	1240.92	2166.64	1178.20	2168.97	1233.87	2339.38	1235.98	2184.35	1288.72	2320.72	1231.95	2313.72	1249.85	2032.92	1132.30
	Ridge	2885.95	1357.52	3182.05	1589.38	3041.98	1591.92	2892.60	1740.08	2745.67	1446.67	3040.68	1461.47	2917.16	1786.44	3000.91	1544.14	3000.55	1379.77	2633.77	1239.07
	Lasso	2870.99	1364.95	3162.46	1575.78	3008.76	1606.59	2824.02	1744.41	2736.25	1479.32	3029.87	1470.26	2840.51	1773.61	2979.42	1545.15	2977.84	1393.19	2608.21	1239.09
	E-net	2872.60	1364.24	3162.07	1575.29	3009.54	1605.92	2831.42	1745.29	2737.47	1480.41	3031.03	1469.41	2842.09	1770.13	2981.29	1545.76	2980.05	1391.27	2612.46	1240.03
	SCAD	2405.07	1328.00	2581.99	1318.44	2394.16	1465.81	2205.05	1218.54	2347.47	1392.65	2581.78	1511.93	2360.42	1703.17	2600.94	1495.54	2468.32	1358.00	2115.69	1181.53
	MCP	2414.44	1359.68	2594.76	1323.94	2372.18	1466.15	2170.21	1197.48	2346.58	1433.23	2599.57	1515.14	2359.86	1770.47	2623.59	1511.00	2456.60	1376.18	2113.73	1148.27
	XGBoost	0.47	0.49	0.58	0.63	0.54	0.65	0.17	0.40	0.56	0.68	0.63	0.64	0.37	0.60	0.55	0.51	0.61	0.65	0.88	0.98
	RF	280.08	171.08	312.67	222.88	269.55	172.59	173.35	168.22	268.82	194.95	282.22	196.52	202.16	203.21	314.01	230.89	273.35	155.01	181.81	103.66
	SVM	356.60	312.30	445.53	467.92	366.90	462.03	274.82	516.44	369.59	416.54	346.19	304.63	304.26	565.89	426.13	411.65	322.24	290.62	221.87	230.09

Table 38: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 50$ and $p = 100$. See Figure 38 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	21.17	4.23	18.23	4.54	15.12	3.32	10.38	2.77	21.14	4.32	21.67	4.59	19.51	3.57	19.35	4.06	16.87	3.17	12.78	2.57
	Lasso	9.28	3.07	8.42	3.42	7.71	3.24	8.00	2.89	9.29	2.90	8.58	2.63	8.55	2.98	8.22	2.61	7.77	2.04	8.27	3.46
	E-net	9.51	3.19	8.37	3.41	7.53	3.30	8.03	2.84	9.50	3.10	8.71	2.69	8.62	3.01	8.29	2.62	7.73	2.06	8.31	3.42
	SCAD	5.52	1.69	5.30	1.85	6.05	2.16	7.10	2.02	5.49	1.55	5.40	1.63	6.42	2.40	5.00	1.48	5.80	1.56	7.10	2.69
	MCP	6.08	1.86	5.89	1.99	6.26	2.30	6.76	1.95	6.11	1.70	5.90	1.58	6.78	2.61	5.52	1.62	6.05	1.55	6.90	2.51
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	1.78	0.39	1.78	0.43	1.50	0.34	0.80	0.23	1.91	0.41	1.87	0.41	1.21	0.34	1.72	0.33	1.44	0.36	0.73	0.19
	SVM	0.96	1.68	0.73	1.55	0.70	0.86	1.66	1.89	1.04	1.57	0.55	0.68	0.53	0.34	0.42	0.43	0.50	0.58	0.79	0.60
3	Ridge	253.54	94.40	269.66	99.81	237.16	87.14	239.19	156.69	261.68	89.40	256.18	95.45	298.23	150.34	264.52	107.19	265.06	97.08	240.03	117.28
	Lasso	224.64	109.91	235.80	109.35	209.33	89.47	204.33	111.96	229.66	106.29	213.10	102.11	250.77	154.69	225.53	112.53	228.08	108.81	212.21	112.69
	E-net	226.07	109.27	236.65	109.41	208.81	90.00	205.93	113.35	231.28	105.88	215.51	101.78	251.11	155.17	227.48	111.89	229.59	108.69	211.92	112.27
	SCAD	143.36	93.27	139.03	73.26	140.05	64.13	148.31	75.22	149.03	90.06	132.43	79.61	170.90	111.00	142.07	91.14	156.99	84.70	144.76	79.93
	MCP	154.31	94.91	146.21	72.06	148.33	70.23	146.55	78.65	163.22	86.75	143.63	82.88	176.43	126.36	157.98	96.40	159.22	86.86	142.52	80.89
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	30.44	13.12	31.26	12.92	26.29	9.26	14.55	12.46	30.55	13.34	29.23	11.97	23.53	13.25	31.24	15.28	28.40	12.11	14.44	6.83
	SVM	58.71	68.90	36.88	43.21	30.42	36.86	23.71	36.03	53.58	61.39	43.98	50.74	36.95	52.03	52.41	65.03	33.87	38.63	19.60	19.71
6	Ridge	2805.40	1370.59	2956.79	1314.56	2708.13	1120.15	2986.54	1830.14	2926.73	1307.91	2744.40	1335.18	3288.13	1816.80	2883.26	1484.25	2929.04	1229.20	2817.89	1464.83
	Lasso	2752.69	1416.53	2890.98	1373.20	2647.54	1122.18	2890.52	1843.63	2886.09	1349.68	2672.10	1324.47	3194.62	1871.34	2828.19	1460.26	2897.90	1256.91	2732.31	1494.43
	E-net	2755.87	1413.32	2895.17	1367.69	2649.52	1124.19	2884.31	1837.15	2885.11	1350.46	2675.10	1325.90	3197.39	1870.31	2834.54	1466.71	2899.24	1255.40	2736.15	1493.70
	SCAD	2378.51	1494.70	2388.80	1243.87	2162.57	993.13	2277.18	1309.12	2439.46	1310.85	2204.64	1271.40	2743.75	1821.86	2342.91	1433.83	2495.77	1324.98	2182.22	1299.63
	MCP	2412.77	1484.35	2468.95	1334.72	2208.60	981.77	2282.24	1311.80	2517.08	1315.58	2272.11	1297.71	2827.36	1852.01	2438.19	1473.16	2570.48	1363.84	2227.68	1309.96
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	RF	346.70	188.20	358.40	186.65	291.61	127.37	182.32	173.90	343.79	179.97	333.49	169.24	286.66	186.07	356.90	240.74	325.55	158.20	184.85	104.28
	SVM	1138.38	1179.01	844.60	698.41	608.97	604.71	327.06	483.30	1152.75	1015.63	995.55	857.16	746.94	758.20	897.00	794.44	663.99	616.21	294.14	243.82

Table 39: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 50$ and $p = 2000$. See Figure 39 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	20.66	3.99	19.50	4.37	14.57	3.13	9.98	2.45	22.93	4.38	26.01	5.28	33.54	12.39	23.09	7.24	14.32	9.15	7.95	3.61
	Lasso	12.85	4.72	9.54	4.18	7.39	3.38	6.95	2.77	11.61	4.68	12.20	4.64	8.82	3.52	10.78	4.06	8.93	3.58	8.59	3.26
	E-net	13.25	4.92	9.65	4.29	7.26	3.34	7.04	2.71	12.23	4.71	12.71	4.76	8.96	3.64	11.12	4.08	9.01	3.69	8.64	3.17
	SCAD	4.23	3.44	4.31	2.35	5.35	1.89	6.48	1.89	3.70	2.18	4.22	3.06	5.74	3.36	4.07	2.26	5.47	2.87	7.68	2.22
	MCP	6.39	3.33	5.92	3.14	6.25	2.67	6.14	2.07	5.88	2.57	6.38	3.07	6.98	3.09	5.76	2.16	6.57	2.89	7.67	2.15
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	2.43	0.50	2.38	0.47	1.93	0.43	0.89	0.35	2.61	0.53	2.77	0.50	1.56	0.46	2.40	0.41	1.93	0.46	0.91	0.25
	SVM	5.68	4.16	0.89	1.26	0.91	2.00	1.19	0.96	5.96	4.61	5.22	4.91	3.60	4.94	2.07	3.20	0.76	0.99	0.58	0.26
3	Ridge	255.72	92.72	247.88	101.88	246.54	167.91	183.63	93.86	266.56	101.86	292.56	110.53	315.70	114.57	277.19	105.13	282.13	128.52	261.19	144.77
	Lasso	237.57	99.07	223.76	118.52	232.28	176.44	194.98	107.90	244.57	106.76	263.57	127.72	235.20	112.50	255.07	111.72	251.74	134.69	235.35	134.15
	E-net	237.70	98.12	225.38	117.38	233.39	175.72	195.73	110.17	246.22	106.74	265.46	126.95	237.94	112.56	257.25	110.60	254.37	134.78	235.29	134.60
	SCAD	131.50	95.23	111.68	92.23	138.83	132.94	134.27	67.73	121.28	104.14	157.07	137.22	128.12	101.80	143.69	116.66	144.02	101.72	146.10	101.22
	MCP	169.99	87.95	146.45	102.51	165.43	148.72	128.59	63.32	157.74	95.39	190.57	127.59	148.64	103.55	178.03	111.33	172.30	115.86	148.86	106.49
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	35.91	15.17	32.96	14.36	32.16	19.34	14.17	8.49	35.92	15.09	39.63	17.66	28.24	13.14	37.99	14.94	34.86	15.76	19.79	11.95
	SVM	89.13	71.20	49.59	56.16	46.51	108.08	23.95	23.35	85.41	69.48	107.43	87.05	68.93	66.57	76.18	78.49	42.96	54.67	35.92	40.38
6	Ridge	2884.31	1399.75	2746.91	1471.40	3017.19	2203.84	2712.98	1447.81	2945.46	1447.33	3187.68	1611.33	3015.48	1344.65	3061.06	1374.43	3154.60	1629.71	3195.81	1665.16
	Lasso	2867.82	1417.33	2714.19	1482.57	2965.28	2226.62	2776.50	1464.78	2921.52	1420.56	3158.87	1637.92	2924.56	1403.81	3052.96	1379.57	3068.64	1611.36	3064.39	1619.99
	E-net	2868.54	1416.42	2715.16	1482.98	2965.26	2227.04	2777.80	1466.78	2920.52	1418.12	3163.00	1633.87	2925.73	1393.64	3053.35	1378.57	3063.19	1614.59	3070.39	1619.08
	SCAD	2276.15	1288.79	1958.15	1480.84	2282.01	2162.10	2141.11	1197.20	2246.09	1372.95	2639.24	1771.50	2303.92	1357.95	2490.74	1609.80	2440.99	1599.40	2417.30	1522.17
	MCP	2586.58	1405.10	2264.54	1534.37	2596.35	2238.76	2172.68	1258.89	2481.90	1292.35	2873.81	1661.94	2458.89	1380.57	2683.91	1469.44	2659.41	1581.03	2380.36	1535.59
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	425.65	228.30	387.34	221.97	387.81	284.31	180.77	119.19	430.55	224.50	474.97	256.86	374.64	198.94	448.81	208.36	428.16	228.67	273.18	169.09
	SVM	1172.60	899.29	824.39	783.21	714.66	916.82	318.50	280.42	1087.68	929.10	1528.14	1142.17	1045.45	935.40	1062.54	928.32	1052.72	1111.37	850.84	858.21

Table 40: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 200$ and $p = 10$. See Figure 40 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	6.26	0.63	6.43	0.74	6.34	0.69	7.11	1.03	6.31	0.81	6.29	0.70	6.42	0.81	6.32	0.80	6.22	0.68	6.23	0.83
	AIC B	6.35	0.64	6.52	0.76	6.43	0.70	7.23	1.04	6.40	0.83	6.38	0.71	6.50	0.82	6.41	0.82	6.30	0.70	6.32	0.84
	BIC B	6.54	0.67	6.69	0.80	6.57	0.72	7.38	1.07	6.57	0.86	6.53	0.74	6.63	0.86	6.57	0.86	6.45	0.72	6.45	0.87
	AIC SB	6.35	0.64	6.52	0.76	6.43	0.70	7.23	1.04	6.40	0.83	6.38	0.71	6.50	0.82	6.41	0.82	6.30	0.70	6.32	0.84
	BIC SB	6.54	0.67	6.69	0.80	6.57	0.72	7.38	1.07	6.57	0.86	6.53	0.74	6.63	0.86	6.57	0.86	6.45	0.72	6.45	0.87
	AIC F	6.35	0.64	6.52	0.76	6.43	0.70	7.24	1.04	6.40	0.83	6.39	0.71	6.52	0.83	6.41	0.82	6.31	0.69	6.33	0.86
	BIC F	6.54	0.67	6.69	0.80	6.58	0.72	7.39	1.07	6.57	0.86	6.54	0.75	6.65	0.86	6.58	0.86	6.47	0.73	6.46	0.87
	AIC SF	6.35	0.64	6.52	0.76	6.43	0.70	7.24	1.04	6.40	0.83	6.39	0.71	6.52	0.83	6.41	0.82	6.31	0.69	6.33	0.86
	BIC SF	6.54	0.67	6.69	0.80	6.58	0.72	7.39	1.07	6.57	0.86	6.54	0.75	6.65	0.86	6.58	0.86	6.47	0.73	6.46	0.87
	Ridge	7.08	0.77	7.36	0.97	7.32	0.90	8.61	1.36	7.17	1.05	7.26	1.01	7.80	1.22	7.27	1.05	7.17	0.97	7.50	1.16
	Lasso	7.36	0.84	7.52	1.01	7.26	0.90	8.12	1.30	7.39	1.12	7.32	1.01	7.46	1.15	7.45	1.08	7.21	0.97	7.17	1.14
	E-net	7.35	0.84	7.50	1.00	7.22	0.89	8.13	1.29	7.37	1.11	7.31	0.99	7.46	1.17	7.43	1.07	7.17	0.96	7.15	1.12
	SCAD	6.44	0.72	6.61	0.76	6.51	0.74	7.33	1.09	6.47	0.87	6.47	0.76	6.64	0.86	6.49	0.85	6.40	0.76	6.40	0.87
	MCP	6.44	0.72	6.62	0.77	6.51	0.74	7.33	1.08	6.47	0.85	6.48	0.79	6.62	0.87	6.51	0.88	6.40	0.77	6.41	0.86
	XGBoost	0.36	0.12	0.38	0.10	0.36	0.15	0.14	0.20	0.39	0.10	0.39	0.09	0.30	0.20	0.38	0.12	0.39	0.11	0.40	0.13
	RF	0.70	0.08	0.70	0.08	0.58	0.07	0.36	0.05	0.71	0.08	0.67	0.07	0.47	0.06	0.71	0.08	0.65	0.08	0.52	0.06
	SVM	1.65	0.71	1.49	0.59	1.67	0.58	1.97	0.36	1.47	0.59	1.55	0.69	2.02	0.42	1.60	0.55	1.58	0.53	1.95	0.35
3	OLS	154.90	29.43	153.57	38.17	163.70	36.41	160.50	38.41	165.55	41.95	163.30	37.35	161.13	37.67	160.40	37.48	154.51	33.28	163.32	39.35
	AIC B	157.39	29.98	156.16	39.17	166.24	36.98	163.32	39.04	168.47	43.01	165.86	38.00	163.76	38.36	162.92	38.28	157.06	34.20	165.84	39.81
	BIC B	161.94	31.79	160.18	39.97	170.54	38.29	166.71	39.83	173.71	44.44	170.61	39.77	167.45	38.86	167.90	39.75	161.08	34.69	169.06	41.12
	AIC SB	157.39	29.98	156.16	39.17	166.24	36.98	163.32	39.04	168.47	43.01	165.84	38.00	163.74	38.35	162.92	38.28	157.06	34.20	165.84	39.81
	BIC SB	161.94	31.79	160.18	39.97	170.54	38.29	166.71	39.83	173.71	44.44	170.54	39.68	167.33	38.72	167.86	39.80	161.08	34.69	169.06	41.12
	AIC F	157.50	29.94	156.28	39.28	166.61	37.03	163.85	39.37	168.70	43.02	166.58	38.32	165.18	38.51	162.96	38.24	157.47	34.20	166.48	39.89
	BIC F	162.21	31.97	160.18	39.97	170.93	38.16	167.19	39.83	174.00	44.66	170.87	39.53	167.78	38.73	168.10	39.91	161.34	34.88	169.40	41.32
	AIC SF	157.50	29.94	156.28	39.28	166.61	37.03	163.85	39.37	168.70	43.02	166.59	38.30	165.35	38.54	162.98	38.26	157.47	34.20	166.48	39.89
	BIC SF	162.21	31.97	160.18	39.97	170.93	38.16	167.19	39.83	174.00	44.66	170.90	39.55	167.84	38.81	168.10	39.91	161.34	34.88	169.45	41.32
	Ridge	202.77	46.62	202.21	58.64	216.45	57.97	207.53	56.20	222.76	71.59	215.96	58.54	212.98	57.10	212.96	59.95	201.79	50.27	217.28	63.89
	Lasso	199.78	42.76	199.21	55.75	210.26	54.10	199.86	53.41	220.57	68.39	212.77	54.49	205.36	54.46	210.30	54.81	198.52	48.98	212.73	64.01
	E-net	200.40	42.61	199.66	56.25	210.12	54.72	199.43	53.79	220.80	68.36	212.83	54.45	205.34	54.57	210.89	55.38	199.13	48.99	212.90	64.13
	SCAD	162.29	31.87	160.39	41.90	171.16	38.97	166.40	39.36	173.79	45.34	171.44	39.37	166.98	39.14	168.28	39.87	161.18	34.86	168.88	41.98
	MCP	162.40	32.06	160.84	42.42	171.23	38.73	166.11	39.41	174.06	45.64	171.57	39.37	167.15	39.23	168.24	40.60	161.28	34.96	169.23	41.92
	XGBoost	2.99	0.83	3.13	0.89	3.34	0.81	1.65	1.71	3.01	0.82	3.10	0.94	3.12	1.30	3.08	0.79	3.04	0.86	3.18	1.13
	RF	11.52	2.77	10.92	2.51	10.55	3.11	6.15	2.66	12.72	4.56	11.98	3.31	7.96	2.53	11.82	3.39	10.99	3.10	9.82	2.64
	SVM	10.87	5.48	10.18	4.97	13.02	10.19	14.25	13.26	14.54	13.38	12.56	7.79	13.70	8.74	11.70	6.67	11.57	5.96	14.27	5.87
6	OLS	2314.26	468.48	2295.58	599.97	2447.43	574.49	2369.54	611.07	2495.68	666.82	2452.08	594.11	2414.61	601.25	2418.21	591.93	2318.47	530.74	2474.30	616.49
	AIC B	2356.52	475.66	2337.63	612.63	2488.15	584.03	2413.01	623.12	2547.33	683.64	2497.03	604.05	2454.05	609.71	2463.47	604.90	2361.68	545.17	2513.98	627.64
	BIC B	2413.76	493.67	2393.08	625.02	2549.08	591.97	2458.09	626.63	2609.52	701.23	2558.66	617.59	2508.61	617.22	2524.09	615.35	2411.66	563.39	2562.51	645.36
	AIC SB	2356.52	475.66	2337.63	612.63	2488.15	584.03	2413.01	623.12	2546.76	683.47	2497.03	604.05	2454.05	609.71	2463.47	604.90	2361.68	545.17	2513.98	627.64
	BIC SB	2413.76	493.67	2393.08	625.02	2549.08	591.97	2458.09	626.63	2609.52	701.23	2558.15	618.16	2508.61	617.22	2524.09	615.35	2411.66	563.39	2562.51	645.36
	AIC F	2357.92	476.79	2339.22	612.80	2493.90	582.91	2422.56	624.65	2549.35	682.70	2503.46	600.41	2475.68	617.91	2467.21	605.20	2367.67	545.16	2528.58	626.87
	BIC F	2413.76	493.67	2396.27	628.23	2557.38	597.35	2469.35	632.08	2610.98	700.64	2562.40	618.59	2517.49	620.86	2528.74	619.50	2414.12	563.66	2568.91	645.60
	AIC SF	2357.92	476.79	2339.22	612.80	2494.09	582.73	2422.56	624.65	2549.35	682.70	2503.96	600.60	2476.62	617.68	2467.47	605.34	2367.67	545.16	2529.03	626.85
	BIC SF	2413.76	493.67	2396.27	628.23	2557.38	597.35	2469.35	632.08	2610.98	700.64	2562.40	618.59	2517.49	620.86	2528.74	619.50	2414.12	563.66	2568.91	645.60
	Ridge	2795.38	529.90	2830.29	692.81	3038.70	732.88	2944.29	821.55	3048.87	792.26	2999.89	684.73	3008.49	790.88	2942.85	689.35	2825.52	615.43	3011.06	719.21
	Lasso	2781.75	536.48	2809.82	698.72	3015.88	740.48	2906.39	826.43	3041.13	799.12	2984.55	691.05	2982.37	792.29	2932.77	692.88	2812.83	622.33	2998.01	726.67
	E-net	2782.18	535.88	2812.96	695.93	3017.04	740.42	2907.02	828.26	3042.75	797.79	2987.36	689.70	2984.66	795.46	2933.15	693.30	2813.09	621.58	2998.94	726.76
	SCAD	2419.19	499.14	2397.78	642.99	2544.84	593.10	2443.93	638.28	2621.34	727.07	2567.06	631.85	2504.91	611.26	2523.62	631.76	2410.49	558.04	2584.04	672.98
	MCP	2427.87	500.60	2407.76	648.48	2541.56	589.67	2445.19	635.17	2625.14	714.69	2574.18	635.95	2500.87	630.79	2526.16	627.93	2410.43	549.34	2572.92	659.62
	XGBoost	14.53	2.55	14.55	3.57	13.52	5.12	5.76	6.73	14.40	2.94	14.58	4.46	9.64	7.58	13.83	3.98	13.67	4.27	12.63	6.67
	RF	113.23	40.26	106.95	40.68	109.74	46.66	63.43	36.86	134.04	73.98	116.40	51.55	75.81	41.72	119.36	54.66	104.15	46.20	85.10	34.22
	SVM	166.87	83.36	155.33	84.93	187.93	150.34	138.28	170.54	235.16	236.04	187.50	127.94	149.88	127.30	182.09	112.71	163.80	96.49	163.61	104.10

Table 41: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 200$ and $p = 100$. See Figure 41 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	3.30	0.52	3.31	0.51	3.41	0.52	3.79	0.70	3.37	0.58	3.34	0.51	3.30	0.58	3.28	0.55	3.36	0.54	3.83	0.70
	AIC F	4.31	0.74	4.37	0.71	4.50	0.74	5.06	0.94	4.46	0.86	4.54	0.72	5.21	0.99	4.37	0.83	4.55	0.84	6.03	1.17
	BIC F	5.98	0.89	6.13	0.84	6.38	0.84	7.08	1.18	6.08	0.95	6.11	0.79	6.41	1.06	6.02	0.92	6.41	0.93	7.31	1.04
	AIC SF	4.31	0.73	4.36	0.71	4.51	0.75	5.07	0.95	4.45	0.85	4.56	0.74	5.24	1.01	4.40	0.81	4.57	0.83	6.03	1.17
	BIC SF	5.99	0.89	6.13	0.84	6.39	0.83	7.08	1.18	6.09	0.95	6.11	0.79	6.41	1.06	6.01	0.92	6.41	0.93	7.31	1.04
	Ridge	6.83	2.00	7.19	1.70	7.93	1.96	9.42	1.69	6.96	1.95	6.65	1.50	7.40	1.53	6.92	1.71	7.52	1.77	9.16	1.47
	Lasso	7.80	1.25	7.67	1.14	7.50	1.13	8.12	1.52	7.82	1.33	7.52	1.01	7.37	1.41	7.53	1.26	7.58	1.23	8.35	1.31
	E-net	7.85	1.25	7.63	1.13	7.43	1.13	8.05	1.51	7.83	1.33	7.53	1.06	7.38	1.38	7.53	1.27	7.54	1.22	8.33	1.31
	SCAD	6.51	1.05	6.60	0.88	6.88	0.92	7.47	1.16	6.62	1.03	6.54	0.88	6.64	1.08	6.42	1.04	6.79	1.00	7.51	1.01
	MCP	6.66	1.05	6.68	0.90	7.01	0.89	7.45	1.13	6.72	1.05	6.62	0.92	6.63	1.15	6.54	0.98	6.86	1.01	7.54	0.98
	XGBoost	0.04	0.03	0.06	0.02	0.07	0.02	0.04	0.06	0.05	0.02	0.05	0.02	0.07	0.04	0.05	0.02	0.06	0.02	0.04	0.06
	RF	0.89	0.12	0.87	0.10	0.72	0.10	0.41	0.06	0.87	0.11	0.81	0.09	0.52	0.07	0.85	0.11	0.69	0.09	0.39	0.08
	SVM	0.37	0.15	0.36	0.10	0.44	0.20	1.62	0.63	0.35	0.14	0.34	0.12	0.51	0.29	0.37	0.16	0.39	0.11	0.95	0.34
3	OLS	86.73	26.20	84.90	20.84	83.01	21.46	84.12	22.67	82.49	22.31	81.85	19.99	83.01	21.62	86.54	24.61	91.36	29.74	86.60	19.50
	AIC F	115.33	35.65	113.92	28.96	110.83	27.70	112.24	30.08	108.96	30.13	113.81	29.45	133.91	36.88	116.01	33.42	124.61	41.79	137.13	35.50
	BIC F	160.09	47.64	157.88	39.86	156.09	37.74	158.33	38.29	150.91	37.50	152.68	36.16	159.79	41.76	157.77	38.09	168.37	50.16	168.01	36.15
	AIC SF	116.02	35.92	114.35	29.41	111.17	28.37	112.35	29.79	108.93	29.65	113.90	29.10	135.18	37.55	115.98	33.50	124.35	40.77	137.64	35.25
	BIC SF	160.28	47.80	157.92	39.84	156.21	37.86	158.46	38.22	150.95	37.50	152.74	36.09	160.07	41.69	157.70	38.14	168.31	50.20	168.01	36.15
	Ridge	236.39	71.11	245.92	63.77	234.33	61.97	212.63	55.06	233.19	61.55	228.80	67.01	210.68	62.71	240.48	70.19	243.75	75.28	220.75	56.96
	Lasso	219.31	67.40	215.23	57.57	207.41	58.68	198.75	51.87	212.52	59.28	208.33	53.31	203.37	58.90	217.55	61.69	225.77	78.23	211.06	52.44
	E-net	220.15	67.50	216.12	58.13	207.38	59.35	198.94	52.58	213.54	59.07	209.80	54.23	203.40	59.21	218.11	61.96	225.06	78.15	211.70	53.73
	SCAD	173.42	50.70	168.15	41.57	166.11	40.57	166.21	37.82	165.26	39.74	165.23	37.76	167.18	43.19	169.70	41.11	178.67	52.22	173.28	36.13
	MCP	177.09	53.88	170.15	42.07	167.56	42.45	166.07	37.64	167.40	39.93	166.84	38.09	167.22	43.58	172.20	41.83	182.04	54.34	172.09	36.03
	XGBoost	0.45	0.18	0.54	0.11	0.69	0.17	0.39	0.62	0.47	0.16	0.48	0.19	0.85	0.35	0.50	0.13	0.63	0.15	0.39	0.58
	RF	15.03	5.48	15.17	3.25	13.32	3.75	7.09	2.46	15.25	4.45	14.81	3.32	9.53	2.55	15.02	3.76	13.23	4.14	7.36	2.33
	SVM	33.49	26.15	29.85	16.61	21.61	11.96	15.95	14.67	32.69	26.60	28.43	14.72	22.38	10.56	30.55	18.87	24.34	15.74	18.40	11.19
6	OLS	1309.35	412.05	1272.10	330.10	1233.17	333.58	1245.39	349.64	1235.73	346.56	1227.95	310.63	1238.80	331.56	1297.99	386.30	1371.65	463.01	1297.12	297.04
	AIC F	1732.34	541.70	1707.72	443.80	1632.99	436.63	1668.76	487.43	1643.89	473.39	1705.41	439.93	1999.44	562.14	1744.56	531.00	1886.50	645.46	2089.12	593.32
	BIC F	2412.24	745.64	2369.30	634.70	2328.02	615.15	2373.31	586.13	2249.38	588.93	2264.92	552.99	2409.90	628.39	2361.03	609.52	2534.27	789.51	2509.28	565.34
	AIC SF	1737.23	546.68	1711.97	449.70	1643.46	432.86	1680.03	491.51	1654.68	476.72	1708.71	442.06	2008.43	567.89	1748.87	527.23	1889.65	634.76	2092.51	589.70
	BIC SF	2412.24	745.64	2369.72	634.51	2329.64	615.50	2373.31	586.13	2249.84	588.82	2265.18	552.45	2410.30	628.40	2361.03	609.52	2536.43	789.14	2509.70	565.36
	Ridge	2992.81	829.57	2965.28	702.92	2972.56	757.58	2960.44	782.34	2855.95	669.08	2924.72	644.41	2969.20	697.69	2981.67	695.96	3160.01	828.49	3116.24	679.62
	Lasso	2979.96	841.58	2944.74	719.25	2933.14	759.83	2923.73	804.11	2845.14	676.62	2885.72	666.30	2920.53	715.09	2952.42	708.49	3113.22	846.71	3087.33	686.86
	E-net	2980.39	841.29	2946.41	717.84	2935.67	760.02	2924.21	803.33	2846.94	675.98	2887.85	665.11	2923.93	715.39	2953.58	708.32	3116.96	844.96	3087.37	687.16
	SCAD	2613.85	837.23	2507.91	684.56	2439.95	647.34	2466.27	636.49	2457.79	647.90	2431.99	617.62	2462.43	682.97	2521.98	679.32	2661.53	849.35	2560.90	584.57
	MCP	2645.05	842.08	2542.40	671.18	2456.82	643.36	2453.59	630.22	2481.84	652.06	2451.67	601.19	2475.79	673.71	2558.63	675.62	2688.06	845.56	2543.39	580.44
	XGBoost	2.37	0.61	2.60	0.59	3.02	1.08	1.88	2.83	2.39	0.72	2.55	0.63	3.18	2.15	2.44	0.66	2.72	1.11	1.96	2.54
	RF	147.33	86.00	139.10	46.21	127.63	53.28	71.03	34.38	144.19	71.77	135.56	46.92	92.36	40.23	139.82	53.89	136.29	66.41	79.41	34.99
	SVM	1180.89	792.82	742.22	428.49	431.48	195.47	219.48	176.56	1037.12	648.67	829.78	489.98	460.41	188.54	899.62	569.28	491.59	271.92	286.05	158.89

Table 42: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 200$ and $p = 2000$. See Figure 42 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	20.99	2.78	17.45	2.57	14.36	1.83	9.68	1.25	22.46	2.93	22.16	5.30	13.17	2.72	12.71	3.12	9.86	1.83	8.69	1.40
	Lasso	8.59	1.05	7.72	1.21	7.34	1.15	7.59	1.21	8.59	1.25	7.91	0.99	7.47	1.29	8.25	1.11	7.78	1.54	8.38	1.37
	E-net	8.74	1.10	7.61	1.21	7.18	1.12	7.55	1.23	8.71	1.31	7.97	1.02	7.51	1.29	8.30	1.12	7.75	1.55	8.35	1.37
	SCAD	6.67	0.97	6.26	0.99	6.54	0.99	7.68	1.14	6.56	1.23	6.41	1.10	6.36	1.09	6.67	1.03	6.77	1.21	7.60	1.23
	MCP	6.87	0.94	6.58	0.91	6.99	0.96	7.58	1.03	6.94	0.96	6.63	0.89	6.54	1.05	6.93	1.03	6.95	1.14	7.61	1.17
	XGBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RF	1.03	0.14	0.98	0.12	0.89	0.11	0.46	0.06	1.10	0.14	1.01	0.11	0.61	0.09	1.02	0.13	0.81	0.10	0.43	0.06
	SVM	1.69	2.41	0.60	0.70	0.64	0.57	1.18	0.43	1.30	2.12	0.87	0.82	0.68	0.24	0.48	0.19	0.42	0.10	0.48	0.05
3	Ridge	258.67	52.42	261.26	50.94	234.91	58.62	185.75	54.76	281.02	59.92	277.01	50.50	284.41	74.63	268.60	60.62	259.90	80.72	224.45	67.52
	Lasso	220.00	61.01	216.57	52.79	219.55	61.90	192.92	60.28	243.81	73.25	216.54	57.09	211.56	55.74	215.14	60.45	227.72	69.18	216.21	59.33
	E-net	221.74	61.14	217.85	53.29	218.95	62.61	193.17	60.64	245.10	73.16	218.25	57.22	212.35	56.73	217.01	60.91	228.97	70.19	216.18	59.19
	SCAD	160.67	43.24	158.90	38.32	164.20	34.01	159.68	42.17	174.48	57.67	157.63	45.00	166.60	40.75	155.79	40.25	171.82	45.54	174.38	40.08
	MCP	171.33	47.21	167.14	38.30	171.04	35.84	159.43	42.68	187.55	54.87	165.88	44.17	169.69	40.35	166.70	44.05	181.22	46.60	173.60	41.11
	XGBoost	0.01	0.00	0.01	0.00	0.03	0.01	0.04	0.12	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.02	0.01	0.02	0.06
	RF	18.73	4.28	19.54	4.08	17.70	4.40	8.12	2.11	21.00	6.45	19.42	4.07	12.35	2.90	19.02	5.04	17.15	5.20	8.65	3.11
	SVM	58.68	50.36	41.22	35.01	28.87	18.88	21.10	14.15	67.91	61.57	42.47	37.83	34.87	18.02	33.32	24.74	31.99	21.42	23.37	14.07
6	Ridge	2897.93	772.37	2956.94	631.21	3044.57	766.15	2737.62	786.21	3171.84	826.06	2944.17	680.38	3091.20	643.14	2936.40	731.56	3202.54	851.92	3094.17	779.02
	Lasso	2883.77	786.18	2926.92	658.65	3050.54	765.53	2821.98	760.06	3158.84	837.16	2911.66	691.71	2984.14	666.15	2918.63	740.54	3170.64	857.34	3066.11	781.94
	E-net	2884.99	785.09	2929.49	656.32	3047.41	762.15	2822.39	761.10	3160.18	835.80	2915.59	691.05	2986.69	666.55	2919.35	739.05	3173.89	856.45	3066.63	782.34
	SCAD	2471.21	816.83	2419.49	691.43	2467.24	603.58	2350.18	676.79	2720.37	970.25	2356.06	807.42	2510.67	669.44	2370.08	760.55	2524.58	791.94	2532.85	655.73
	MCP	2533.60	757.81	2492.18	657.12	2556.17	622.16	2338.43	687.36	2798.28	866.06	2467.98	734.03	2538.14	683.26	2476.70	718.68	2637.46	789.03	2545.54	673.83
	XGBoost	0.03	0.02	0.06	0.03	0.12	0.09	0.32	0.65	0.04	0.02	0.04	0.02	0.07	0.06	0.05	0.02	0.07	0.05	0.09	0.24
	RF	169.87	59.79	173.49	58.94	157.20	60.60	82.86	34.69	198.72	88.97	176.20	57.35	117.29	39.53	169.99	71.42	167.18	74.37	94.83	46.39
	SVM	1058.14	683.48	850.64	596.04	509.02	251.03	264.07	154.47	1324.14	997.37	1093.20	751.74	1148.18	755.53	1046.25	659.42	778.30	567.76	475.15	224.21

Table 43: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 1000$ and $p = 10$. See Figure 43 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	6.65	0.32	6.70	0.30	6.89	0.38	7.59	0.44	6.65	0.36	6.57	0.34	6.75	0.48	6.60	0.36	6.58	0.38	6.63	0.38
	AIC B	6.67	0.32	6.71	0.30	6.90	0.38	7.61	0.44	6.67	0.36	6.58	0.35	6.76	0.48	6.61	0.36	6.59	0.38	6.65	0.38
	BIC B	6.69	0.32	6.74	0.30	6.93	0.38	7.65	0.44	6.69	0.36	6.61	0.35	6.80	0.48	6.63	0.36	6.62	0.39	6.69	0.38
	AIC SB	6.67	0.32	6.71	0.30	6.90	0.38	7.61	0.44	6.67	0.36	6.58	0.35	6.76	0.48	6.61	0.36	6.59	0.38	6.65	0.38
	BIC SB	6.69	0.32	6.74	0.30	6.93	0.38	7.65	0.44	6.69	0.36	6.61	0.35	6.80	0.48	6.63	0.36	6.62	0.39	6.69	0.38
	AIC F	6.67	0.32	6.71	0.30	6.90	0.38	7.61	0.44	6.67	0.36	6.58	0.35	6.77	0.48	6.61	0.36	6.60	0.38	6.65	0.38
	BIC F	6.69	0.32	6.74	0.30	6.93	0.38	7.65	0.44	6.69	0.36	6.61	0.34	6.81	0.48	6.63	0.36	6.62	0.39	6.69	0.38
	AIC SF	6.67	0.32	6.71	0.30	6.90	0.38	7.61	0.44	6.67	0.36	6.58	0.35	6.77	0.48	6.61	0.36	6.60	0.38	6.65	0.38
	BIC SF	6.69	0.32	6.74	0.30	6.93	0.38	7.65	0.44	6.69	0.36	6.61	0.35	6.81	0.48	6.63	0.36	6.62	0.39	6.69	0.38
	Ridge	7.03	0.39	7.07	0.33	7.33	0.44	8.33	0.53	7.04	0.44	6.98	0.41	7.36	0.54	6.99	0.41	6.99	0.45	7.25	0.50
	Lasso	7.04	0.39	7.05	0.33	7.25	0.44	8.05	0.52	7.04	0.44	6.93	0.41	7.16	0.53	6.98	0.41	6.94	0.45	7.05	0.49
	E-net	7.04	0.40	7.05	0.33	7.25	0.44	8.03	0.52	7.04	0.44	6.93	0.41	7.15	0.53	6.98	0.41	6.93	0.45	7.04	0.48
	SCAD	6.67	0.32	6.72	0.30	6.91	0.38	7.63	0.45	6.67	0.36	6.59	0.35	6.77	0.48	6.62	0.36	6.60	0.39	6.66	0.39
	MCP	6.67	0.32	6.72	0.30	6.91	0.38	7.63	0.45	6.68	0.36	6.59	0.35	6.77	0.48	6.62	0.36	6.60	0.39	6.66	0.39
	XGBoost	0.60	0.44	0.59	0.44	0.56	0.44	0.05	0.15	0.68	0.41	0.68	0.39	0.62	0.38	0.49	0.45	0.53	0.44	0.78	0.25
	RF	0.40	0.02	0.40	0.02	0.34	0.02	0.24	0.01	0.41	0.03	0.37	0.02	0.28	0.02	0.40	0.02	0.37	0.02	0.30	0.02
	SVM	1.90	0.35	1.93	0.34	2.02	0.27	2.11	0.14	1.92	0.31	2.00	0.28	2.24	0.13	1.94	0.31	2.04	0.27	2.18	0.13
3	OLS	172.72	17.53	173.36	22.37	176.24	16.97	177.45	18.24	172.85	20.81	171.38	18.49	175.25	20.84	172.15	20.80	171.37	20.88	170.51	18.58
	AIC B	173.23	17.57	173.81	22.42	176.74	17.02	178.06	18.32	173.34	20.89	171.82	18.52	175.78	20.90	172.66	20.86	171.85	20.92	171.00	18.60
	BIC B	174.33	17.71	174.93	22.61	177.87	17.22	179.02	18.31	174.65	21.00	172.90	18.73	176.83	21.01	173.67	21.06	172.95	21.01	171.95	18.67
	AIC SB	173.23	17.57	173.81	22.42	176.74	17.02	178.06	18.32	173.34	20.89	171.82	18.52	175.78	20.90	172.66	20.86	171.85	20.92	171.00	18.60
	BIC SB	174.33	17.71	174.93	22.61	177.87	17.22	179.02	18.31	174.65	21.00	172.87	18.71	176.83	21.01	173.67	21.06	172.95	21.01	171.95	18.67
	AIC F	173.23	17.57	173.84	22.43	176.76	17.03	178.14	18.35	173.35	20.89	171.88	18.53	175.99	20.94	172.66	20.85	171.87	20.90	171.12	18.64
	BIC F	174.33	17.71	174.93	22.61	177.92	17.21	179.05	18.33	174.65	21.00	172.92	18.72	176.85	20.99	173.70	21.08	173.01	21.03	171.97	18.65
	AIC SF	173.23	17.57	173.84	22.43	176.76	17.03	178.14	18.35	173.35	20.89	171.88	18.53	176.00	20.94	172.67	20.86	171.87	20.90	171.12	18.64
	BIC SF	174.33	17.71	174.93	22.61	177.92	17.21	179.05	18.33	174.65	21.00	172.92	18.72	176.85	20.99	173.70	21.08	173.01	21.03	171.97	18.65
	Ridge	191.77	21.86	193.35	28.38	196.58	20.41	198.62	22.26	192.24	26.55	191.25	23.18	195.76	25.24	192.23	26.69	191.67	27.17	190.39	23.43
	Lasso	192.92	21.58	193.63	28.26	195.37	20.09	195.62	22.02	193.27	26.27	191.51	23.06	193.37	25.25	192.81	26.10	191.13	26.68	188.30	23.49
	E-net	192.95	21.60	193.65	28.26	195.37	20.35	195.31	22.27	193.24	26.49	191.32	23.18	193.10	25.02	193.00	26.33	191.15	26.74	188.00	23.68
	SCAD	173.90	17.73	174.39	22.53	177.27	17.00	178.62	18.27	173.76	21.00	172.41	18.58	176.51	20.90	173.35	20.96	172.45	21.02	171.55	18.84
	MCP	173.99	17.76	174.55	22.66	177.21	17.03	178.55	18.28	173.80	20.88	172.49	18.60	176.56	20.91	173.33	20.99	172.45	21.03	171.54	18.77
	XGBoost	7.17	0.38	7.21	0.35	7.20	0.78	4.57	3.43	7.21	0.37	7.15	0.77	7.12	1.26	7.20	0.34	7.20	0.33	7.21	0.76
	RF	5.59	0.91	5.37	0.88	4.65	0.64	3.17	0.58	5.53	0.94	5.39	0.85	3.83	0.78	5.60	1.02	5.16	0.90	4.15	0.54
	SVM	11.05	2.70	10.40	2.60	10.39	2.34	12.00	4.00	10.69	2.88	10.39	2.45	12.24	4.69	10.86	2.85	10.30	2.74	11.52	2.33
6	OLS	2599.03	279.57	2604.76	354.27	2639.54	264.18	2646.01	278.43	2600.65	327.25	2585.46	294.91	2637.03	332.73	2592.98	329.31	2580.37	333.81	2569.83	288.75
	AIC B	2607.71	280.16	2614.22	355.52	2648.47	265.41	2655.37	279.76	2609.59	328.57	2594.10	295.58	2645.77	334.14	2602.01	330.57	2588.92	334.77	2578.21	289.28
	BIC B	2627.22	284.50	2631.19	358.98	2665.70	266.20	2669.75	280.79	2630.36	331.72	2612.16	297.16	2659.97	336.50	2621.06	332.75	2604.95	336.31	2589.61	290.71
	AIC SB	2607.71	280.16	2614.22	355.52	2648.47	265.41	2655.37	279.76	2609.59	328.57	2594.10	295.58	2645.77	334.14	2602.01	330.57	2588.92	334.77	2578.21	289.28
	BIC SB	2627.22	284.50	2631.19	358.98	2665.70	266.20	2669.75	280.79	2630.36	331.72	2612.16	297.16	2659.97	336.50	2621.06	332.75	2604.95	336.31	2589.61	290.71
	AIC F	2607.82	280.27	2614.72	356.13	2649.94	266.07	2657.80	280.68	2610.04	329.03	2595.50	295.85	2649.72	333.83	2602.34	330.56	2589.92	334.98	2580.08	290.02
	BIC F	2627.49	283.86	2631.19	358.98	2666.01	265.94	2669.75	280.79	2631.15	332.26	2612.39	296.99	2660.21	335.28	2621.06	332.75	2606.21	337.87	2589.59	290.70
	AIC SF	2607.82	280.27	2614.72	356.13	2649.94	266.07	2657.80	280.68	2610.04	329.03	2595.54	295.78	2649.72	333.83	2602.34	330.56	2589.92	334.98	2580.08	290.02
	BIC SF	2627.49	283.86	2631.19	358.98	2666.01	265.94	2669.75	280.79	2631.15	332.26	2612.39	296.99	2660.50	335.73	2621.06	332.75	2606.21	337.87	2589.59	290.70
	Ridge	2899.43	312.70	2915.72	402.81	2972.46	309.91	2968.64	344.62	2912.15	388.88	2912.24	349.42	2964.82	413.08	2895.37	376.78	2887.22	369.96	2867.19	334.43
	Lasso	2886.41	315.83	2897.49	408.74	2941.61	305.34	2929.17	338.39	2898.28	387.07	2886.85	353.35	2931.39	407.10	2880.23	377.65	2868.14	370.32	2846.76	334.82
	E-net	2887.20	316.33	2898.70	405.56	2944.09	306.19	2931.58	340.02	2897.57	387.10	2887.49	352.88	2930.81	406.50	2883.78	376.36	2866.35	372.39	2846.56	335.22
	SCAD	2628.46	283.62	2632.14	358.37	2666.44	265.28	2664.73	279.03	2627.41	331.42	2613.04	299.09	2658.99	335.14	2620.65	332.45	2606.37	338.18	2588.24	290.71
	MCP	2629.17	285.59	2633.22	359.10	2667.47	264.06	2663.62	279.01	2629.89	332.85	2614.33	299.90	2657.52	335.40	2621.69	332.28	2608.46	337.80	2588.79	290.22
	XGBoost	30.04	1.65	29.85	3.42	29.76	4.42	14.46	14.41	30.29	1.77	29.83	4.49	25.83	10.97	29.71	4.31	29.98	3.27	28.38	8.33
	RF	49.00	14.70	45.43	13.96	40.77	10.15	25.59	8.32	46.80	14.93	44.87	12.64	29.41	10.97	48.88	17.02	43.02	16.03	29.48	7.38
	SVM	130.74	45.70	117.36	47.48	98.42	34.39	84.09	53.36	126.31	53.03	108.66	41.92	94.99	67.69	126.15	50.92	102.07	48.48	86.44	41.25

Table 44: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 1000$ and $p = 100$. See Figure 44 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	6.07	0.34	6.02	0.29	6.25	0.36	6.88	0.46	6.03	0.32	5.97	0.32	6.11	0.43	6.04	0.34	6.22	0.34	6.97	0.45
	AIC F	6.34	0.36	6.28	0.30	6.52	0.38	7.18	0.47	6.30	0.34	6.27	0.34	6.55	0.46	6.31	0.37	6.52	0.37	7.49	0.50
	BIC F	6.65	0.36	6.60	0.30	6.88	0.38	7.58	0.48	6.63	0.35	6.58	0.36	6.75	0.47	6.64	0.38	6.86	0.39	7.73	0.49
	AIC SF	6.34	0.36	6.28	0.30	6.52	0.38	7.18	0.47	6.30	0.34	6.27	0.35	6.55	0.46	6.31	0.37	6.52	0.37	7.49	0.50
	BIC SF	6.65	0.36	6.60	0.30	6.88	0.38	7.58	0.48	6.63	0.35	6.58	0.36	6.75	0.47	6.64	0.38	6.86	0.39	7.73	0.49
	Ridge	6.61	0.41	6.61	0.40	6.98	0.52	8.40	0.70	6.56	0.38	6.56	0.40	7.18	0.60	6.63	0.42	6.97	0.48	8.46	0.64
	Lasso	7.13	0.43	7.03	0.38	7.24	0.48	7.95	0.56	7.07	0.40	6.98	0.38	7.13	0.56	7.07	0.44	7.24	0.47	8.12	0.57
	E-net	7.14	0.43	7.03	0.39	7.23	0.48	7.90	0.55	7.08	0.40	6.98	0.39	7.14	0.56	7.08	0.44	7.24	0.47	8.10	0.56
	SCAD	6.64	0.38	6.58	0.31	6.87	0.39	7.65	0.49	6.60	0.36	6.57	0.36	6.78	0.47	6.63	0.39	6.83	0.38	7.77	0.50
	MCP	6.67	0.38	6.60	0.31	6.89	0.39	7.65	0.49	6.64	0.36	6.59	0.37	6.79	0.47	6.65	0.39	6.85	0.39	7.76	0.51
	XGBoost	0.57	0.23	0.59	0.21	0.54	0.28	0.02	0.13	0.58	0.23	0.54	0.24	0.42	0.32	0.51	0.27	0.46	0.30	0.02	0.12
	RF	0.48	0.03	0.49	0.02	0.41	0.02	0.25	0.01	0.48	0.03	0.43	0.02	0.29	0.02	0.48	0.02	0.38	0.02	0.25	0.01
	SVM	0.32	0.05	0.33	0.04	0.47	0.06	1.75	0.16	0.31	0.05	0.31	0.04	0.60	0.05	0.32	0.04	0.40	0.04	1.25	0.24
3	OLS	158.31	17.82	155.69	18.25	161.40	18.60	160.80	16.72	155.51	17.24	155.76	18.64	157.00	17.98	156.41	18.50	156.79	17.74	158.50	16.62
	AIC F	165.19	18.65	162.74	19.10	168.73	19.46	168.38	17.49	162.45	18.12	163.56	19.56	167.96	19.34	163.45	19.36	164.67	18.68	170.22	17.97
	BIC F	174.52	19.76	171.41	19.43	177.99	19.91	177.50	18.52	171.19	19.00	171.84	20.57	173.79	19.88	172.66	20.32	173.35	19.49	175.41	18.00
	AIC SF	165.21	18.66	162.78	19.10	168.74	19.47	168.38	17.49	162.47	18.12	163.61	19.58	168.05	19.37	163.48	19.36	164.74	18.69	170.24	17.98
	BIC SF	174.52	19.76	171.41	19.43	178.00	19.90	177.50	18.52	171.19	19.00	171.84	20.57	173.79	19.88	172.66	20.32	173.35	19.49	175.41	18.00
	Ridge	194.20	26.13	192.95	29.05	206.23	28.25	202.09	24.44	190.80	26.24	191.40	26.77	196.86	26.02	193.55	26.57	198.22	26.92	198.40	21.96
	Lasso	195.92	24.46	191.32	24.59	198.40	24.14	194.86	24.18	192.12	22.78	191.41	24.67	192.13	25.03	192.91	24.56	192.16	24.09	191.98	21.34
	E-net	196.19	24.72	191.27	24.82	198.14	24.16	194.25	24.06	192.41	23.00	191.36	24.51	192.22	24.81	192.82	24.61	191.74	23.89	191.87	21.52
	SCAD	174.90	20.36	171.31	19.50	178.56	19.75	178.86	18.95	171.50	18.95	172.26	20.93	174.22	20.30	172.90	20.36	173.39	19.46	176.21	18.27
	MCP	175.80	20.58	171.89	19.34	178.81	19.77	178.79	18.90	172.11	19.09	172.98	21.06	174.31	20.19	173.51	20.49	173.74	19.60	176.23	18.25
	XGBoost	5.24	0.27	5.25	0.31	5.57	0.31	2.42	3.11	5.22	0.30	5.24	0.26	5.69	0.88	5.22	0.28	5.37	0.29	4.05	2.93
	RF	6.35	1.06	6.27	0.86	5.67	0.84	3.49	0.65	6.57	0.92	6.36	0.83	4.34	0.82	6.17	0.77	5.40	0.63	3.29	0.46
	SVM	33.85	8.06	25.58	6.46	17.36	5.39	13.30	4.11	32.33	6.87	28.08	6.73	15.05	4.45	28.02	6.57	18.54	4.00	12.57	3.07
6	OLS	2382.09	284.68	2343.04	291.46	2417.00	289.31	2398.79	260.81	2344.14	274.45	2346.38	293.99	2356.64	280.73	2356.05	295.57	2346.93	281.60	2357.14	260.56
	AIC F	2486.89	297.30	2449.65	305.34	2528.02	302.27	2513.08	273.64	2452.01	287.23	2466.42	308.80	2525.85	301.55	2465.56	309.86	2465.20	295.81	2532.95	280.13
	BIC F	2636.85	320.98	2582.64	311.17	2668.93	311.25	2647.17	290.28	2586.37	301.85	2590.68	322.24	2607.93	310.81	2600.60	325.59	2596.01	308.50	2608.88	283.64
	AIC SF	2487.34	297.29	2449.82	305.43	2528.61	302.30	2513.58	273.89	2452.28	287.24	2467.44	309.51	2526.62	301.61	2465.89	309.49	2465.99	296.19	2532.88	279.93
	BIC SF	2636.85	320.98	2582.64	311.17	2668.93	311.25	2647.17	290.28	2586.37	301.85	2590.68	322.24	2608.06	310.74	2600.60	325.59	2596.01	308.50	2609.04	283.56
	Ridge	2979.31	337.87	2945.00	360.06	3061.52	353.78	2966.06	372.53	2939.33	331.07	2949.98	368.38	2962.95	370.22	2967.97	360.83	2962.16	364.27	2928.56	331.23
	Lasso	2918.87	359.86	2861.78	369.05	2980.66	369.46	2929.00	380.56	2873.90	341.75	2868.95	367.11	2898.73	366.56	2895.61	374.60	2886.40	373.36	2880.54	332.40
	E-net	2919.85	359.79	2862.70	370.14	2984.08	369.24	2930.19	381.92	2877.00	340.94	2871.28	368.06	2900.93	367.03	2896.88	373.28	2886.46	374.20	2880.55	333.14
	SCAD	2653.37	322.42	2596.87	310.09	2684.43	305.38	2656.50	290.03	2602.34	298.41	2605.05	324.72	2617.94	313.59	2617.75	332.26	2606.16	313.14	2609.93	285.85
	MCP	2657.83	325.29	2602.47	312.83	2686.59	310.22	2653.29	290.87	2605.40	300.10	2609.89	327.96	2621.48	315.34	2622.02	332.58	2609.33	314.88	2609.53	285.07
	XGBoost	22.35	1.27	22.55	1.38	23.45	2.73	9.23	12.39	22.30	1.39	22.15	3.39	23.17	6.01	22.41	1.29	22.24	4.13	13.51	12.53
	RF	52.54	16.67	51.39	14.05	48.84	13.19	29.47	9.47	54.73	13.39	52.05	11.21	35.61	13.36	50.39	11.70	46.95	10.01	27.37	6.82
	SVM	665.59	159.86	509.08	109.35	332.71	87.91	151.71	57.50	641.56	113.67	563.78	112.13	284.46	73.68	565.39	110.03	376.11	70.43	177.86	44.16

Table 45: Mean and standard deviation of the training MSE for the non-linear simulations when $n = 1000$ and $p = 2000$. See Figure 45 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	15.21	1.38	14.84	1.35	13.64	0.95	9.61	0.68	15.39	1.37	15.49	1.09	15.90	0.66	13.84	0.90	12.36	0.67	9.33	0.61
	Lasso	7.30	0.44	7.13	0.47	7.24	0.45	7.99	0.63	7.15	0.41	7.15	0.39	7.17	0.47	7.24	0.37	7.34	0.52	8.00	0.65
	E-net	7.32	0.45	7.11	0.47	7.19	0.44	7.91	0.62	7.17	0.41	7.16	0.39	7.18	0.47	7.25	0.37	7.33	0.51	7.96	0.64
	SCAD	6.64	0.42	6.58	0.41	6.96	0.36	7.84	0.49	6.51	0.42	6.58	0.40	6.95	0.42	6.64	0.37	6.99	0.42	7.75	0.50
	MCP	6.68	0.38	6.61	0.42	6.95	0.36	7.84	0.49	6.57	0.37	6.64	0.37	6.93	0.42	6.69	0.35	6.94	0.44	7.75	0.50
	XGBoost	0.32	0.04	0.32	0.04	0.33	0.12	0.03	0.11	0.29	0.08	0.29	0.07	0.18	0.16	0.30	0.06	0.26	0.13	0.00	0.04
	RF	0.58	0.03	0.60	0.04	0.49	0.03	0.29	0.02	0.57	0.03	0.50	0.03	0.32	0.02	0.57	0.03	0.45	0.02	0.26	0.02
	SVM	0.52	0.08	0.43	0.07	0.44	0.09	1.25	0.28	0.52	0.08	0.49	0.08	0.43	0.06	0.41	0.07	0.40	0.04	0.85	0.44
3	Ridge	256.27	26.81	255.39	24.31	232.43	20.07	196.77	19.80	259.38	29.29	256.87	36.49	214.54	26.86	240.45	30.01	225.87	29.13	199.38	23.11
	Lasso	193.89	23.79	199.84	21.74	199.47	22.62	193.90	24.32	193.03	24.79	196.87	24.29	193.19	24.27	194.88	23.19	198.08	25.12	192.99	22.86
	E-net	194.32	23.77	200.05	21.71	198.79	22.78	192.99	24.16	193.46	24.78	197.15	24.27	193.16	24.13	195.19	23.12	198.03	25.21	192.64	22.95
	SCAD	172.59	20.62	174.31	17.66	176.53	17.97	178.09	19.40	170.53	20.21	173.56	19.32	173.90	20.98	172.40	19.23	175.75	21.18	175.72	17.75
	MCP	173.19	20.54	175.92	17.20	178.17	18.31	177.89	19.46	171.94	19.76	173.88	18.53	174.39	20.63	173.60	19.14	177.41	20.94	175.58	17.95
	XGBoost	2.66	0.14	2.73	0.16	3.22	0.15	1.88	2.42	2.62	0.14	2.60	0.14	3.08	0.19	2.64	0.15	2.92	0.16	1.63	2.10
	RF	7.56	0.94	7.88	0.90	7.05	0.90	3.92	0.55	7.75	0.86	7.67	1.05	5.01	0.82	7.54	0.92	6.63	0.85	3.70	0.49
	SVM	30.17	8.39	29.49	6.36	23.24	5.66	15.72	5.37	30.84	7.65	29.91	7.57	31.31	8.71	29.60	7.56	27.30	6.90	12.67	2.83
6	Ridge	2935.88	323.58	3066.65	289.79	3013.85	351.78	2764.47	376.25	2961.98	323.42	3022.21	297.11	3090.26	391.00	2999.08	300.74	3071.03	347.70	2937.92	355.21
	Lasso	2861.26	340.19	2962.98	317.39	2996.57	347.61	2916.51	363.82	2858.56	368.18	2915.35	339.43	2903.83	383.50	2890.96	333.06	2953.93	364.67	2894.24	357.52
	E-net	2863.13	339.40	2966.12	317.74	2997.39	347.46	2918.20	364.22	2862.29	367.47	2918.39	338.17	2904.86	383.51	2893.62	332.66	2958.00	364.46	2895.11	357.97
	SCAD	2588.04	317.11	2639.78	271.75	2664.60	285.36	2620.83	295.03	2564.30	298.11	2603.00	292.56	2604.09	323.76	2592.94	292.85	2648.28	312.32	2589.11	282.02
	MCP	2599.50	318.02	2660.02	278.07	2682.95	291.80	2618.70	294.69	2585.33	304.47	2616.86	283.45	2612.86	319.47	2607.53	294.68	2659.98	316.19	2589.99	280.63
	XGBoost	11.80	0.67	12.26	0.79	13.89	2.13	8.19	10.10	11.77	0.62	11.70	0.62	13.27	2.84	11.92	0.71	12.87	1.99	5.98	8.58
	RF	60.05	14.99	63.35	13.11	60.51	13.10	33.24	7.59	61.20	12.00	60.77	14.99	41.73	13.07	59.66	12.76	58.15	13.25	32.09	7.32
	SVM	1226.72	627.93	729.20	317.42	464.41	100.51	222.26	56.97	1188.96	569.02	1057.58	495.47	775.02	354.52	1037.15	509.60	546.82	113.04	248.47	47.24

5.2 Tables for the testing MSE of the non-linear simulations

Table 46: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 50$ and $p = 10$. See Figure 46 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	8.77	2.11	9.07	2.34	9.17	2.32	10.50	3.08	8.68	2.13	8.97	2.11	9.23	2.26	9.05	2.66	8.59	2.73	8.88	2.96
	AIC B	8.63	2.16	8.72	2.26	8.85	2.25	9.99	3.16	8.59	2.00	8.69	2.18	8.85	2.19	8.91	2.61	8.41	2.66	8.77	3.02
	BIC B	8.41	2.14	8.48	2.22	8.72	2.08	9.77	2.93	8.44	1.91	8.53	2.01	8.57	2.21	8.57	2.41	8.16	2.45	8.71	3.00
	AIC SB	8.63	2.16	8.72	2.26	8.85	2.25	9.99	3.16	8.59	2.00	8.69	2.18	8.88	2.19	8.91	2.61	8.41	2.66	8.77	3.03
	BIC SB	8.41	2.14	8.48	2.22	8.73	2.08	9.77	2.93	8.44	1.91	8.53	2.01	8.57	2.21	8.56	2.41	8.16	2.45	8.71	3.00
	AIC F	8.57	2.01	8.61	2.22	8.78	2.19	9.87	3.03	8.56	2.01	8.50	2.19	8.65	2.23	8.85	2.57	8.24	2.44	8.68	3.09
	BIC F	8.34	2.03	8.38	2.18	8.69	2.09	9.78	2.87	8.39	1.91	8.43	2.06	8.36	2.16	8.56	2.35	8.04	2.41	8.63	3.11
	AIC SF	8.58	2.02	8.61	2.22	8.78	2.19	9.89	3.15	8.57	2.01	8.50	2.20	8.65	2.20	8.85	2.57	8.24	2.44	8.68	3.12
	BIC SF	8.34	2.03	8.38	2.18	8.69	2.09	9.77	2.85	8.39	1.91	8.41	2.06	8.36	2.16	8.56	2.35	8.04	2.41	8.69	3.16
	Ridge	10.40	3.17	10.62	3.52	10.34	2.76	11.23	3.75	10.38	3.38	10.54	3.41	9.94	3.23	10.68	3.47	10.33	3.39	9.77	3.53
	Lasso	9.28	2.55	9.56	2.96	9.63	2.69	10.90	3.39	9.57	2.59	9.56	2.59	9.45	2.58	9.49	2.90	9.23	2.85	9.62	3.54
	E-net	9.33	2.58	9.62	2.99	9.65	2.69	10.89	3.33	9.63	2.67	9.60	2.61	9.46	2.65	9.56	2.98	9.30	2.92	9.64	3.55
	SCAD	8.13	2.08	8.15	2.25	8.64	2.29	10.01	2.89	8.17	1.79	8.28	1.99	8.41	2.14	8.48	2.35	7.87	2.41	8.79	3.36
	MCP	8.18	2.12	8.21	2.29	8.64	2.16	10.02	2.88	8.29	1.81	8.38	2.08	8.67	2.33	8.51	2.35	7.93	2.43	8.60	3.12
	XGBoost	4.98	1.90	5.09	1.72	4.77	1.61	4.27	1.74	5.10	1.66	4.77	1.53	4.75	1.60	5.24	1.71	5.36	2.11	4.57	1.52
	RF	7.72	2.44	7.53	2.60	6.25	1.97	4.16	1.89	7.95	2.37	8.10	2.48	5.65	1.74	8.26	2.67	7.98	2.74	6.50	1.66
	SVM	10.30	2.56	10.73	3.00	10.06	3.74	7.06	4.60	10.55	2.94	10.69	2.89	8.42	3.56	10.53	2.88	10.05	3.26	7.64	2.88
3	OLS	227.12	91.36	246.45	131.00	254.50	116.11	263.25	124.25	234.93	103.87	242.48	113.08	254.80	134.20	236.95	127.17	236.54	107.72	229.57	143.83
	AIC B	219.56	87.95	239.87	128.20	244.90	116.80	254.06	126.54	226.48	102.96	234.66	113.91	245.63	130.81	227.11	124.11	223.90	105.20	218.46	139.84
	BIC B	208.66	88.38	229.43	126.32	234.77	109.74	245.44	123.81	218.33	100.93	226.51	116.28	238.15	128.52	217.58	121.53	219.57	102.17	211.62	136.33
	AIC SB	219.46	88.01	239.87	128.20	244.90	116.80	253.99	126.60	226.49	102.95	235.08	114.10	245.57	130.79	227.12	124.12	224.20	105.46	219.58	142.51
	BIC SB	208.66	88.38	229.43	126.32	234.72	109.79	245.50	123.82	218.54	101.02	226.33	116.24	237.34	128.49	216.89	121.86	219.57	102.17	211.62	136.33
	AIC F	217.01	87.28	236.19	128.24	240.08	114.50	248.34	121.91	225.09	103.13	231.43	112.68	238.13	126.71	221.23	121.50	219.38	101.49	211.56	136.84
	BIC F	207.16	88.60	226.96	123.79	229.62	108.81	241.47	124.63	217.90	102.35	222.37	111.19	233.24	123.24	216.38	122.48	216.11	105.02	207.64	133.44
	AIC SF	217.01	87.28	236.19	128.24	240.74	115.43	248.23	121.92	225.16	103.06	232.05	114.12	239.37	128.12	221.35	121.43	219.46	101.61	211.75	136.73
	BIC SF	207.16	88.60	226.96	123.79	229.43	108.87	241.92	125.01	217.90	102.35	222.37	111.19	232.90	122.30	216.38	122.48	216.17	105.06	207.47	133.17
	Ridge	245.43	97.85	263.87	96.53	267.83	109.80	268.99	126.97	261.83	99.45	272.21	109.03	271.32	131.05	252.87	115.49	253.48	104.03	253.56	143.72
	Lasso	233.09	98.14	254.55	98.78	257.59	107.75	265.26	125.43	249.84	100.77	260.54	108.73	268.59	131.10	244.57	119.74	245.45	104.33	245.98	147.18
	E-net	233.79	97.92	255.01	98.72	258.97	108.30	263.87	125.10	250.86	100.42	261.23	108.73	268.62	130.77	245.16	118.43	245.80	104.02	246.44	146.49
	SCAD	205.17	86.88	226.24	127.85	232.61	115.92	249.62	129.18	215.47	101.50	222.27	111.04	241.80	130.76	214.79	124.36	213.61	101.64	215.18	134.38
	MCP	205.29	87.41	227.73	128.54	234.30	115.18	251.13	130.71	216.29	102.71	224.40	113.52	245.58	132.53	213.23	125.25	215.38	103.28	213.92	133.03
	XGBoost	70.20	49.63	73.03	38.31	83.31	71.68	71.12	44.41	73.20	51.60	76.55	62.10	82.02	56.11	73.38	54.67	78.24	55.20	79.24	104.03
	RF	132.20	70.67	135.02	62.39	129.19	80.46	78.00	56.47	137.83	74.39	139.50	85.73	101.60	65.12	137.14	84.48	133.67	72.70	111.36	112.94
	SVM	156.19	70.03	157.92	69.55	135.78	97.70	88.04	92.92	163.78	77.87	147.20	75.53	97.56	78.99	154.76	85.58	138.06	69.51	97.82	121.65
6	OLS	3416.08	1453.28	3740.49	2115.34	3820.92	1828.70	3939.45	1978.31	3540.52	1645.90	3666.41	1785.13	3844.98	2133.05	3598.89	1964.95	3568.65	1669.64	3469.61	2291.74
	AIC B	3220.16	1383.38	3589.31	2034.33	3636.60	1795.53	3781.95	1993.58	3373.34	1624.77	3483.19	1811.93	3694.69	2117.88	3393.78	1918.89	3403.66	1606.88	3306.95	2264.20
	BIC B	3113.66	1430.16	3460.08	2059.92	3496.18	1767.32	3590.24	1897.56	3252.85	1637.29	3340.98	1826.53	3555.73	2035.95	3262.57	1881.76	3341.54	1638.03	3152.95	2075.80
	AIC SB	3221.95	1381.55	3589.31	2034.33	3642.23	1796.25	3784.90	1991.18	3375.76	1624.44	3491.90	1814.25	3695.86	2117.27	3391.27	1917.09	3403.66	1606.88	3312.98	2263.58
	BIC SB	3113.66	1430.16	3460.08	2059.92	3496.18	1767.32	3594.29	1894.40	3250.56	1638.71	3335.71	1822.40	3554.98	2036.75	3264.74	1881.76	3342.98	1639.56	3154.19	2076.11
	AIC F	3196.10	1423.35	3539.03	2042.14	3578.16	1778.22	3648.79	1960.31	3349.17	1622.79	3416.14	1768.94	3540.33	2012.35	3331.11	1907.99	3324.51	1629.43	3182.74	2228.08
	BIC F	3108.18	1437.73	3405.44	2013.75	3398.22	1728.91	3456.21	1745.66	3219.23	1657.99	3298.42	1765.76	3466.19	1949.73	3253.74	1890.02	3248.38	1658.12	3069.18	2083.13
	AIC SF	3190.94	1402.93	3542.59	2042.87	3576.27	1776.80	3646.71	1957.36	3350.61	1622.97	3418.32	1769.22	3535.57	2017.50	3331.03	1908.06	3329.64	1629.89	3191.37	2235.85
	BIC SF	3105.66	1439.27	3404.96	2014.40	3398.22	1728.91	3455.33	1743.32	3219.23	1657.99	3298.42	1765.76	3464.77	1946.41	3253.74	1890.02	3248.38	1658.12	3069.18	2083.13
	Ridge	3024.74	1396.41	3081.78	1349.80	3189.77	1547.37	3367.64	1560.59	3150.50	1390.92	3204.82	1537.10	3358.96	1664.95	2984.83	1620.44	3051.09	1342.73	3065.59	2025.65
	Lasso	3020.04	1402.02	3083.70	1351.14	3185.17	1520.39	3348.09	1556.13	3139.22	1391.06	3209.15	1547.39	3352.05	1719.77	2990.72	1642.48	3052.12	1339.77	3061.42	2046.11
	E-net	3020.38	1401.55	3083.59	1350.98	3186.40	1526.71	3346.17	1553.01	3140.15	1390.47	3207.61	1544.02	3350.89	1713.66	2989.50	1637.55	3052.69	1339.98	3061.47	2044.23
	SCAD	3008.60	1419.50	3336.62	2121.56	3356.30	1813.53	3531.73	1939.65	3088.41	1491.17	3209.68	1736.18	3412.80	1916.87	3068.85	1937.80	3139.39	1596.98	3111.24	2070.88
	MCP	3006.58	1409.95	3356.26	2125.56	3457.17	1809.90	3521.21	1956.99	3128.34	1482.91	3201.48	1716.84	3436.23	1965.21	3085.66	1936.54	3152.14	1564.80	3096.02	2065.46
	XGBoost	669.76	660.72	657.71	549.66	782.09	968.31	794.54	651.13	741.10	749.05	723.97	776.08	872.37	817.07	703.90	712.53	803.31	835.82	824.42	1410.27
	RF	1417.71	954.68	1409.67	818.83	1373.20	1105.85	965.65	794.34	1463.75	973.83	1451.43	1123.72	1099.23	974.36	1454.33	1093.27	1386.90	927.00	1141.59	1556.76
	SVM	2073.77	1075.82	2029.33	1045.37	1686.63	1297.79	1030.44	1088.13	2170.74	1133.48	1865.53	1152.00	1200.73	1108.62	2025.37	1270.25	1760.98	1023.32	1157.63	1691.99

Table 47: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 50$ and $p = 100$. See Figure 47 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	22.46	4.48	21.00	4.44	17.33	3.89	12.09	3.35	24.14	4.26	24.94	4.11	23.61	4.28	24.39	5.31	20.61	4.02	15.06	3.06
	Lasso	11.13	3.28	10.88	3.31	10.94	3.61	11.79	3.36	11.29	3.28	10.71	2.79	10.23	2.85	10.59	2.90	10.62	2.56	10.77	3.11
	E-net	11.46	3.40	11.02	3.32	11.15	3.63	11.69	3.29	11.63	3.44	10.95	2.84	10.28	2.86	10.80	2.96	10.72	2.55	10.78	3.03
	SCAD	8.45	1.99	8.67	2.23	9.18	3.17	11.61	3.64	8.46	2.01	8.32	1.85	9.36	3.04	8.22	1.91	9.41	2.77	10.65	3.26
	MCP	8.46	2.01	8.61	2.14	9.82	4.39	11.41	3.56	8.41	2.00	8.25	1.89	10.15	3.41	8.22	1.84	9.43	2.81	10.95	3.51
	XGBoost	7.95	2.54	7.82	2.66	7.16	2.40	4.69	1.67	8.16	2.78	8.09	3.13	6.04	2.01	7.54	2.53	7.22	4.49	4.46	1.76
	RF	11.64	2.99	11.12	3.26	9.64	2.62	5.06	1.64	12.73	3.52	12.63	3.77	7.51	2.13	11.33	3.34	9.05	2.33	4.76	1.87
	SVM	19.53	3.99	18.14	3.88	15.07	3.58	7.61	3.90	20.97	3.88	20.49	3.54	17.73	3.65	19.97	3.97	17.31	3.66	12.68	4.33
3	Ridge	279.04	94.20	272.39	92.06	299.31	111.12	281.15	159.29	277.87	94.00	282.91	84.54	314.01	106.52	304.34	112.15	307.88	98.93	307.68	135.90
	Lasso	254.68	95.46	244.52	93.27	280.59	115.68	272.69	158.47	256.70	96.59	245.20	85.85	271.00	114.54	272.29	116.03	270.35	110.97	289.46	136.46
	E-net	256.19	94.79	245.59	93.36	281.24	116.18	271.72	157.98	257.71	96.41	247.60	85.85	271.36	114.54	274.11	115.69	272.29	111.07	288.22	135.85
	SCAD	222.48	92.05	204.76	90.77	240.74	101.40	249.51	118.57	231.50	98.23	208.02	84.60	226.28	97.39	240.04	120.37	229.40	101.26	248.19	132.88
	MCP	221.60	90.35	207.55	96.46	247.56	104.83	254.03	120.70	221.68	96.29	206.34	85.85	223.10	95.00	239.34	122.18	232.72	104.90	250.31	138.03
	XGBoost	151.10	67.73	135.08	59.94	137.33	63.55	81.95	55.37	158.40	76.84	151.10	73.15	111.19	53.83	167.93	97.42	138.56	66.47	90.12	66.53
	RF	202.65	78.08	186.54	80.09	192.55	74.87	90.52	64.95	201.31	85.72	194.62	74.74	137.22	62.52	218.01	97.69	183.11	71.31	106.44	75.65
	SVM	263.83	94.34	235.11	88.03	215.50	79.88	101.51	92.90	261.73	93.46	257.04	85.52	230.48	79.00	274.69	109.24	234.96	79.83	158.97	102.19
6	Ridge	3151.80	1310.95	2876.59	1215.47	3376.02	1377.19	3287.23	1781.41	3127.63	1395.41	3011.73	1207.88	3258.58	1278.07	3341.77	1643.31	3204.49	1343.21	3499.60	1672.78
	Lasso	3124.13	1317.89	2884.72	1256.48	3368.84	1392.12	3270.99	1781.95	3137.87	1401.69	3004.37	1207.20	3248.91	1279.02	3356.92	1663.40	3196.76	1364.80	3496.55	1690.54
	E-net	3126.36	1317.58	2881.13	1243.69	3368.48	1391.61	3261.95	1781.33	3137.77	1400.25	3004.76	1207.35	3249.32	1279.63	3353.36	1661.42	3197.81	1366.01	3495.08	1690.96
	SCAD	3068.49	1306.88	2804.71	1255.80	3341.16	1408.84	3560.15	2180.05	3133.93	1435.10	3011.23	1220.56	3267.35	1377.43	3389.09	1770.02	3159.79	1575.78	3520.36	1811.26
	MCP	3101.06	1320.18	2855.92	1255.17	3429.55	1483.67	3554.70	2141.29	3152.61	1461.94	3021.61	1260.19	3297.36	1345.15	3370.02	1801.84	3213.17	1610.95	3560.48	1841.78
	XGBoost	1367.70	850.22	1167.06	871.49	1164.46	809.21	867.68	813.63	1387.51	1147.71	1386.44	1002.48	1004.68	615.20	1710.75	1393.73	1191.70	1016.53	1043.00	1018.88
	RF	2243.56	1118.57	2006.92	1047.67	2095.75	1000.91	1104.69	929.39	2274.79	1234.93	2136.64	1013.60	1594.29	876.68	2476.77	1490.61	2031.75	1054.92	1330.42	1049.45
	SVM	3115.70	1335.92	2745.72	1234.93	2674.80	1168.25	1251.15	1150.82	3106.22	1411.77	2959.97	1262.70	2835.28	1102.72	3261.57	1653.97	2835.09	1226.89	1875.05	1217.84

Table 48: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 50$ and $p = 2000$. See Figure 48 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	22.28	4.18	23.02	5.74	16.87	3.31	11.25	2.55	24.33	4.80	26.82	4.75	42.20	7.93	28.12	5.41	27.83	7.29	18.77	5.66
	Lasso	15.83	5.25	13.57	4.45	13.04	3.84	11.74	3.16	14.86	4.62	14.61	5.20	11.10	4.23	13.46	4.67	12.73	4.34	12.10	3.64
	E-net	16.39	5.15	14.04	4.52	13.33	3.77	11.61	3.13	15.55	4.54	15.28	5.17	11.32	4.50	14.05	4.69	13.09	4.43	12.06	3.63
	SCAD	10.53	4.87	9.97	4.59	10.88	3.46	12.10	3.08	9.80	3.48	9.86	3.55	10.73	3.43	9.59	2.81	10.83	3.91	11.94	3.18
	MCP	10.52	4.75	9.97	4.11	11.76	4.87	12.56	3.30	9.63	3.51	9.60	3.64	11.36	3.87	9.16	2.74	11.31	4.88	11.90	3.08
	XGBoost	12.72	4.76	11.39	3.25	10.38	3.49	5.45	2.00	12.88	4.46	12.35	5.08	6.96	2.84	11.07	3.73	9.23	3.10	4.98	1.70
	RF	17.40	4.68	15.76	4.05	12.84	3.12	5.76	1.43	18.34	4.58	18.84	4.80	10.85	3.77	16.60	4.52	13.52	4.01	6.10	1.96
	SVM	22.20	4.06	20.82	4.50	16.42	3.78	7.52	3.42	24.20	4.85	26.57	4.81	40.28	7.62	26.76	5.06	28.76	5.69	26.08	4.72
3	Ridge	275.16	101.18	274.34	81.95	267.40	99.70	222.66	111.16	294.30	125.36	296.19	103.90	366.93	136.71	300.56	126.20	333.43	128.76	307.60	128.09
	Lasso	263.78	106.37	259.03	86.10	266.19	98.18	253.56	120.06	278.18	124.10	275.74	102.28	294.35	126.01	281.60	133.60	295.15	125.50	267.06	128.52
	E-net	264.84	105.92	260.23	85.62	266.55	98.06	253.28	123.29	279.82	124.30	277.70	102.51	296.83	126.31	283.11	133.08	297.61	125.79	266.72	129.77
	SCAD	242.80	109.09	226.29	80.95	231.12	96.56	226.90	109.14	250.99	114.91	246.71	106.13	248.97	119.65	257.90	144.30	257.02	112.33	241.06	106.89
	MCP	235.55	106.41	226.08	87.85	251.38	111.61	237.57	110.55	246.23	117.76	241.28	105.98	246.38	121.08	249.24	129.56	253.87	121.25	244.22	103.09
	XGBoost	258.07	111.22	230.48	82.95	199.59	95.53	83.02	45.50	252.08	116.29	243.70	94.71	195.07	104.72	257.87	115.33	237.73	100.72	103.24	56.70
	RF	251.20	101.43	229.58	77.51	204.78	81.02	83.59	45.67	261.98	119.43	255.23	99.60	201.75	112.10	258.91	118.13	242.62	106.24	115.44	66.04
	SVM	275.92	103.66	251.44	78.91	215.99	91.21	93.20	63.70	294.24	128.01	296.29	105.01	359.97	136.25	294.67	127.87	310.23	118.27	260.09	101.35
6	Ridge	3162.64	1580.01	2974.67	1140.33	3104.03	1429.27	3099.37	1559.22	3342.73	1853.27	3184.88	1486.69	3504.06	1670.63	3291.90	1731.31	3470.73	1560.07	3207.90	1468.19
	Lasso	3161.45	1581.05	2975.47	1136.57	3122.67	1435.69	3107.47	1551.61	3346.18	1853.53	3188.95	1497.14	3453.56	1623.46	3284.44	1734.65	3453.57	1541.20	3157.81	1479.73
	E-net	3161.64	1580.99	2972.68	1135.87	3123.16	1436.00	3111.79	1557.54	3347.47	1853.02	3187.51	1496.30	3455.51	1627.47	3285.39	1733.96	3450.40	1543.86	3157.80	1478.02
	SCAD	3224.52	1631.18	3050.92	1237.75	3066.71	1373.85	3122.84	1590.92	3499.15	1931.62	3244.93	1537.01	3427.21	1544.75	3294.07	1730.88	3426.82	1541.69	3222.48	1665.21
	MCP	3188.01	1592.86	3039.49	1222.96	3115.90	1410.48	3191.00	1608.55	3506.72	1966.68	3228.99	1577.52	3428.71	1566.27	3309.53	1735.73	3460.21	1569.71	3336.00	1728.81
	XGBoost	2845.99	1614.96	2444.29	1142.57	1945.23	1390.77	829.71	637.82	2751.56	1539.94	2913.11	1466.27	2426.51	1529.11	2932.59	1561.86	2891.76	2028.38	1494.57	1348.33
	RF	2958.06	1550.83	2659.94	1066.64	2400.91	1193.17	1032.01	668.38	3101.20	1793.24	2969.93	1414.42	2668.81	1534.78	3036.09	1600.36	2977.22	1384.81	1607.95	982.46
	SVM	3170.45	1604.25	2877.11	1144.59	2540.77	1262.32	1132.02	822.15	3353.56	1887.85	3204.39	1517.47	3499.77	1701.79	3275.51	1756.74	3430.75	1544.96	2961.02	1378.05

Table 49: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 200$ and $p = 10$. See Figure 49 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	7.13	0.93	7.12	0.79	7.33	1.06	8.32	1.20	6.99	0.82	7.07	0.85	7.26	1.06	6.93	0.83	6.99	0.92	7.05	1.12
	AIC B	7.08	0.94	7.11	0.81	7.34	1.05	8.24	1.21	6.99	0.83	7.10	0.86	7.21	1.06	6.95	0.82	6.99	0.91	7.02	1.12
	BIC B	7.12	0.92	7.17	0.81	7.43	1.03	8.18	1.17	7.04	0.83	7.17	0.85	7.17	1.05	7.05	0.78	7.03	0.91	6.99	1.10
	AIC SB	7.08	0.94	7.11	0.81	7.34	1.05	8.24	1.21	6.99	0.83	7.09	0.86	7.21	1.05	6.95	0.82	6.99	0.91	7.02	1.12
	BIC SB	7.12	0.92	7.17	0.81	7.43	1.03	8.18	1.17	7.04	0.83	7.17	0.86	7.17	1.05	7.05	0.78	7.03	0.91	6.99	1.10
	AIC F	7.09	0.94	7.11	0.81	7.33	1.05	8.22	1.20	6.98	0.83	7.09	0.86	7.19	1.06	6.95	0.82	6.99	0.91	7.01	1.13
	BIC F	7.12	0.92	7.18	0.81	7.43	1.03	8.18	1.17	7.04	0.83	7.17	0.85	7.18	1.06	7.04	0.78	7.04	0.90	6.98	1.10
	AIC SF	7.09	0.94	7.11	0.81	7.33	1.05	8.22	1.20	6.98	0.83	7.09	0.86	7.19	1.06	6.96	0.81	6.99	0.91	7.01	1.12
	BIC SF	7.12	0.92	7.18	0.81	7.43	1.03	8.18	1.17	7.04	0.83	7.17	0.85	7.18	1.06	7.04	0.78	7.03	0.90	6.98	1.10
	Ridge	7.78	1.01	7.94	0.99	8.00	1.05	9.23	1.33	7.70	1.00	7.90	1.00	8.18	1.32	7.80	1.10	7.72	1.10	8.01	1.26
	Lasso	7.65	1.00	7.74	0.95	7.83	1.03	8.89	1.30	7.60	1.01	7.75	1.05	7.97	1.23	7.67	1.01	7.54	1.03	7.80	1.19
	E-net	7.65	0.99	7.74	0.94	7.81	1.02	8.92	1.31	7.60	1.01	7.75	1.05	8.00	1.28	7.67	1.01	7.53	1.04	7.79	1.19
	SCAD	7.10	0.92	7.15	0.80	7.38	1.04	8.18	1.16	7.01	0.82	7.13	0.85	7.20	1.03	7.01	0.78	7.02	0.90	7.01	1.12
	MCP	7.10	0.92	7.16	0.80	7.38	1.05	8.19	1.15	7.02	0.83	7.15	0.85	7.23	1.07	7.02	0.78	7.03	0.90	7.01	1.13
	XGBoost	2.32	0.44	2.28	0.40	2.30	0.49	2.08	0.43	2.24	0.38	2.25	0.34	2.15	0.42	2.25	0.32	2.22	0.36	2.08	0.33
	RF	3.99	0.72	3.94	0.71	3.29	0.60	2.09	0.44	3.92	0.76	3.73	0.72	2.59	0.49	3.91	0.61	3.64	0.64	3.00	0.55
	SVM	6.97	0.89	6.99	0.94	6.20	1.18	3.88	1.35	7.01	0.91	6.70	1.00	4.74	1.18	6.89	0.81	6.12	0.85	4.10	0.67
3	OLS	188.43	43.24	191.74	43.63	195.38	50.87	194.36	52.23	180.64	39.63	183.76	47.66	187.32	48.15	181.68	41.70	186.22	49.04	181.74	45.58
	AIC B	186.50	43.45	190.96	43.48	194.56	51.44	192.46	52.15	178.73	39.87	182.87	47.08	185.88	49.27	180.33	41.27	184.47	48.25	179.25	44.80
	BIC B	185.66	42.12	188.93	42.90	192.21	51.68	190.72	52.36	177.73	40.44	181.47	47.70	184.71	49.44	179.86	42.37	183.95	47.62	177.51	43.72
	AIC SB	186.50	43.45	190.96	43.48	194.56	51.44	192.46	52.15	178.73	39.87	182.85	47.07	185.88	49.27	180.33	41.27	184.47	48.25	179.25	44.80
	BIC SB	185.66	42.12	188.93	42.90	192.21	51.68	190.72	52.36	177.73	40.44	181.47	47.70	184.58	49.42	179.87	42.35	183.95	47.62	177.51	43.72
	AIC F	186.31	42.89	190.75	43.32	194.40	51.64	192.09	52.27	178.65	40.04	182.41	47.39	184.54	49.44	180.34	41.30	184.19	48.00	178.54	44.71
	BIC F	185.38	41.95	189.04	42.80	192.16	51.72	190.20	52.45	177.76	40.38	181.31	47.75	183.49	48.48	179.60	42.60	184.08	47.54	177.65	43.94
	AIC SF	186.31	42.89	190.75	43.32	194.40	51.64	192.09	52.27	178.65	40.04	182.44	47.39	184.56	49.57	180.37	41.31	184.19	48.00	178.54	44.71
	BIC SF	185.38	41.95	189.04	42.80	192.16	51.72	190.20	52.45	177.76	40.38	181.35	47.71	183.46	48.50	179.60	42.60	184.08	47.54	177.62	43.97
	Ridge	219.63	46.06	225.25	49.90	228.86	56.31	223.26	67.66	220.25	47.96	221.13	60.63	222.01	61.44	217.63	51.45	219.68	52.47	215.48	57.48
	Lasso	209.98	45.23	215.02	48.24	219.94	57.03	218.19	65.89	211.81	46.35	213.58	58.13	215.59	60.20	208.58	51.04	213.19	52.02	210.28	59.13
	E-net	210.73	45.58	215.76	48.53	220.48	57.72	218.03	65.53	212.25	46.78	213.85	58.10	216.11	60.55	209.22	51.32	213.95	51.95	211.06	59.45
	SCAD	186.08	42.85	188.83	42.61	192.99	51.31	191.85	52.87	177.39	40.76	181.26	47.99	184.72	49.08	178.86	43.13	184.43	48.19	179.24	44.33
	MCP	186.24	42.64	188.90	42.41	193.11	51.20	192.05	52.85	177.88	40.13	181.41	47.75	184.97	49.94	178.78	42.83	185.68	48.82	179.27	44.45
	XGBoost	24.56	10.14	27.63	11.80	27.83	13.69	28.94	15.45	25.02	13.49	25.64	11.76	27.61	10.74	25.35	10.61	26.94	12.12	27.80	11.71
	RF	65.08	23.82	68.40	22.10	58.64	23.79	34.99	16.74	62.17	21.72	62.53	25.92	42.63	17.45	61.70	21.24	64.87	24.66	48.05	17.66
	SVM	73.56	20.85	74.57	21.07	63.36	28.47	37.65	28.71	72.48	19.71	70.16	26.74	43.02	25.66	71.37	22.38	67.09	25.17	38.73	15.91
6	OLS	2843.38	666.76	2886.06	687.68	2929.16	796.89	2893.56	838.09	2716.47	618.83	2775.74	755.44	2811.58	752.39	2732.13	655.64	2807.69	775.50	2748.06	722.34
	AIC B	2801.08	663.10	2847.87	684.89	2898.66	809.57	2857.72	831.74	2673.40	616.50	2738.28	751.61	2775.52	755.02	2699.04	661.89	2765.32	772.39	2714.70	721.42
	BIC B	2750.01	654.65	2796.68	674.66	2839.12	800.56	2819.68	830.54	2613.25	621.72	2675.47	745.26	2756.36	760.71	2656.22	665.34	2732.05	754.82	2677.76	707.14
	AIC SB	2801.08	663.10	2847.87	684.89	2898.66	809.57	2857.72	831.74	2674.60	615.79	2738.28	751.61	2775.52	755.02	2699.04	661.89	2765.32	772.39	2714.70	721.42
	BIC SB	2750.01	654.65	2796.68	674.66	2839.12	800.56	2819.68	830.54	2613.25	621.72	2675.73	745.46	2756.36	760.71	2656.22	665.34	2732.05	754.82	2677.76	707.14
	AIC F	2798.82	660.67	2847.51	685.20	2889.62	811.86	2848.40	821.62	2669.40	612.51	2730.16	755.99	2753.01	751.17	2696.02	664.00	2761.24	768.80	2700.88	721.60
	BIC F	2750.01	654.65	2797.16	678.32	2835.04	802.82	2807.31	816.88	2611.69	620.24	2672.55	747.10	2731.89	768.30	2654.23	669.02	2727.40	758.85	2671.09	709.06
	AIC SF	2798.82	660.67	2847.51	685.20	2889.46	811.96	2848.40	821.62	2669.40	612.51	2730.60	755.93	2751.38	751.00	2695.72	663.91	2761.24	768.80	2702.28	722.86
	BIC SF	2750.01	654.65	2797.16	678.32	2835.04	802.82	2807.31	816.88	2611.69	620.24	2672.55	747.10	2731.89	768.30	2654.23	669.02	2727.40	758.85	2671.09	709.06
	Ridge	2949.87	663.09	3028.22	673.07	3120.98	809.59	3111.91	920.28	2881.42	643.36	2980.23	759.95	3049.81	792.40	2888.26	703.58	3005.56	773.77	2916.64	737.94
	Lasso	2933.37	665.42	3004.25	674.97	3099.63	815.83	3093.25	925.30	2871.14	645.92	2964.88	761.53	3035.75	800.25	2877.75	708.28	2993.85	775.68	2905.24	743.55
	E-net	2933.80	665.13	3006.87	674.09	3100.70	815.76	3094.34	925.02	2872.16	645.24	2967.23	761.42	3036.18	800.92	2878.16	708.20	2994.19	775.20	2905.94	743.35
	SCAD	2765.01	667.33	2805.25	685.93	2842.93	800.46	2857.67	836.40	2624.79	630.71	2697.69	746.83	2749.46	758.05	2655.23	692.99	2743.85	763.93	2692.26	707.46
	MCP	2764.08	664.05	2805.50	681.74	2850.51	801.61	2847.17	836.86	2620.82	636.40	2700.59	744.39	2740.88	765.51	2654.15	693.92	2738.18	755.57	2681.04	697.26
	XGBoost	190.56	147.80	221.67	162.82	224.52	197.53	266.47	231.29	191.43	223.78	204.59	162.52	234.98	157.48	191.65	151.55	226.31	185.22	247.03	182.52
	RF	628.39	316.62	653.49	296.42	580.00	331.42	371.76	250.63	566.90	282.04	576.37	345.03	379.97	233.35	576.74	297.22	609.49	335.54	380.92	188.49
	SVM	887.99	310.08	892.64	316.19	741.60	415.68	406.45	361.71	853.20	295.44	833.02	405.90	459.40	343.12	847.63	342.78	802.34	380.53	422.84	256.70

Table 50: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 200$ and $p = 100$. See Figure 50 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	13.57	1.99	13.92	2.31	14.38	2.55	15.76	2.37	13.55	2.60	13.27	1.90	13.63	2.56	13.81	2.13	14.34	2.12	15.61	2.57
	AIC F	10.24	1.70	10.50	1.80	10.80	1.70	11.53	1.71	10.10	1.53	9.67	1.57	8.62	1.50	10.10	1.58	10.39	1.54	9.97	1.84
	BIC F	7.89	1.04	7.88	1.15	8.07	1.15	8.56	1.18	7.83	1.13	7.55	1.13	7.26	1.09	7.81	0.98	7.90	1.08	8.37	1.33
	AIC SF	10.32	1.76	10.58	1.86	10.86	1.71	11.61	1.74	10.24	1.56	9.65	1.53	8.61	1.52	10.14	1.61	10.43	1.63	9.98	1.81
	BIC SF	7.89	1.04	7.89	1.15	8.07	1.15	8.56	1.18	7.82	1.13	7.54	1.13	7.27	1.09	7.81	0.99	7.90	1.08	8.37	1.33
	Ridge	12.48	1.95	11.94	1.77	11.29	1.56	9.96	1.42	12.21	1.69	11.31	1.62	9.47	1.30	11.79	1.63	11.05	1.60	9.96	1.37
	Lasso	8.22	1.27	8.11	1.15	8.35	1.08	9.11	1.29	8.19	1.02	7.86	1.05	7.90	1.19	8.10	1.12	8.24	1.17	8.91	1.19
	E-net	8.29	1.28	8.15	1.15	8.38	1.11	9.15	1.28	8.23	1.03	7.89	1.07	7.93	1.16	8.14	1.13	8.25	1.18	8.96	1.18
	SCAD	7.30	0.97	7.32	0.97	7.60	0.92	8.33	1.13	7.32	0.84	7.20	0.99	7.13	1.04	7.35	0.80	7.58	0.95	8.24	1.28
	MCP	7.32	0.97	7.38	0.96	7.69	0.93	8.24	1.07	7.34	0.86	7.21	0.99	7.33	1.19	7.36	0.78	7.62	0.95	8.18	1.32
	XGBoost	2.95	0.52	2.92	0.50	2.91	0.51	2.42	0.41	2.89	0.47	2.78	0.50	2.57	0.40	2.79	0.52	2.77	0.49	2.33	0.38
	RF	5.72	0.92	5.52	0.96	4.62	0.66	2.55	0.38	5.66	0.81	5.12	0.81	3.21	0.59	5.35	0.98	4.37	0.75	2.41	0.38
	SVM	13.89	1.48	12.75	1.53	10.11	1.25	5.13	0.93	13.65	1.42	12.93	1.32	10.54	1.11	13.09	1.41	11.61	1.20	7.55	0.99
3	OLS	355.54	82.14	360.26	77.76	354.59	76.34	352.00	72.20	349.98	72.29	342.65	65.96	348.36	75.89	358.91	83.01	357.67	75.44	366.12	74.19
	AIC F	262.80	65.20	262.62	61.35	266.63	58.66	261.19	56.15	262.84	59.61	246.93	54.09	218.23	55.03	263.95	61.68	258.29	63.08	238.08	61.59
	BIC F	202.08	49.96	198.55	47.51	201.19	48.57	194.62	44.79	201.70	45.39	195.88	45.60	189.15	50.27	204.12	49.58	195.77	44.13	199.30	50.66
	AIC SF	263.97	65.96	263.72	61.21	266.54	58.75	262.48	59.33	265.26	60.77	248.26	54.34	216.76	54.83	265.66	62.15	260.65	64.14	238.57	61.63
	BIC SF	202.15	50.06	198.55	47.50	201.28	48.53	194.57	44.66	201.74	45.44	195.82	45.60	189.18	50.22	204.20	49.57	195.95	44.00	199.30	50.66
	Ridge	255.57	51.88	260.53	49.67	250.56	58.90	219.51	53.97	261.12	45.83	259.43	50.25	236.93	60.86	265.14	58.75	249.64	55.69	236.69	69.51
	Lasso	222.00	56.87	221.45	49.63	221.76	54.92	212.76	52.59	224.64	50.73	217.90	48.65	217.07	58.72	226.08	58.24	221.52	59.92	226.28	65.08
	E-net	222.82	56.84	222.73	49.97	222.99	55.27	213.38	52.64	225.72	50.80	219.44	48.81	217.44	58.74	226.90	58.14	221.55	59.86	227.47	65.71
	SCAD	184.69	48.59	186.14	45.69	187.33	45.98	189.09	44.10	185.42	42.39	182.96	44.16	186.41	50.02	189.30	46.85	184.06	42.30	198.68	52.68
	MCP	185.24	48.46	187.37	45.81	189.53	45.43	188.06	42.84	185.44	42.23	183.30	43.66	188.36	50.87	189.97	46.32	185.18	42.09	197.79	51.21
	XGBoost	32.45	14.23	34.49	15.36	37.16	16.70	32.80	13.76	35.68	26.41	35.29	19.69	35.25	17.09	34.08	13.76	32.28	12.75	32.54	14.51
	RF	90.16	30.59	94.79	32.29	83.67	27.68	42.32	14.36	95.32	30.04	95.89	32.15	57.28	23.21	94.40	29.99	73.90	20.40	41.13	16.81
	SVM	221.97	50.16	204.54	44.50	154.46	37.21	56.48	23.56	222.90	42.05	213.16	44.97	155.78	33.41	216.39	46.45	170.95	31.77	87.89	35.01
6	OLS	5336.11	1310.05	5388.83	1185.49	5307.31	1195.24	5231.89	1140.97	5270.81	1105.90	5135.89	1022.73	5224.72	1152.33	5394.82	1305.70	5334.45	1187.24	5428.55	1126.30
	AIC F	3946.31	1012.20	3903.83	980.34	4001.70	919.61	3874.51	862.60	3926.27	866.64	3671.81	789.20	3276.82	868.26	3935.09	959.98	3822.21	967.14	3486.70	962.26
	BIC F	2951.76	784.90	2934.06	754.07	2980.67	755.40	2846.57	688.43	2989.55	708.58	2891.67	719.21	2826.02	809.89	3019.70	779.22	2874.62	709.38	2953.00	792.22
	AIC SF	3965.74	1034.64	3923.92	1006.42	4002.54	934.25	3874.43	879.36	3917.05	876.87	3680.04	800.12	3271.11	874.17	3952.42	973.09	3831.09	959.33	3486.52	960.03
	BIC SF	2951.76	784.90	2933.16	753.68	2979.63	755.13	2846.57	688.43	2988.18	707.78	2890.98	717.42	2826.24	809.69	3019.70	779.22	2875.94	710.50	2953.19	792.28
	Ridge	2977.85	778.14	3009.38	718.48	3087.92	746.63	3009.50	725.84	3013.87	657.20	3045.43	701.60	3137.18	788.02	3092.40	721.86	3011.63	655.71	3236.02	902.18
	Lasso	2968.70	776.01	2997.76	725.75	3061.34	737.42	2999.97	740.78	3001.85	653.98	3013.21	698.27	3081.30	780.43	3061.91	730.15	2973.05	649.07	3213.22	908.17
	E-net	2968.99	777.76	2998.53	725.22	3063.43	737.10	2999.82	741.30	3002.98	653.93	3014.77	698.62	3084.40	780.58	3062.75	729.56	2975.39	649.38	3213.99	908.19
	SCAD	2770.83	778.44	2783.32	716.44	2818.31	701.84	2788.38	692.96	2779.77	662.54	2724.61	695.82	2817.28	850.66	2832.96	725.45	2722.78	658.93	2932.99	795.94
	MCP	2752.32	777.89	2770.50	714.07	2825.19	699.88	2768.36	695.18	2759.76	660.63	2713.18	699.23	2813.45	851.56	2820.90	726.26	2718.68	662.70	2927.29	797.79
	XGBoost	236.16	205.71	251.33	209.22	287.38	231.34	246.37	183.41	293.97	431.28	292.62	280.49	287.83	262.70	267.14	205.82	249.46	158.45	269.38	224.94
	RF	809.42	416.37	831.30	403.60	761.70	351.66	416.91	215.47	847.79	373.15	862.26	443.68	531.37	341.56	861.58	402.62	675.13	259.25	434.23	281.80
	SVM	2864.89	778.83	2680.94	686.57	2006.52	552.21	655.75	313.31	2888.23	656.91	2796.43	690.69	2071.19	551.93	2854.65	702.23	2204.90	505.10	1079.35	463.73

Table 51: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 200$ and $p = 2000$. See Figure 51 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	22.02	1.86	19.87	1.99	15.42	1.66	10.23	1.37	23.15	2.16	26.18	2.55	28.77	3.14	22.80	2.23	17.33	1.80	11.58	1.37
	Lasso	8.83	1.20	8.66	1.13	8.83	1.20	9.41	1.41	8.71	1.13	8.63	1.20	8.27	1.31	8.64	1.10	8.62	1.31	9.26	1.19
	E-net	9.00	1.24	8.78	1.15	8.93	1.19	9.47	1.43	8.88	1.16	8.75	1.23	8.34	1.33	8.76	1.13	8.69	1.32	9.33	1.18
	SCAD	7.46	0.91	7.42	0.94	7.50	0.81	8.79	1.51	7.34	0.88	7.55	0.90	7.36	1.10	7.53	0.84	7.68	1.15	8.68	1.43
	MCP	7.47	0.93	7.46	0.95	7.57	0.82	8.70	1.52	7.33	0.87	7.53	0.89	7.53	1.25	7.57	0.89	7.70	1.20	8.62	1.38
	XGBoost	3.99	0.81	3.98	0.82	3.96	0.75	2.89	0.51	3.77	0.64	3.62	0.63	3.15	0.63	3.68	0.77	3.50	0.75	2.67	0.51
	RF	6.87	0.99	6.74	1.10	5.99	1.02	3.18	0.55	7.03	1.03	7.01	1.20	4.18	0.93	6.91	1.11	5.45	0.90	2.86	0.53
	SVM	21.44	1.85	18.94	1.69	14.28	1.54	5.96	1.34	22.42	2.09	25.07	2.37	31.43	3.24	22.67	1.96	18.55	1.69	13.20	1.35
3	Ridge	264.65	49.76	277.61	55.95	238.86	54.98	207.60	56.09	269.78	46.64	290.98	50.37	329.44	67.21	286.34	48.06	284.19	64.91	252.66	68.12
	Lasso	226.78	49.23	231.17	52.21	228.25	62.41	228.49	63.28	232.68	50.76	230.02	51.30	230.36	59.22	228.57	51.93	230.16	59.14	228.71	65.49
	E-net	228.51	49.35	232.95	52.45	229.53	62.87	228.49	63.23	233.97	50.62	231.89	51.32	231.61	60.01	230.51	52.17	231.97	59.23	229.19	65.36
	SCAD	188.46	44.11	191.52	47.54	183.35	45.61	203.16	52.10	187.53	41.85	189.40	44.09	193.42	45.37	191.68	45.29	194.93	52.10	190.05	45.17
	MCP	187.53	44.11	191.81	47.35	185.29	46.61	202.55	52.13	185.95	41.10	188.94	43.52	193.67	45.63	190.86	44.64	195.24	52.51	189.40	44.01
	XGBoost	49.38	20.14	52.66	21.06	52.80	20.08	44.58	20.34	48.15	19.94	50.34	22.23	50.11	20.98	51.03	23.54	51.18	27.73	37.42	15.00
	RF	120.50	33.31	131.89	38.30	110.43	30.34	57.06	23.27	120.12	31.62	130.23	35.57	81.58	28.55	127.42	37.25	105.79	38.66	50.84	20.46
	SVM	262.24	50.48	249.18	49.91	188.26	40.89	71.91	36.45	266.25	47.08	284.46	50.94	302.19	58.79	267.24	47.41	246.31	59.10	175.19	39.40
6	Ridge	2969.87	716.41	3092.28	753.30	3044.21	788.25	3067.23	857.22	3049.50	727.16	3111.77	713.23	3259.78	777.73	3085.27	711.92	3169.32	869.97	3144.13	757.93
	Lasso	2959.77	720.44	3076.83	755.18	3043.90	777.63	3133.14	841.43	3039.29	731.23	3086.85	713.38	3194.77	815.04	3068.63	714.58	3143.84	878.84	3108.78	759.92
	E-net	2960.61	720.02	3078.60	756.22	3043.09	778.56	3131.90	841.42	3040.40	730.88	3089.98	714.03	3196.62	813.87	3069.46	714.68	3146.46	878.36	3107.50	757.24
	SCAD	2821.62	702.21	2895.28	749.72	2778.52	691.05	2889.99	795.63	2887.97	702.88	2876.96	704.22	2928.42	736.85	2859.75	720.21	2899.14	847.80	2826.62	685.76
	MCP	2799.40	706.73	2887.96	753.82	2787.77	714.04	2929.79	814.19	2850.15	709.51	2839.83	706.98	2914.90	740.99	2821.11	719.29	2874.97	839.09	2846.78	699.95
	XGBoost	406.09	271.79	420.99	307.56	364.75	245.11	344.49	298.76	406.84	274.39	404.35	287.00	398.90	260.85	437.19	304.72	428.11	350.26	270.63	185.45
	RF	1034.77	422.05	1096.10	458.02	931.69	378.13	584.70	343.09	1066.04	434.42	1119.44	462.41	748.68	383.72	1095.63	470.63	981.70	533.17	513.48	276.57
	SVM	2969.59	725.72	2927.46	731.24	2285.71	588.44	853.28	467.23	3042.26	735.78	3106.35	719.42	3191.85	784.46	3045.24	713.01	2976.76	875.66	2242.13	566.79

Table 52: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 1000$ and $p = 10$. See Figure 52 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	6.83	0.37	6.91	0.38	7.01	0.39	7.78	0.56	6.76	0.36	6.83	0.34	6.89	0.49	6.68	0.34	6.74	0.37	6.74	0.42
	AIC B	6.81	0.37	6.90	0.38	7.00	0.39	7.78	0.56	6.74	0.36	6.82	0.34	6.89	0.49	6.67	0.34	6.73	0.37	6.74	0.41
	BIC B	6.79	0.37	6.88	0.38	7.01	0.39	7.80	0.55	6.73	0.35	6.81	0.35	6.90	0.49	6.66	0.34	6.73	0.37	6.77	0.41
	AIC SB	6.81	0.37	6.90	0.38	7.00	0.39	7.78	0.56	6.74	0.36	6.82	0.34	6.89	0.49	6.67	0.34	6.73	0.37	6.74	0.41
	BIC SB	6.79	0.37	6.88	0.38	7.01	0.39	7.80	0.55	6.73	0.35	6.81	0.35	6.90	0.49	6.66	0.34	6.73	0.37	6.77	0.41
	AIC F	6.81	0.37	6.90	0.38	7.00	0.39	7.78	0.56	6.74	0.36	6.81	0.34	6.88	0.49	6.67	0.34	6.73	0.37	6.74	0.41
	BIC F	6.79	0.37	6.88	0.38	7.01	0.39	7.80	0.55	6.73	0.35	6.81	0.35	6.89	0.49	6.66	0.34	6.73	0.37	6.77	0.41
	AIC SF	6.81	0.37	6.90	0.38	7.00	0.39	7.78	0.56	6.74	0.36	6.81	0.34	6.88	0.49	6.67	0.34	6.73	0.37	6.74	0.41
	BIC SF	6.79	0.37	6.88	0.38	7.01	0.39	7.80	0.55	6.73	0.35	6.81	0.35	6.89	0.49	6.66	0.34	6.73	0.37	6.77	0.41
	Ridge	7.18	0.45	7.26	0.42	7.45	0.44	8.45	0.56	7.15	0.40	7.20	0.39	7.42	0.48	7.05	0.37	7.13	0.40	7.30	0.50
	Lasso	7.12	0.45	7.19	0.39	7.32	0.42	8.19	0.50	7.10	0.39	7.11	0.38	7.24	0.44	6.99	0.37	7.03	0.41	7.12	0.48
	E-net	7.12	0.45	7.19	0.40	7.32	0.42	8.18	0.51	7.10	0.38	7.11	0.38	7.23	0.45	6.99	0.37	7.03	0.40	7.11	0.47
	SCAD	6.80	0.37	6.90	0.39	7.00	0.39	7.79	0.55	6.74	0.36	6.81	0.35	6.89	0.49	6.67	0.34	6.73	0.37	6.75	0.41
	MCP	6.81	0.37	6.90	0.38	7.00	0.39	7.79	0.55	6.74	0.36	6.81	0.35	6.89	0.49	6.67	0.34	6.73	0.37	6.75	0.41
	XGBoost	1.53	0.11	1.56	0.10	1.52	0.10	1.46	0.09	1.52	0.09	1.52	0.10	1.42	0.11	1.54	0.09	1.52	0.10	1.37	0.09
	RF	2.30	0.20	2.31	0.18	1.97	0.14	1.39	0.09	2.28	0.18	2.17	0.18	1.58	0.12	2.27	0.17	2.12	0.20	1.71	0.13
	SVM	4.85	0.30	4.80	0.29	4.15	0.27	2.68	0.22	4.82	0.27	4.58	0.31	3.33	0.29	4.76	0.28	4.35	0.28	3.08	0.21
3	OLS	178.48	20.29	178.54	18.40	179.81	19.81	180.63	24.23	174.55	16.46	176.55	18.29	178.48	20.84	177.10	20.22	176.41	18.58	176.12	18.98
	AIC B	178.14	20.33	178.14	18.34	179.48	19.77	180.31	24.29	174.31	16.46	176.08	18.07	178.28	20.95	176.90	20.13	176.23	18.52	175.96	18.86
	BIC B	177.68	20.18	177.96	18.41	179.31	19.64	180.33	24.15	173.97	16.23	176.04	18.19	178.07	20.92	176.63	20.08	175.79	18.66	175.82	18.83
	AIC SB	178.14	20.33	178.14	18.34	179.48	19.77	180.31	24.29	174.31	16.46	176.08	18.07	178.28	20.95	176.90	20.13	176.23	18.52	175.96	18.86
	BIC SB	177.68	20.18	177.96	18.41	179.31	19.64	180.33	24.15	173.97	16.23	176.07	18.18	178.07	20.92	176.63	20.08	175.79	18.66	175.82	18.83
	AIC F	178.14	20.33	178.14	18.34	179.45	19.77	180.28	24.28	174.29	16.46	176.02	18.09	178.19	21.00	176.90	20.13	176.21	18.51	175.89	18.87
	BIC F	177.68	20.18	177.96	18.41	179.27	19.62	180.30	24.16	173.97	16.23	176.04	18.17	178.14	20.94	176.58	20.13	175.80	18.66	175.86	18.92
	AIC SF	178.14	20.33	178.14	18.34	179.45	19.77	180.28	24.28	174.29	16.46	176.02	18.09	178.18	21.00	176.90	20.13	176.21	18.51	175.89	18.87
	BIC SF	177.68	20.18	177.96	18.41	179.27	19.62	180.30	24.16	173.97	16.23	176.04	18.17	178.14	20.94	176.58	20.13	175.80	18.66	175.86	18.92
	Ridge	196.16	24.13	197.32	20.38	197.50	19.88	198.32	24.32	191.23	18.79	194.59	20.98	195.82	22.71	195.70	23.53	195.42	21.44	193.11	20.32
	Lasso	194.60	23.36	195.30	19.67	195.66	20.49	196.07	24.79	189.92	18.94	192.95	21.34	193.37	22.98	194.33	23.24	193.45	21.14	191.25	20.97
	E-net	194.69	23.36	195.41	19.89	195.78	20.46	196.08	24.77	189.92	19.01	192.92	21.52	193.44	23.21	194.55	23.47	193.55	21.00	191.24	21.06
	SCAD	177.99	20.40	178.20	18.48	179.53	19.76	180.55	24.22	174.13	16.40	176.36	18.27	178.28	21.06	176.90	20.21	176.11	18.65	175.99	18.79
	MCP	177.96	20.36	178.18	18.45	179.57	19.68	180.54	24.17	174.21	16.39	176.40	18.23	178.19	20.95	176.89	20.09	176.10	18.66	175.89	18.92
	XGBoost	13.05	2.10	13.10	1.90	13.70	2.81	14.70	3.27	13.34	3.15	13.32	2.24	14.15	3.17	13.45	2.44	13.40	2.71	13.65	2.58
	RF	29.47	6.43	28.71	5.42	25.53	4.89	17.01	3.12	29.24	6.49	28.60	5.49	20.53	4.54	29.78	5.82	28.29	5.40	22.58	4.06
	SVM	38.91	6.45	35.72	5.34	27.90	5.80	16.96	5.58	37.17	5.73	32.70	5.64	20.67	6.44	37.10	6.22	30.70	5.50	20.45	5.23
6	OLS	2685.11	321.65	2681.03	290.53	2693.97	315.60	2688.88	380.44	2627.28	264.68	2657.71	290.75	2681.07	329.88	2669.62	319.31	2653.24	297.06	2655.97	301.03
	AIC B	2680.84	321.36	2676.94	290.66	2689.45	316.70	2680.40	379.80	2623.09	265.06	2652.12	288.61	2674.36	330.21	2668.99	319.28	2649.50	296.26	2651.86	299.83
	BIC B	2673.93	321.96	2672.07	287.70	2683.69	315.27	2669.74	377.79	2614.05	263.04	2644.55	289.57	2668.42	332.51	2662.65	315.24	2640.90	295.29	2646.33	302.84
	AIC SB	2680.84	321.36	2676.94	290.66	2689.45	316.70	2680.40	379.80	2623.09	265.06	2652.12	288.61	2674.36	330.21	2668.99	319.28	2649.50	296.26	2651.86	299.83
	BIC SB	2673.93	321.96	2672.07	287.70	2683.69	315.27	2669.74	377.79	2614.05	263.04	2644.55	289.57	2668.42	332.51	2662.65	315.24	2640.90	295.29	2646.33	302.84
	AIC F	2680.75	321.34	2676.10	289.96	2688.15	316.80	2677.23	380.46	2623.04	265.04	2651.29	288.27	2671.46	329.52	2668.55	319.03	2648.43	296.54	2650.86	300.73
	BIC F	2673.34	322.12	2672.07	287.70	2683.29	315.45	2669.74	377.79	2613.70	263.20	2644.30	289.69	2667.58	332.92	2662.65	315.24	2640.48	295.07	2646.63	303.15
	AIC SF	2680.75	321.34	2676.10	289.96	2688.15	316.80	2677.23	380.46	2623.04	265.04	2651.29	288.27	2671.47	329.52	2668.55	319.03	2648.43	296.54	2650.86	300.73
	BIC SF	2673.34	322.12	2672.07	287.70	2683.29	315.45	2669.74	377.79	2613.70	263.20	2644.30	289.69	2667.62	332.91	2662.65	315.24	2640.48	295.07	2646.63	303.15
	Ridge	2929.29	349.67	2942.89	291.69	2967.01	317.15	2952.16	386.78	2864.22	281.97	2929.88	319.63	2945.32	368.81	2920.99	349.24	2913.64	311.21	2891.17	309.37
	Lasso	2909.34	355.91	2919.02	298.62	2930.73	322.98	2916.61	393.04	2840.92	287.29	2895.79	320.95	2913.09	373.81	2899.60	351.35	2890.65	310.92	2869.77	309.43
	E-net	2910.20	355.59	2920.01	297.80	2933.67	324.17	2920.77	392.48	2840.37	288.24	2896.64	321.23	2913.46	373.45	2903.22	350.73	2889.01	311.64	2869.83	308.88
	SCAD	2669.74	319.97	2669.98	285.50	2683.54	315.75	2674.54	378.27	2613.28	265.59	2641.88	285.33	2669.37	331.78	2662.47	315.87	2642.64	295.73	2649.47	301.39
	MCP	2670.54	321.23	2670.15	286.41	2684.56	316.55	2675.12	379.17	2613.90	264.16	2643.99	286.19	2671.26	331.36	2664.08	317.07	2646.06	293.95	2649.71	300.31
	XGBoost	71.61	30.49	72.48	25.89	78.96	39.04	88.96	45.11	74.60	44.15	74.58	32.46	86.77	44.52	77.80	36.14	76.24	40.18	84.65	39.51
	RF	230.96	87.62	223.44	69.22	208.00	74.51	128.85	48.22	227.64	87.04	221.12	73.08	148.76	62.59	233.35	77.15	222.54	74.22	152.12	47.85
	SVM	412.21	101.23	364.13	84.15	257.55	89.05	132.26	83.16	386.81	87.26	317.43	85.82	171.73	90.10	385.23	91.51	295.24	83.96	171.48	79.94

Table 53: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 1000$ and $p = 100$. See Figure 53 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	7.47	0.34	7.53	0.43	7.73	0.45	8.62	0.56	7.43	0.40	7.43	0.41	7.58	0.51	7.49	0.40	7.74	0.45	8.59	0.49
	AIC F	7.17	0.33	7.23	0.40	7.41	0.45	8.29	0.54	7.11	0.40	7.09	0.38	7.09	0.47	7.18	0.39	7.39	0.44	8.02	0.46
	BIC F	6.84	0.31	6.89	0.37	7.08	0.43	7.93	0.49	6.78	0.35	6.77	0.34	6.94	0.45	6.83	0.37	7.08	0.40	7.83	0.44
	AIC SF	7.17	0.33	7.23	0.40	7.41	0.44	8.29	0.54	7.12	0.40	7.08	0.38	7.09	0.48	7.18	0.39	7.39	0.44	8.02	0.46
	BIC SF	6.84	0.31	6.89	0.37	7.08	0.43	7.93	0.49	6.78	0.35	6.77	0.34	6.94	0.45	6.83	0.37	7.08	0.40	7.83	0.44
	Ridge	7.80	0.39	7.87	0.43	8.06	0.50	8.87	0.54	7.74	0.43	7.70	0.40	7.78	0.46	7.81	0.44	8.11	0.48	8.81	0.49
	Lasso	7.22	0.37	7.22	0.38	7.39	0.46	8.24	0.46	7.12	0.38	7.07	0.36	7.25	0.43	7.18	0.40	7.38	0.39	8.21	0.45
	E-net	7.23	0.37	7.23	0.38	7.40	0.45	8.25	0.45	7.13	0.39	7.07	0.35	7.26	0.43	7.18	0.40	7.39	0.40	8.21	0.45
	SCAD	6.84	0.32	6.89	0.37	7.07	0.41	7.94	0.49	6.78	0.35	6.79	0.34	6.95	0.46	6.84	0.37	7.09	0.39	7.85	0.43
	MCP	6.84	0.32	6.89	0.37	7.07	0.42	7.93	0.49	6.77	0.35	6.78	0.34	6.96	0.46	6.83	0.37	7.08	0.39	7.85	0.43
	XGBoost	1.65	0.10	1.65	0.10	1.64	0.13	1.50	0.09	1.66	0.10	1.60	0.10	1.53	0.09	1.65	0.10	1.62	0.10	1.50	0.10
	RF	3.09	0.23	3.14	0.26	2.58	0.21	1.64	0.10	3.06	0.27	2.68	0.24	1.79	0.13	3.00	0.27	2.44	0.17	1.57	0.12
	SVM	7.96	0.35	7.63	0.40	6.18	0.33	3.56	0.26	7.97	0.41	7.95	0.36	7.05	0.34	7.96	0.39	7.30	0.42	5.08	0.31
3	OLS	198.84	20.51	194.18	17.64	196.61	18.99	201.64	19.56	192.88	20.04	194.18	21.06	195.45	20.50	194.48	18.21	197.29	21.14	200.29	19.38
	AIC F	190.68	20.09	186.28	17.57	188.16	18.92	192.87	19.76	184.34	20.05	185.23	20.54	182.78	20.12	186.48	17.77	188.00	20.78	187.16	18.75
	BIC F	181.93	19.98	178.03	18.19	179.52	19.25	184.62	19.12	175.60	20.12	178.02	20.72	178.02	19.72	177.96	18.17	179.54	20.65	182.36	18.61
	AIC SF	190.68	20.08	186.27	17.57	188.19	18.90	192.87	19.77	184.36	20.02	185.24	20.52	182.71	20.11	186.46	17.78	188.01	20.81	187.18	18.78
	BIC SF	181.93	19.98	178.03	18.19	179.56	19.30	184.62	19.12	175.60	20.12	178.02	20.72	178.02	19.72	177.96	18.17	179.54	20.65	182.36	18.61
	Ridge	213.07	22.18	209.45	21.25	209.58	21.46	205.13	24.08	207.25	22.26	208.19	23.89	201.54	21.18	208.38	21.07	210.38	22.20	205.66	23.11
	Lasso	197.97	21.81	193.68	20.48	195.44	21.44	199.87	23.85	191.33	21.59	194.22	22.64	193.17	21.26	193.83	20.93	196.42	22.21	199.16	23.05
	E-net	198.26	22.03	193.70	20.60	195.55	21.51	199.91	23.74	191.64	21.62	194.20	22.50	193.34	21.04	193.85	20.88	196.24	22.25	199.44	22.53
	SCAD	181.27	20.01	177.24	18.22	178.84	18.71	184.75	19.29	174.89	20.32	177.65	20.59	177.89	19.26	177.52	18.13	179.61	20.48	182.82	18.76
	MCP	181.32	20.18	177.14	18.25	179.04	18.79	184.83	19.27	174.84	20.38	177.51	20.54	177.73	19.24	177.47	18.17	179.55	20.59	182.82	18.78
	XGBoost	14.91	3.43	14.80	2.64	15.31	4.54	15.38	2.18	14.72	3.97	14.22	1.86	15.28	2.28	14.67	2.27	14.84	2.69	15.50	3.07
	RF	38.88	8.14	39.06	6.42	33.83	5.89	20.68	2.51	38.60	8.69	38.04	7.40	25.28	4.06	38.20	6.91	33.63	6.75	20.60	4.03
	SVM	177.79	18.16	145.73	13.86	89.10	9.66	29.64	5.28	170.62	18.34	159.42	17.28	82.52	8.27	159.31	14.50	115.75	13.55	48.72	9.10
6	OLS	3001.96	331.02	2917.31	278.66	2937.05	299.07	3001.71	302.04	2908.75	311.25	2925.03	331.58	2933.41	323.00	2929.74	288.37	2957.87	334.09	2985.81	306.22
	AIC F	2882.15	322.73	2798.02	279.84	2813.85	297.74	2869.11	306.51	2777.91	310.54	2791.26	319.97	2736.07	313.77	2809.60	287.67	2817.87	334.74	2781.75	294.07
	BIC F	2741.65	328.84	2676.45	283.05	2675.13	298.38	2742.98	301.20	2642.88	312.36	2672.34	327.50	2659.18	313.44	2681.58	291.04	2691.27	327.32	2706.40	294.35
	AIC SF	2881.26	322.53	2798.13	279.99	2813.50	297.49	2869.16	306.34	2777.65	310.27	2791.29	319.99	2735.92	312.09	2809.30	287.09	2817.92	334.30	2781.93	294.26
	BIC SF	2741.65	328.84	2676.45	283.05	2675.13	298.38	2742.98	301.20	2642.88	312.36	2672.34	327.50	2659.63	313.67	2681.58	291.04	2691.27	327.32	2706.51	294.35
	Ridge	3014.13	315.25	2974.47	288.42	3002.52	324.26	3003.64	367.68	2941.99	320.14	3002.37	336.82	2970.68	334.82	2984.44	302.81	3030.94	347.15	3029.35	369.20
	Lasso	2948.02	340.05	2880.77	301.12	2919.80	336.71	2980.10	371.61	2862.33	323.79	2902.47	348.98	2897.17	338.67	2903.12	314.76	2945.14	347.24	2980.34	367.59
	E-net	2948.68	341.05	2881.58	301.38	2923.27	336.16	2982.00	371.96	2865.23	323.36	2905.05	348.92	2900.42	338.45	2904.62	314.65	2945.49	348.99	2981.52	366.49
	SCAD	2715.42	320.52	2650.57	286.40	2657.41	294.00	2739.77	301.19	2616.41	313.87	2654.97	326.98	2648.89	311.63	2657.96	288.24	2677.46	323.74	2706.97	299.01
	MCP	2717.49	320.67	2651.74	286.47	2664.17	297.22	2736.35	301.80	2618.05	314.26	2655.17	328.15	2651.73	311.48	2658.32	286.46	2678.35	324.37	2705.90	293.68
	XGBoost	86.76	50.53	81.76	35.39	91.07	78.31	86.49	30.68	83.74	59.81	76.51	24.18	93.31	35.71	81.76	29.35	83.54	36.71	89.46	37.10
	RF	306.17	105.81	298.50	78.07	271.23	82.44	162.33	37.69	290.58	108.90	285.74	87.24	192.32	57.14	298.37	86.95	277.48	92.79	165.87	55.72
	SVM	2601.43	295.17	2079.75	218.16	1213.69	149.53	307.80	77.48	2486.14	286.19	2301.70	272.27	1078.37	131.64	2300.82	232.77	1605.57	205.31	560.56	119.93

Table 54: Mean and standard deviation of the testing MSE for the non-linear simulations when $n = 1000$ and $p = 2000$. See Figure 54 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	20.36	0.93	18.03	0.93	14.40	0.63	9.68	0.48	20.99	0.96	21.64	0.94	20.43	0.93	18.65	0.73	14.89	0.68	10.02	0.59
	Lasso	7.36	0.46	7.33	0.43	7.56	0.43	8.35	0.47	7.28	0.40	7.25	0.40	7.29	0.49	7.32	0.41	7.48	0.46	8.22	0.56
	E-net	7.38	0.47	7.35	0.43	7.58	0.43	8.38	0.47	7.30	0.40	7.27	0.40	7.30	0.49	7.33	0.42	7.49	0.46	8.24	0.56
	SCAD	6.90	0.40	6.91	0.37	7.21	0.38	7.90	0.43	6.90	0.35	6.89	0.36	7.01	0.44	6.95	0.36	7.15	0.41	7.81	0.50
	MCP	6.86	0.41	6.88	0.38	7.18	0.39	7.90	0.43	6.86	0.35	6.87	0.36	7.01	0.44	6.92	0.36	7.12	0.41	7.81	0.50
	XGBoost	1.79	0.12	1.79	0.10	1.78	0.12	1.63	0.12	1.77	0.12	1.75	0.11	1.68	0.13	1.75	0.10	1.73	0.11	1.58	0.12
	RF	3.92	0.31	4.02	0.28	3.23	0.24	1.94	0.12	3.83	0.29	3.38	0.30	2.15	0.20	3.76	0.25	2.96	0.21	1.76	0.12
	SVM	19.17	0.87	16.67	0.75	12.19	0.53	5.00	0.32	19.68	0.91	19.90	0.84	16.64	0.77	17.40	0.71	14.04	0.57	9.69	0.47
3	Ridge	262.79	20.16	254.60	26.44	230.35	22.21	193.27	17.93	268.52	17.45	279.27	22.67	259.77	28.21	264.95	24.30	242.97	24.75	205.95	21.21
	Lasso	195.12	20.76	196.78	24.76	197.11	22.65	192.88	19.57	194.50	18.99	198.77	22.75	197.95	25.93	198.46	22.69	198.83	24.35	194.74	20.87
	E-net	195.58	20.82	197.07	24.72	197.36	22.76	193.34	19.36	194.94	18.93	199.18	22.77	198.12	25.70	198.83	22.69	199.11	24.35	195.08	20.89
	SCAD	177.52	19.61	178.19	21.93	180.45	19.98	178.29	16.87	178.67	18.04	178.78	19.86	181.72	21.66	180.60	21.88	181.23	21.83	179.58	17.03
	MCP	176.92	19.45	177.75	22.05	180.62	20.05	178.51	16.79	178.14	18.17	178.27	19.98	181.27	21.68	179.92	21.93	180.95	21.78	179.55	17.02
	XGBoost	16.37	2.98	16.38	3.08	17.09	2.95	17.22	2.62	15.97	2.78	17.00	3.31	17.93	5.01	16.48	3.96	16.97	4.19	16.80	3.07
	RF	48.74	9.86	49.26	9.32	44.66	6.51	24.93	3.44	48.95	8.81	50.58	9.66	33.65	7.26	49.17	10.40	42.34	8.58	23.72	4.81
	SVM	250.15	20.77	228.13	21.70	170.84	14.35	51.33	6.19	252.93	17.13	255.33	20.94	234.28	24.67	241.43	22.45	207.29	20.19	98.84	9.51
6	Ridge	2952.93	300.31	2998.70	363.51	2965.62	367.96	2728.49	311.34	2978.69	262.96	3055.14	317.69	3178.68	386.24	3044.21	346.35	3081.63	353.46	2955.37	338.43
	Lasso	2880.77	307.03	2901.67	369.63	2930.25	355.82	2850.12	310.41	2878.86	275.61	2948.24	348.21	2964.82	406.83	2940.29	341.10	2953.77	372.17	2893.53	337.77
	E-net	2882.67	307.02	2904.65	369.02	2931.91	355.19	2853.14	310.79	2882.34	275.12	2951.51	348.55	2966.70	405.33	2942.82	341.73	2957.61	370.63	2896.08	336.92
	SCAD	2637.34	304.57	2643.80	351.02	2663.38	313.00	2631.89	264.31	2651.19	276.21	2658.69	313.58	2692.91	343.54	2683.60	345.53	2677.31	347.32	2638.15	276.77
	MCP	2635.39	303.10	2644.36	350.02	2665.88	313.43	2640.00	268.58	2648.63	277.54	2657.11	312.85	2697.34	343.94	2681.20	346.18	2676.51	347.17	2639.24	276.32
	XGBoost	91.99	36.47	89.95	37.57	95.22	38.79	90.70	29.18	88.05	40.05	103.18	48.16	109.84	70.38	93.38	54.03	98.81	55.42	95.99	35.67
	RF	371.61	121.81	367.47	120.90	361.20	89.39	198.64	46.92	367.37	105.97	390.42	117.24	274.09	97.04	374.79	133.72	351.17	118.05	197.82	65.85
	SVM	2935.73	304.45	2773.80	333.73	2134.83	223.66	582.15	82.33	2953.28	264.04	2993.89	314.79	2947.32	364.92	2935.84	347.39	2629.77	324.09	1213.28	140.09

5.3 Tables for the β-sensitivity of the non-linear simulations

Table 55: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 50$ and $p = 10$. See Figure 55 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.4517	0.1729	0.4350	0.1673	0.4150	0.1749	0.3417	0.1731	0.4167	0.1598	0.4317	0.1677	0.4117	0.1946	0.4583	0.1915	0.4300	0.1678	0.3933	0.1812
	BIC B	0.3217	0.1540	0.3067	0.1396	0.3000	0.1361	0.2167	0.1219	0.3017	0.1415	0.2917	0.1369	0.2933	0.1556	0.3000	0.1231	0.3033	0.1348	0.2433	0.1328
	AIC SB	0.4517	0.1729	0.4350	0.1673	0.4150	0.1749	0.3433	0.1738	0.4167	0.1598	0.4317	0.1677	0.4150	0.1932	0.4583	0.1915	0.4300	0.1678	0.3950	0.1799
	BIC SB	0.3217	0.1540	0.3050	0.1403	0.3017	0.1355	0.2183	0.1224	0.3017	0.1415	0.2917	0.1369	0.2933	0.1556	0.3000	0.1231	0.3033	0.1348	0.2433	0.1328
	AIC F	0.4450	0.1693	0.4067	0.1559	0.3983	0.1690	0.2917	0.1524	0.4100	0.1631	0.3900	0.1593	0.3250	0.1613	0.4317	0.1726	0.3967	0.1620	0.3517	0.1639
	BIC F	0.3117	0.1434	0.2800	0.1273	0.2850	0.1191	0.2000	0.1086	0.2900	0.1374	0.2683	0.1182	0.2333	0.0948	0.2833	0.1124	0.2900	0.1267	0.2333	0.1005
	AIC SF	0.4433	0.1679	0.4067	0.1559	0.3967	0.1671	0.2900	0.1472	0.4083	0.1596	0.3867	0.1569	0.3150	0.1551	0.4317	0.1726	0.3950	0.1601	0.3417	0.1648
	BIC SF	0.3117	0.1434	0.2800	0.1273	0.2850	0.1191	0.1983	0.1078	0.2900	0.1374	0.2683	0.1182	0.2267	0.0933	0.2833	0.1124	0.2900	0.1267	0.2067	0.0951
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.3033	0.1779	0.3317	0.1858	0.4100	0.1945	0.3767	0.1652	0.3033	0.1825	0.3583	0.1648	0.4150	0.1580	0.3367	0.1953	0.3733	0.1897	0.4000	0.1708
	E-net	0.3150	0.1849	0.3550	0.1919	0.4450	0.2025	0.5117	0.1777	0.3333	0.1895	0.3883	0.1725	0.5233	0.1725	0.3600	0.1978	0.4233	0.1795	0.5000	0.1725
	SCAD	0.4100	0.2362	0.3983	0.2208	0.4267	0.2620	0.2617	0.2014	0.4033	0.2250	0.3667	0.2235	0.3133	0.2226	0.4250	0.2599	0.3483	0.1955	0.3533	0.2532
	MCP	0.3667	0.2333	0.3133	0.2109	0.3567	0.2563	0.2517	0.2125	0.3400	0.2308	0.3067	0.1964	0.3083	0.2420	0.3567	0.2649	0.2867	0.1881	0.3150	0.2438
3	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.4150	0.1873	0.4100	0.1748	0.4267	0.1825	0.3750	0.1698	0.3750	0.1665	0.3950	0.1652	0.3517	0.1879	0.3917	0.1681	0.4050	0.1540	0.3650	0.1653
	BIC B	0.2800	0.1273	0.2833	0.1489	0.2967	0.1433	0.2283	0.1312	0.2600	0.1068	0.2750	0.1429	0.2417	0.1348	0.2767	0.1190	0.2967	0.1331	0.2550	0.1350
	AIC SB	0.4150	0.1873	0.4100	0.1748	0.4267	0.1825	0.3767	0.1685	0.3750	0.1665	0.3950	0.1652	0.3517	0.1879	0.3917	0.1681	0.4083	0.1542	0.3667	0.1658
	BIC SB	0.2800	0.1273	0.2833	0.1489	0.2967	0.1433	0.2283	0.1312	0.2617	0.1039	0.2750	0.1429	0.2400	0.1347	0.2783	0.1162	0.2967	0.1331	0.2550	0.1350
	AIC F	0.3933	0.1733	0.3850	0.1736	0.3833	0.1781	0.3050	0.1625	0.3450	0.1484	0.3517	0.1533	0.2800	0.1379	0.3667	0.1553	0.3717	0.1496	0.3017	0.1511
	BIC F	0.2683	0.1158	0.2667	0.1361	0.2600	0.1215	0.1783	0.1066	0.2567	0.1017	0.2467	0.0990	0.1950	0.1186	0.2650	0.1138	0.2667	0.1161	0.2100	0.1076
	AIC SF	0.3933	0.1733	0.3850	0.1736	0.3833	0.1781	0.3033	0.1596	0.3450	0.1484	0.3517	0.1533	0.2700	0.1377	0.3667	0.1553	0.3700	0.1490	0.2933	0.1384
	BIC SF	0.2683	0.1158	0.2667	0.1361	0.2600	0.1215	0.1767	0.1055	0.2567	0.1017	0.2467	0.0990	0.1883	0.1128	0.2650	0.1138	0.2667	0.1161	0.2083	0.1043
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1550	0.1729	0.1300	0.1331	0.2117	0.1689	0.2683	0.1952	0.1183	0.1067	0.1300	0.1075	0.2133	0.1790	0.1317	0.1504	0.1517	0.1626	0.1917	0.1505
	E-net	0.1567	0.1786	0.1350	0.1415	0.2283	0.1875	0.3500	0.2327	0.1167	0.1073	0.1333	0.1111	0.2833	0.2291	0.1350	0.1566	0.1633	0.1708	0.2467	0.1842
	SCAD	0.3983	0.2550	0.3867	0.2391	0.3933	0.2351	0.2917	0.2577	0.3233	0.2103	0.3250	0.2373	0.2617	0.2238	0.3317	0.2017	0.4167	0.2524	0.2917	0.2214
	MCP	0.3533	0.2419	0.3333	0.2540	0.3533	0.2565	0.2783	0.2649	0.2783	0.2079	0.2817	0.2218	0.2483	0.2501	0.2950	0.1951	0.3500	0.2600	0.2617	0.2109
6	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.3900	0.1792	0.3733	0.1852	0.3800	0.1969	0.3500	0.1633	0.3433	0.1705	0.3583	0.1794	0.3150	0.1995	0.3750	0.1731	0.3750	0.1681	0.3450	0.1854
	BIC B	0.2433	0.1525	0.2317	0.1690	0.2450	0.1544	0.1900	0.1441	0.2200	0.1419	0.2217	0.1320	0.1933	0.1548	0.2267	0.1287	0.2417	0.1306	0.2083	0.1369
	AIC SB	0.3933	0.1797	0.3733	0.1852	0.3783	0.1994	0.3500	0.1633	0.3467	0.1686	0.3617	0.1758	0.3150	0.1995	0.3767	0.1702	0.3750	0.1681	0.3450	0.1854
	BIC SB	0.2433	0.1525	0.2317	0.1690	0.2450	0.1544	0.1917	0.1448	0.2217	0.1403	0.2233	0.1302	0.1950	0.1554	0.2300	0.1293	0.2433	0.1285	0.2083	0.1369
	AIC F	0.3617	0.1693	0.3333	0.1820	0.3183	0.1742	0.2500	0.1667	0.3233	0.1532	0.3183	0.1519	0.2083	0.1747	0.3417	0.1505	0.3317	0.1615	0.2600	0.1595
	BIC F	0.2300	0.1437	0.2083	0.1467	0.2067	0.1463	0.1317	0.1119	0.2050	0.1316	0.2100	0.1245	0.1383	0.1162	0.2200	0.1273	0.2283	0.1176	0.1717	0.1241
	AIC SF	0.3617	0.1676	0.3333	0.1820	0.3150	0.1739	0.2483	0.1650	0.3217	0.1503	0.3167	0.1526	0.2017	0.1646	0.3417	0.1505	0.3233	0.1586	0.2550	0.1488
	BIC SF	0.2283	0.1415	0.2050	0.1418	0.2067	0.1463	0.1300	0.1100	0.2050	0.1316	0.2100	0.1245	0.1383	0.1162	0.2200	0.1273	0.2283	0.1176	0.1717	0.1241
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0300	0.1193	0.0217	0.0907	0.0600	0.1220	0.1000	0.1553	0.0217	0.0655	0.0183	0.0666	0.0700	0.1385	0.0217	0.0611	0.0367	0.1100	0.0433	0.0966
	E-net	0.0300	0.1193	0.0233	0.0948	0.0650	0.1273	0.1167	0.1812	0.0217	0.0655	0.0183	0.0666	0.0850	0.1700	0.0217	0.0611	0.0367	0.1150	0.0517	0.1129
	SCAD	0.2767	0.2755	0.2850	0.3027	0.3083	0.2827	0.1967	0.2522	0.2283	0.2341	0.2483	0.2433	0.1717	0.1887	0.1900	0.1939	0.2833	0.2935	0.2333	0.2235
	MCP	0.2417	0.2684	0.2533	0.3057	0.2767	0.2894	0.1933	0.2548	0.1967	0.2500	0.1800	0.2006	0.1500	0.1796	0.1550	0.1761	0.2600	0.2826	0.1850	0.2144

Table 56: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 50$ and $p = 100$. See Figure 56 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.2067	0.1008	0.2383	0.1066	0.2633	0.1365	0.1933	0.1270	0.2267	0.1073	0.2483	0.1124	0.4000	0.1675	0.2583	0.1306	0.3233	0.1655	0.3317	0.1667
	E-net	0.2117	0.1029	0.2550	0.1147	0.2867	0.1573	0.2367	0.1258	0.2317	0.1108	0.2767	0.1324	0.5400	0.1837	0.2683	0.1338	0.3583	0.1731	0.4200	0.1649
	SCAD	0.2767	0.1236	0.2600	0.1168	0.2400	0.1094	0.1083	0.1121	0.2783	0.1480	0.2350	0.1062	0.1917	0.0898	0.2550	0.1097	0.2383	0.1092	0.1517	0.1233
	MCP	0.2183	0.0877	0.2083	0.0833	0.1850	0.0666	0.0783	0.0931	0.2117	0.0943	0.2083	0.0763	0.1633	0.0748	0.2117	0.0849	0.1950	0.0713	0.1150	0.0968
3	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0950	0.1118	0.1200	0.1162	0.1400	0.1201	0.0933	0.1119	0.1050	0.1200	0.1383	0.1137	0.2033	0.1546	0.1150	0.0996	0.1467	0.1282	0.1567	0.1514
	E-net	0.0950	0.1142	0.1233	0.1222	0.1433	0.1254	0.1283	0.1316	0.1017	0.1182	0.1350	0.1129	0.2417	0.1959	0.1167	0.1046	0.1500	0.1391	0.2150	0.1824
	SCAD	0.2383	0.1214	0.2550	0.1264	0.1983	0.1103	0.0733	0.1014	0.2433	0.1369	0.2383	0.1142	0.1967	0.0988	0.2233	0.1091	0.2250	0.1239	0.1300	0.1352
	MCP	0.1917	0.1069	0.2117	0.0973	0.1567	0.0881	0.0633	0.0847	0.1917	0.1043	0.1933	0.0811	0.1483	0.0883	0.1783	0.0829	0.1683	0.0870	0.0883	0.0931
6	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0250	0.0833	0.0333	0.1111	0.0350	0.0956	0.0267	0.0614	0.0150	0.0631	0.0267	0.0739	0.0417	0.1069	0.0300	0.0959	0.0183	0.0622	0.0233	0.0581
	E-net	0.0250	0.0833	0.0333	0.1033	0.0367	0.0993	0.0400	0.0790	0.0183	0.0707	0.0267	0.0776	0.0467	0.1233	0.0283	0.0949	0.0200	0.0682	0.0367	0.0771
	SCAD	0.1400	0.1548	0.1350	0.1334	0.1033	0.1356	0.0350	0.0760	0.1333	0.1460	0.1517	0.1462	0.1250	0.1542	0.1417	0.1448	0.1183	0.1407	0.0633	0.0941
	MCP	0.1017	0.1338	0.1100	0.1258	0.0567	0.0893	0.0267	0.0658	0.1017	0.1229	0.1133	0.1205	0.0617	0.0875	0.1050	0.1200	0.0617	0.0937	0.0483	0.0796

Table 57: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 50$ and $p = 2000$. See Figure 57 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1383	0.0672	0.1733	0.0525	0.1800	0.0565	0.0783	0.0836	0.1667	0.0711	0.1967	0.0959	0.3567	0.1480	0.1867	0.0722	0.2533	0.1098	0.1850	0.1158
	E-net	0.1383	0.0672	0.1750	0.0549	0.1817	0.0585	0.0950	0.0984	0.1650	0.0767	0.2050	0.1082	0.4750	0.1596	0.1983	0.0844	0.2650	0.1187	0.2533	0.1544
	SCAD	0.1783	0.0721	0.1867	0.0594	0.1683	0.0443	0.0550	0.0788	0.2033	0.0733	0.1933	0.0739	0.1933	0.1270	0.1967	0.0726	0.2067	0.0890	0.1133	0.1228
	MCP	0.1583	0.0435	0.1767	0.0520	0.1467	0.0544	0.0367	0.0694	0.1767	0.0520	0.1767	0.0463	0.1250	0.0866	0.1717	0.0286	0.1633	0.0669	0.0633	0.0813
3	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0500	0.0768	0.0933	0.0927	0.0950	0.0894	0.0233	0.0581	0.0733	0.0896	0.0683	0.0950	0.1517	0.1443	0.0683	0.0920	0.1267	0.1278	0.0783	0.1147
	E-net	0.0517	0.0810	0.0883	0.0931	0.1000	0.0917	0.0300	0.0686	0.0700	0.0923	0.0717	0.1012	0.1967	0.1930	0.0667	0.0917	0.1283	0.1316	0.1100	0.1324
	SCAD	0.1600	0.0915	0.1717	0.0869	0.1300	0.0905	0.0217	0.0563	0.1700	0.0947	0.1733	0.1206	0.1650	0.1046	0.1550	0.0955	0.1833	0.1046	0.0633	0.0879
	MCP	0.1417	0.0833	0.1383	0.0856	0.0917	0.0866	0.0183	0.0524	0.1500	0.0902	0.1517	0.1008	0.1250	0.0763	0.1333	0.0821	0.1367	0.0799	0.0517	0.0775
6	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0033	0.0235	0.0067	0.0328	0.0100	0.0463	0.0017	0.0167	0.0050	0.0286	0.0083	0.0435	0.0267	0.0877	0.0083	0.0365	0.0283	0.0822	0.0133	0.0512
	E-net	0.0033	0.0235	0.0067	0.0328	0.0117	0.0489	0.0067	0.0328	0.0050	0.0286	0.0067	0.0405	0.0333	0.1111	0.0083	0.0365	0.0300	0.0834	0.0200	0.0722
	SCAD	0.0500	0.0838	0.0567	0.0924	0.0333	0.0786	0.0067	0.0328	0.0700	0.1037	0.0650	0.1108	0.0967	0.1235	0.0583	0.1015	0.0833	0.1148	0.0333	0.0821
	MCP	0.0267	0.0614	0.0417	0.0763	0.0150	0.0479	0.0033	0.0235	0.0400	0.0825	0.0483	0.0896	0.0567	0.0793	0.0400	0.0754	0.0533	0.0883	0.0200	0.0544

Table 58: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 200$ and $p = 10$. See Figure 58 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.5467	0.1537	0.5333	0.1641	0.4833	0.1489	0.3583	0.1560	0.5317	0.1530	0.4683	0.1291	0.3950	0.1635	0.5083	0.1284	0.4883	0.1407	0.3733	0.1519
	BIC B	0.3400	0.1296	0.3600	0.1247	0.3300	0.1319	0.2250	0.0898	0.3583	0.1217	0.3200	0.0908	0.2567	0.1017	0.3550	0.1223	0.3383	0.1097	0.2383	0.0925
	AIC SB	0.5467	0.1537	0.5333	0.1641	0.4833	0.1489	0.3583	0.1560	0.5333	0.1517	0.4700	0.1284	0.3950	0.1635	0.5083	0.1284	0.4883	0.1407	0.3733	0.1519
	BIC SB	0.3400	0.1296	0.3600	0.1247	0.3300	0.1319	0.2250	0.0898	0.3583	0.1217	0.3217	0.0894	0.2567	0.1017	0.3550	0.1223	0.3383	0.1097	0.2383	0.0925
	AIC F	0.5433	0.1582	0.5317	0.1619	0.4783	0.1492	0.3367	0.1553	0.5233	0.1517	0.4583	0.1284	0.3683	0.1466	0.5050	0.1307	0.4750	0.1284	0.3617	0.1536
	BIC F	0.3400	0.1296	0.3567	0.1208	0.3250	0.1284	0.2200	0.0850	0.3567	0.1185	0.3183	0.0920	0.2517	0.0902	0.3483	0.1187	0.3317	0.1124	0.2350	0.0889
	AIC SF	0.5433	0.1582	0.5317	0.1619	0.4783	0.1492	0.3367	0.1553	0.5233	0.1517	0.4567	0.1267	0.3683	0.1466	0.5000	0.1276	0.4767	0.1319	0.3633	0.1542
	BIC SF	0.3400	0.1296	0.3567	0.1208	0.3250	0.1284	0.2200	0.0850	0.3550	0.1176	0.3167	0.0870	0.2517	0.0902	0.3483	0.1187	0.3300	0.1085	0.2333	0.0886
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.3467	0.1875	0.4250	0.1714	0.4967	0.1606	0.4933	0.1707	0.3667	0.1835	0.4033	0.1323	0.4633	0.1564	0.3767	0.1617	0.4583	0.1747	0.4833	0.1796
	E-net	0.3600	0.1891	0.4600	0.1710	0.5550	0.1608	0.6350	0.1784	0.3867	0.1802	0.4383	0.1290	0.5867	0.1469	0.4150	0.1598	0.5183	0.1673	0.6417	0.1747
	SCAD	0.6250	0.2610	0.6017	0.2679	0.5350	0.2555	0.3083	0.2070	0.6383	0.2474	0.5667	0.2235	0.2833	0.1749	0.6017	0.2528	0.5417	0.2663	0.3283	0.2339
	MCP	0.5750	0.2837	0.5417	0.2876	0.4883	0.2735	0.3000	0.2038	0.5850	0.2727	0.4833	0.2398	0.3033	0.1841	0.5300	0.2695	0.5050	0.2847	0.3150	0.2308
3	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.3733	0.1573	0.3850	0.1636	0.3767	0.1491	0.3200	0.1548	0.3667	0.1535	0.3900	0.1645	0.3967	0.1688	0.3933	0.1508	0.3683	0.1559	0.3683	0.1646
	BIC B	0.2250	0.0898	0.2400	0.0927	0.2400	0.1041	0.1967	0.0763	0.2383	0.0984	0.2383	0.1012	0.2317	0.0974	0.2283	0.0875	0.2133	0.0857	0.2250	0.0866
	AIC SB	0.3733	0.1573	0.3850	0.1636	0.3767	0.1491	0.3200	0.1548	0.3667	0.1535	0.3917	0.1648	0.3983	0.1690	0.3933	0.1508	0.3683	0.1559	0.3683	0.1646
	BIC SB	0.2250	0.0898	0.2400	0.0927	0.2400	0.1041	0.1967	0.0763	0.2383	0.0984	0.2400	0.1014	0.2333	0.0948	0.2300	0.0879	0.2133	0.0857	0.2250	0.0866
	AIC F	0.3633	0.1560	0.3767	0.1565	0.3550	0.1374	0.2933	0.1384	0.3583	0.1486	0.3467	0.1529	0.3233	0.1476	0.3883	0.1499	0.3450	0.1522	0.3333	0.1517
	BIC F	0.2217	0.0856	0.2417	0.0929	0.2333	0.0977	0.1867	0.0722	0.2367	0.0953	0.2333	0.0977	0.2267	0.0871	0.2233	0.0828	0.2100	0.0808	0.2167	0.0803
	AIC SF	0.3633	0.1560	0.3767	0.1565	0.3550	0.1374	0.2933	0.1384	0.3583	0.1486	0.3450	0.1522	0.3083	0.1284	0.3867	0.1458	0.3450	0.1522	0.3333	0.1517
	BIC SF	0.2217	0.0856	0.2417	0.0929	0.2333	0.0977	0.1867	0.0722	0.2367	0.0953	0.2317	0.0974	0.2267	0.0871	0.2233	0.0828	0.2100	0.0808	0.2150	0.0796
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1733	0.0576	0.1917	0.0929	0.2167	0.1019	0.2917	0.1239	0.1633	0.0669	0.1850	0.0745	0.2667	0.1319	0.1650	0.0374	0.1883	0.0773	0.2683	0.1673
	E-net	0.1733	0.0576	0.2117	0.1132	0.2383	0.1118	0.4483	0.1905	0.1683	0.0730	0.1850	0.0745	0.3333	0.1460	0.1667	0.0474	0.1967	0.0898	0.3500	0.2017
	SCAD	0.3583	0.2466	0.4067	0.2715	0.3667	0.2496	0.2683	0.2144	0.3817	0.2641	0.3383	0.2215	0.2900	0.1962	0.3717	0.2437	0.3433	0.2195	0.3183	0.2273
	MCP	0.3217	0.2187	0.3683	0.2641	0.3200	0.2400	0.2600	0.2083	0.3483	0.2733	0.2967	0.2018	0.2650	0.1852	0.3417	0.2544	0.3100	0.2451	0.2900	0.2046
6	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.3583	0.1486	0.3867	0.1496	0.3750	0.1681	0.2883	0.1587	0.3617	0.1625	0.3650	0.1670	0.3617	0.1642	0.3767	0.1472	0.3467	0.1511	0.3433	0.1754
	BIC B	0.2217	0.0856	0.2433	0.1017	0.2233	0.1039	0.1467	0.0956	0.2300	0.0941	0.2250	0.0866	0.2000	0.1161	0.2333	0.1005	0.2133	0.0889	0.2183	0.1051
	AIC SB	0.3583	0.1486	0.3867	0.1496	0.3750	0.1681	0.2883	0.1587	0.3617	0.1625	0.3650	0.1670	0.3617	0.1642	0.3767	0.1472	0.3467	0.1511	0.3433	0.1754
	BIC SB	0.2217	0.0856	0.2433	0.1017	0.2233	0.1039	0.1467	0.0956	0.2300	0.0941	0.2267	0.0871	0.2000	0.1161	0.2333	0.1005	0.2133	0.0889	0.2183	0.1051
	AIC F	0.3517	0.1458	0.3783	0.1438	0.3517	0.1723	0.2500	0.1544	0.3450	0.1522	0.3350	0.1598	0.2867	0.1500	0.3600	0.1435	0.3283	0.1469	0.2933	0.1482
	BIC F	0.2217	0.0856	0.2400	0.1041	0.2067	0.0921	0.1233	0.0842	0.2283	0.0937	0.2217	0.0788	0.1783	0.1039	0.2250	0.0929	0.2117	0.0882	0.2067	0.1008
	AIC SF	0.3517	0.1458	0.3783	0.1438	0.3500	0.1700	0.2500	0.1544	0.3450	0.1522	0.3333	0.1553	0.2783	0.1442	0.3583	0.1389	0.3283	0.1469	0.2917	0.1448
	BIC SF	0.2217	0.0856	0.2400	0.1041	0.2067	0.0921	0.1233	0.0842	0.2283	0.0937	0.2217	0.0788	0.1783	0.1039	0.2250	0.0929	0.2117	0.0882	0.2067	0.1008
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0383	0.0849	0.0633	0.1054	0.0533	0.0944	0.1017	0.1399	0.0317	0.0699	0.0450	0.0849	0.0733	0.1304	0.0250	0.0643	0.0350	0.0831	0.0500	0.1019
	E-net	0.0383	0.0849	0.0600	0.1047	0.0567	0.1039	0.1350	0.1799	0.0317	0.0699	0.0450	0.0882	0.0917	0.1542	0.0250	0.0643	0.0350	0.0831	0.0583	0.1170
	SCAD	0.3417	0.2070	0.3717	0.2414	0.3483	0.2273	0.2717	0.2400	0.3400	0.2170	0.3500	0.2254	0.2767	0.1957	0.3933	0.2502	0.3300	0.2024	0.3033	0.2084
	MCP	0.2817	0.2006	0.3167	0.2422	0.3117	0.2602	0.2250	0.2373	0.2750	0.2057	0.2883	0.2246	0.2567	0.2177	0.3367	0.2518	0.2750	0.1841	0.2650	0.2025

Table 59: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 200$ and $p = 100$. See Figure 59 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.5500	0.1781	0.5567	0.1465	0.4783	0.1799	0.3850	0.1784	0.5617	0.1686	0.5267	0.1670	0.3833	0.1431	0.5183	0.1569	0.5367	0.1798	0.3883	0.1499
	BIC F	0.3583	0.1448	0.3250	0.1262	0.2833	0.1371	0.2050	0.0705	0.3383	0.1147	0.3450	0.0894	0.2533	0.0962	0.3517	0.1273	0.3200	0.1128	0.2133	0.0789
	AIC SF	0.5483	0.1746	0.5400	0.1443	0.4767	0.1804	0.3883	0.1805	0.5367	0.1634	0.5067	0.1588	0.3700	0.1331	0.5033	0.1571	0.5217	0.1669	0.3883	0.1518
	BIC SF	0.3550	0.1415	0.3250	0.1262	0.2783	0.1362	0.2033	0.0694	0.3367	0.1111	0.3450	0.0894	0.2517	0.0991	0.3517	0.1273	0.3183	0.1114	0.2133	0.0789
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.2400	0.1261	0.3333	0.1479	0.3650	0.1435	0.3183	0.1321	0.2733	0.1351	0.3967	0.1293	0.4767	0.1910	0.3583	0.1486	0.4500	0.1633	0.4200	0.1580
	E-net	0.2533	0.1308	0.3683	0.1447	0.3850	0.1454	0.3583	0.1486	0.2983	0.1427	0.4367	0.1293	0.6050	0.1875	0.3917	0.1369	0.4983	0.1733	0.5433	0.1798
	SCAD	0.3683	0.1972	0.3700	0.1617	0.2883	0.1294	0.1800	0.0512	0.3417	0.1596	0.3650	0.1548	0.1883	0.0655	0.3917	0.1524	0.3483	0.1742	0.1783	0.0489
	MCP	0.2983	0.1680	0.3100	0.1461	0.2300	0.0999	0.1750	0.0365	0.2867	0.1383	0.2917	0.1095	0.1867	0.0594	0.3250	0.1542	0.2833	0.1330	0.1800	0.0512
3	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.4283	0.1761	0.3967	0.1637	0.3983	0.1864	0.3250	0.1648	0.4417	0.1578	0.3750	0.1681	0.3250	0.1448	0.4367	0.1769	0.3933	0.1812	0.3083	0.1429
	BIC F	0.2300	0.0970	0.2233	0.0893	0.2117	0.0744	0.1600	0.0915	0.2433	0.1017	0.2300	0.0847	0.2150	0.0864	0.2433	0.0960	0.2217	0.0949	0.1700	0.0626
	AIC SF	0.4083	0.1630	0.3900	0.1539	0.3783	0.1722	0.3200	0.1583	0.4367	0.1549	0.3750	0.1714	0.3117	0.1415	0.4383	0.1751	0.3783	0.1786	0.3000	0.1421
	BIC SF	0.2300	0.0970	0.2233	0.0893	0.2117	0.0744	0.1600	0.0915	0.2417	0.1015	0.2300	0.0847	0.2100	0.0842	0.2433	0.0960	0.2200	0.0914	0.1700	0.0626
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1450	0.0655	0.1750	0.0725	0.2000	0.0821	0.1867	0.0830	0.1567	0.0520	0.1767	0.0398	0.2717	0.1374	0.1683	0.0604	0.1933	0.1025	0.2500	0.1219
	E-net	0.1450	0.0655	0.1750	0.0725	0.2100	0.0874	0.2183	0.1103	0.1567	0.0520	0.1783	0.0427	0.3667	0.1725	0.1700	0.0669	0.2150	0.1191	0.3533	0.1745
	SCAD	0.2517	0.1265	0.2533	0.1172	0.2333	0.1005	0.1533	0.0810	0.2400	0.1215	0.2250	0.0898	0.1850	0.0974	0.2767	0.1445	0.2567	0.1218	0.1583	0.0763
	MCP	0.1983	0.0810	0.2150	0.0926	0.2017	0.0760	0.1417	0.0799	0.2033	0.0806	0.2033	0.0733	0.1450	0.0773	0.2200	0.0944	0.1983	0.0699	0.1583	0.0643
6	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.4000	0.1708	0.4000	0.1498	0.4033	0.1999	0.2850	0.1958	0.4217	0.1525	0.3717	0.1833	0.2633	0.1502	0.4450	0.1820	0.3633	0.1714	0.2133	0.1693
	BIC F	0.2200	0.0883	0.2183	0.0938	0.1917	0.0959	0.0500	0.0902	0.2300	0.0879	0.2367	0.0953	0.1500	0.1019	0.2233	0.0893	0.1900	0.1060	0.0850	0.0870
	AIC SF	0.3917	0.1630	0.4017	0.1519	0.3967	0.1936	0.2767	0.1838	0.4117	0.1430	0.3667	0.1788	0.2483	0.1470	0.4417	0.1810	0.3533	0.1646	0.2033	0.1651
	BIC SF	0.2200	0.0883	0.2183	0.0938	0.1900	0.0977	0.0500	0.0902	0.2300	0.0879	0.2367	0.0953	0.1483	0.0974	0.2233	0.0893	0.1883	0.1077	0.0850	0.0870
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0183	0.0575	0.0250	0.0686	0.0550	0.0978	0.0417	0.0866	0.0200	0.0639	0.0333	0.0749	0.0683	0.1114	0.0400	0.0825	0.0533	0.0914	0.0650	0.1133
	E-net	0.0167	0.0556	0.0250	0.0686	0.0550	0.0978	0.0533	0.1056	0.0183	0.0575	0.0333	0.0749	0.0883	0.1411	0.0400	0.0825	0.0533	0.0973	0.0817	0.1451
	SCAD	0.2367	0.1235	0.2450	0.1147	0.2167	0.1124	0.0700	0.0923	0.2417	0.1217	0.2433	0.1070	0.1683	0.1242	0.2433	0.1390	0.2367	0.1323	0.1333	0.1517
	MCP	0.1883	0.0907	0.1933	0.0909	0.1800	0.0938	0.0650	0.0851	0.2067	0.1036	0.2050	0.0780	0.1233	0.0906	0.1967	0.0898	0.1900	0.1137	0.0967	0.0827

Table 60: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 200$ and $p = 2000$. See Figure 60 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1783	0.0489	0.2183	0.0844	0.2133	0.0823	0.1767	0.0619	0.2200	0.0944	0.3217	0.1214	0.4467	0.1496	0.2883	0.1205	0.3467	0.1375	0.2700	0.1203
	E-net	0.1800	0.0512	0.2250	0.0929	0.2183	0.0877	0.1817	0.0674	0.2367	0.1037	0.3500	0.1308	0.5733	0.1559	0.3117	0.1223	0.3783	0.1378	0.3300	0.1460
	SCAD	0.2167	0.0902	0.2400	0.1068	0.2117	0.0816	0.1550	0.0489	0.2483	0.1098	0.2350	0.1138	0.1683	0.0167	0.2633	0.1258	0.2117	0.0849	0.1600	0.0328
	MCP	0.1817	0.0535	0.2050	0.0849	0.1817	0.0479	0.1383	0.0629	0.2167	0.0902	0.2067	0.0754	0.1667	0.0237	0.2183	0.0968	0.1850	0.0524	0.1567	0.0398
3	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1500	0.0503	0.1667	0.0530	0.1683	0.0443	0.1083	0.0898	0.1383	0.0672	0.1700	0.0473	0.2467	0.1329	0.1650	0.0167	0.1867	0.0639	0.1733	0.1003
	E-net	0.1483	0.0524	0.1667	0.0580	0.1700	0.0529	0.1217	0.0849	0.1367	0.0686	0.1700	0.0473	0.2983	0.1466	0.1650	0.0167	0.1967	0.0763	0.1950	0.1112
	SCAD	0.1950	0.0672	0.2017	0.0760	0.1867	0.0544	0.0983	0.0889	0.1867	0.0594	0.2117	0.0816	0.1817	0.0789	0.2000	0.0786	0.1983	0.0699	0.1400	0.0877
	MCP	0.1800	0.0454	0.1850	0.0524	0.1700	0.0333	0.0833	0.0902	0.1750	0.0365	0.1883	0.0563	0.1533	0.0656	0.1800	0.0512	0.1733	0.0328	0.1200	0.0789
6	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0133	0.0454	0.0267	0.0658	0.0333	0.0749	0.0117	0.0427	0.0150	0.0479	0.0283	0.0629	0.0517	0.1024	0.0233	0.0581	0.0383	0.0882	0.0233	0.0671
	E-net	0.0133	0.0454	0.0267	0.0658	0.0333	0.0749	0.0133	0.0454	0.0133	0.0454	0.0283	0.0629	0.0617	0.1223	0.0233	0.0581	0.0350	0.0896	0.0250	0.0686
	SCAD	0.1733	0.0974	0.1800	0.0876	0.1400	0.0969	0.0167	0.0503	0.1550	0.0829	0.1967	0.0867	0.2100	0.1394	0.1850	0.0883	0.1917	0.0898	0.0733	0.1068
	MCP	0.1600	0.0851	0.1567	0.0848	0.1100	0.0924	0.0117	0.0427	0.1467	0.0796	0.1683	0.0690	0.1150	0.0810	0.1733	0.0818	0.1667	0.0854	0.0433	0.0735

Table 61: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 10$. See Figure 61 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.6183	0.1143	0.6217	0.1250	0.6100	0.1258	0.4550	0.1587	0.5933	0.1144	0.6183	0.1304	0.4883	0.1366	0.6017	0.1158	0.5800	0.1148	0.4850	0.1423
	BIC B	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.2850	0.1041	0.5017	0.0374	0.4800	0.0863	0.3383	0.0553	0.5050	0.0500	0.4800	0.0830	0.3217	0.0894
	AIC SB	0.6183	0.1143	0.6217	0.1250	0.6100	0.1258	0.4550	0.1587	0.5933	0.1144	0.6183	0.1304	0.4883	0.1366	0.6017	0.1158	0.5800	0.1148	0.4850	0.1423
	BIC SB	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.2850	0.1041	0.5017	0.0374	0.4800	0.0863	0.3383	0.0553	0.5050	0.0500	0.4800	0.0830	0.3217	0.0894
	AIC F	0.6183	0.1143	0.6217	0.1250	0.6067	0.1197	0.4367	0.1494	0.5917	0.1145	0.6067	0.1265	0.4533	0.1255	0.5983	0.1138	0.5700	0.1064	0.4700	0.1327
	BIC F	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.2833	0.1019	0.5017	0.0374	0.4817	0.0883	0.3350	0.0443	0.5050	0.0500	0.4767	0.0750	0.3200	0.0876
	AIC SF	0.6183	0.1143	0.6217	0.1250	0.6067	0.1197	0.4367	0.1494	0.5917	0.1145	0.6067	0.1265	0.4500	0.1173	0.5983	0.1138	0.5700	0.1064	0.4700	0.1327
	BIC SF	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.2833	0.1019	0.5017	0.0374	0.4800	0.0863	0.3350	0.0443	0.5050	0.0500	0.4767	0.0750	0.3200	0.0876
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.4867	0.0967	0.5267	0.0739	0.5833	0.1219	0.5700	0.1425	0.4900	0.0463	0.5217	0.0907	0.5350	0.1522	0.4933	0.0525	0.5433	0.0966	0.5733	0.1347
	E-net	0.5017	0.0837	0.5467	0.0920	0.6183	0.1238	0.7600	0.1577	0.4983	0.0374	0.5267	0.0939	0.6383	0.1480	0.5000	0.0474	0.5600	0.1099	0.7100	0.1528
	SCAD	0.6783	0.1484	0.6617	0.1732	0.6667	0.1880	0.3800	0.1955	0.6717	0.1507	0.6583	0.1747	0.5417	0.2577	0.6567	0.1722	0.6350	0.1653	0.5633	0.2770
	MCP	0.6283	0.1457	0.6450	0.1703	0.6433	0.2024	0.3850	0.2020	0.6150	0.1548	0.6233	0.1767	0.5333	0.2462	0.6067	0.1684	0.5983	0.1693	0.5550	0.2763
3	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.4233	0.1449	0.4333	0.1692	0.4100	0.1648	0.3367	0.1589	0.4500	0.1562	0.4133	0.1598	0.3633	0.1560	0.3900	0.1539	0.4033	0.1444	0.3600	0.1355
	BIC B	0.2200	0.0816	0.2233	0.0954	0.2150	0.0896	0.1983	0.0699	0.2367	0.0860	0.2217	0.0919	0.2017	0.0760	0.2117	0.0882	0.2050	0.0744	0.2000	0.0749
	AIC SB	0.4233	0.1449	0.4333	0.1692	0.4100	0.1648	0.3367	0.1589	0.4500	0.1562	0.4133	0.1598	0.3633	0.1560	0.3900	0.1539	0.4033	0.1444	0.3600	0.1355
	BIC SB	0.2200	0.0816	0.2233	0.0954	0.2150	0.0896	0.1983	0.0699	0.2367	0.0860	0.2250	0.0929	0.2017	0.0760	0.2117	0.0882	0.2050	0.0744	0.2000	0.0749
	AIC F	0.4233	0.1449	0.4217	0.1732	0.4017	0.1626	0.3167	0.1508	0.4483	0.1548	0.3900	0.1557	0.3217	0.1386	0.3900	0.1575	0.3950	0.1374	0.3317	0.1350
	BIC F	0.2200	0.0816	0.2233	0.0954	0.2100	0.0842	0.1983	0.0699	0.2367	0.0860	0.2217	0.0888	0.2050	0.0744	0.2083	0.0763	0.2017	0.0722	0.1983	0.0738
	AIC SF	0.4233	0.1449	0.4217	0.1732	0.4017	0.1626	0.3167	0.1508	0.4483	0.1548	0.3900	0.1557	0.3167	0.1350	0.3883	0.1536	0.3950	0.1374	0.3317	0.1350
	BIC SF	0.2200	0.0816	0.2233	0.0954	0.2100	0.0842	0.1983	0.0699	0.2367	0.0860	0.2217	0.0888	0.2050	0.0744	0.2083	0.0763	0.2017	0.0722	0.1983	0.0738
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1683	0.0167	0.1817	0.0479	0.2133	0.1035	0.3167	0.1544	0.1717	0.0286	0.1850	0.0575	0.2783	0.1232	0.1700	0.0235	0.1833	0.0556	0.2917	0.1348
	E-net	0.1700	0.0235	0.1833	0.0503	0.2400	0.1192	0.5433	0.1635	0.1733	0.0405	0.1867	0.0594	0.4133	0.1632	0.1733	0.0328	0.1917	0.0686	0.4517	0.1729
	SCAD	0.4700	0.2455	0.4933	0.2710	0.4517	0.2725	0.3267	0.2461	0.5567	0.2418	0.4733	0.2790	0.3017	0.2206	0.4367	0.2538	0.4400	0.2590	0.2933	0.2134
	MCP	0.3983	0.2495	0.3967	0.2730	0.4267	0.2933	0.3317	0.2479	0.4933	0.2710	0.4117	0.2886	0.2667	0.2197	0.3817	0.2544	0.3967	0.2760	0.2850	0.2056
6	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC B	0.3667	0.1401	0.3633	0.1681	0.3867	0.1739	0.3350	0.1451	0.4017	0.1423	0.3767	0.1617	0.3500	0.1633	0.3583	0.1648	0.3617	0.1422	0.3583	0.1306
	BIC B	0.2183	0.0844	0.2200	0.0850	0.2233	0.0861	0.1867	0.0594	0.2183	0.0908	0.2150	0.0760	0.2067	0.0825	0.2067	0.0715	0.2050	0.0705	0.2150	0.0760
	AIC SB	0.3667	0.1401	0.3633	0.1681	0.3867	0.1739	0.3350	0.1451	0.4017	0.1423	0.3767	0.1617	0.3500	0.1633	0.3583	0.1648	0.3617	0.1422	0.3583	0.1306
	BIC SB	0.2183	0.0844	0.2200	0.0850	0.2233	0.0861	0.1867	0.0594	0.2183	0.0908	0.2150	0.0760	0.2067	0.0825	0.2067	0.0715	0.2050	0.0705	0.2150	0.0760
	AIC F	0.3650	0.1375	0.3533	0.1576	0.3550	0.1565	0.3000	0.1340	0.3933	0.1372	0.3500	0.1615	0.2967	0.1373	0.3483	0.1626	0.3417	0.1409	0.3283	0.1195
	BIC F	0.2167	0.0838	0.2200	0.0850	0.2217	0.0856	0.1867	0.0594	0.2133	0.0789	0.2133	0.0752	0.2050	0.0816	0.2067	0.0715	0.2017	0.0682	0.2167	0.0768
	AIC SF	0.3650	0.1375	0.3533	0.1576	0.3550	0.1565	0.3000	0.1340	0.3933	0.1372	0.3500	0.1615	0.2967	0.1373	0.3483	0.1626	0.3417	0.1409	0.3283	0.1195
	BIC SF	0.2167	0.0838	0.2200	0.0850	0.2217	0.0856	0.1867	0.0594	0.2133	0.0789	0.2133	0.0752	0.2050	0.0816	0.2067	0.0715	0.2017	0.0682	0.2167	0.0768
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0933	0.0831	0.1133	0.0850	0.1467	0.0544	0.2117	0.1205	0.1167	0.0803	0.1350	0.0657	0.1650	0.0690	0.0983	0.0824	0.1167	0.0768	0.1667	0.1059
	E-net	0.0933	0.0831	0.1167	0.0870	0.1483	0.0575	0.2800	0.1848	0.1167	0.0803	0.1367	0.0686	0.1917	0.0959	0.0983	0.0824	0.1167	0.0768	0.1933	0.1396
	SCAD	0.2900	0.1889	0.3083	0.2277	0.3017	0.2231	0.2617	0.1943	0.3233	0.2343	0.2967	0.1798	0.2517	0.1932	0.2850	0.2123	0.3000	0.1953	0.2700	0.1753
	MCP	0.2750	0.1973	0.2633	0.1985	0.2700	0.2116	0.2567	0.1795	0.2783	0.2052	0.2633	0.1927	0.2283	0.1601	0.2567	0.1988	0.2683	0.2023	0.2517	0.1716

Table 62: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 100$. See Figure 62 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.6150	0.1177	0.6067	0.1197	0.6133	0.1273	0.4150	0.1633	0.5967	0.1165	0.6117	0.1232	0.4533	0.1362	0.6250	0.1306	0.5900	0.1146	0.3933	0.1330
	BIC F	0.5117	0.0592	0.5167	0.0556	0.4433	0.0983	0.2300	0.0911	0.5017	0.0443	0.4767	0.0821	0.3283	0.0440	0.5100	0.0571	0.4567	0.0842	0.2583	0.1095
	AIC SF	0.6150	0.1177	0.6067	0.1197	0.6117	0.1255	0.4150	0.1633	0.5983	0.1163	0.6117	0.1232	0.4450	0.1341	0.6250	0.1306	0.5900	0.1096	0.3950	0.1354
	BIC SF	0.5117	0.0592	0.5167	0.0556	0.4433	0.0983	0.2300	0.0911	0.5017	0.0443	0.4767	0.0821	0.3283	0.0440	0.5100	0.0571	0.4567	0.0842	0.2583	0.1095
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.4533	0.1062	0.5183	0.0622	0.5300	0.0959	0.4183	0.1470	0.4883	0.0489	0.5100	0.0881	0.5367	0.1373	0.5117	0.0721	0.5400	0.0980	0.5267	0.1416
	E-net	0.4633	0.0905	0.5200	0.0639	0.5400	0.0921	0.4867	0.1492	0.4917	0.0435	0.5167	0.0870	0.6600	0.1400	0.5217	0.0843	0.5700	0.1141	0.6300	0.1599
	SCAD	0.5733	0.1168	0.5617	0.0875	0.5217	0.0843	0.2100	0.0874	0.5383	0.0780	0.5433	0.1127	0.3017	0.0775	0.5600	0.0963	0.5167	0.0991	0.2217	0.0978
	MCP	0.5250	0.0833	0.5333	0.0670	0.4650	0.1093	0.2033	0.0806	0.5200	0.0594	0.4850	0.1088	0.2950	0.0744	0.5217	0.0773	0.4783	0.0875	0.2233	0.0954
3	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.4083	0.1714	0.3917	0.1596	0.3700	0.1813	0.3250	0.1505	0.4050	0.1594	0.4083	0.1389	0.3317	0.1650	0.4200	0.1700	0.3800	0.1573	0.3133	0.1387
	BIC F	0.2267	0.0871	0.2183	0.0877	0.1900	0.0581	0.1850	0.0524	0.2200	0.0944	0.2183	0.0810	0.2083	0.0799	0.2133	0.0789	0.2067	0.0790	0.1983	0.0657
	AIC SF	0.4083	0.1714	0.3883	0.1608	0.3700	0.1813	0.3250	0.1505	0.4017	0.1573	0.4083	0.1389	0.3200	0.1529	0.4167	0.1667	0.3800	0.1591	0.3117	0.1395
	BIC SF	0.2267	0.0871	0.2183	0.0877	0.1900	0.0581	0.1850	0.0524	0.2200	0.0944	0.2183	0.0810	0.2083	0.0799	0.2133	0.0789	0.2067	0.0790	0.1983	0.0657
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1683	0.0167	0.1717	0.0371	0.1883	0.0697	0.2183	0.0844	0.1767	0.0571	0.1800	0.0512	0.2683	0.1273	0.1767	0.0398	0.2033	0.0873	0.2717	0.1223
	E-net	0.1683	0.0167	0.1783	0.0489	0.2050	0.0882	0.2733	0.1197	0.1783	0.0592	0.1883	0.0611	0.3700	0.1668	0.1833	0.0556	0.2317	0.1108	0.4067	0.1647
	SCAD	0.2933	0.1300	0.3050	0.1403	0.2550	0.1195	0.1717	0.0286	0.2917	0.1560	0.2917	0.1505	0.1933	0.0776	0.3017	0.1415	0.2950	0.1438	0.1850	0.0524
	MCP	0.2383	0.1142	0.2633	0.1189	0.2017	0.0722	0.1700	0.0235	0.2483	0.1371	0.2150	0.0831	0.1783	0.0427	0.2500	0.1173	0.2200	0.0914	0.1833	0.0503
6	OLS	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	AIC F	0.3933	0.1392	0.3683	0.1522	0.3417	0.1409	0.3050	0.1554	0.3600	0.1493	0.3533	0.1427	0.3000	0.1381	0.3617	0.1403	0.3333	0.1479	0.2917	0.1327
	BIC F	0.2167	0.0803	0.2050	0.0705	0.1900	0.0581	0.1417	0.0725	0.2033	0.0733	0.2033	0.0733	0.2083	0.0799	0.2067	0.0754	0.1933	0.0614	0.1783	0.0638
	AIC SF	0.3900	0.1365	0.3683	0.1522	0.3433	0.1418	0.3017	0.1548	0.3600	0.1493	0.3517	0.1419	0.2967	0.1393	0.3633	0.1409	0.3317	0.1470	0.2917	0.1327
	BIC SF	0.2167	0.0803	0.2050	0.0705	0.1900	0.0581	0.1417	0.0725	0.2033	0.0733	0.2033	0.0733	0.2067	0.0754	0.2067	0.0754	0.1933	0.0614	0.1783	0.0638
	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.0917	0.0866	0.1300	0.0771	0.1383	0.0672	0.1417	0.0898	0.1100	0.0793	0.1317	0.0722	0.1683	0.0902	0.1200	0.0857	0.1400	0.0739	0.1817	0.1008
	E-net	0.0900	0.0868	0.1300	0.0771	0.1433	0.0750	0.1600	0.0945	0.1100	0.0793	0.1317	0.0722	0.1850	0.1083	0.1200	0.0857	0.1400	0.0739	0.2083	0.1306
	SCAD	0.2200	0.0883	0.2267	0.0903	0.1950	0.0672	0.1450	0.0655	0.2217	0.1186	0.2067	0.0890	0.1833	0.0556	0.2250	0.1043	0.2117	0.0943	0.1817	0.0631
	MCP	0.1967	0.0686	0.2017	0.0796	0.1817	0.0479	0.1550	0.0592	0.1983	0.0908	0.1850	0.0622	0.1617	0.0602	0.2067	0.0858	0.1950	0.0672	0.1733	0.0576

Table 63: Mean and standard deviation of the β-sensitivity for the non-linear simulations when $n = 1000$ and $p = 2000$. See Figure 63 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.3900	0.1302	0.4850	0.0714	0.4367	0.1027	0.2517	0.1046	0.4650	0.0831	0.4800	0.0760	0.5500	0.1391	0.4983	0.0690	0.5183	0.0817	0.3967	0.1549
	E-net	0.4033	0.1258	0.4900	0.0619	0.4483	0.0996	0.2633	0.1141	0.4783	0.0736	0.4950	0.0766	0.6733	0.1274	0.5083	0.0598	0.5300	0.0834	0.4683	0.1601
	SCAD	0.4950	0.0647	0.5033	0.0626	0.4167	0.1073	0.1667	0.0000	0.5200	0.0682	0.4917	0.0763	0.1800	0.0454	0.5233	0.0671	0.4650	0.0896	0.1667	0.0000
	MCP	0.4767	0.0711	0.4917	0.0549	0.3550	0.1246	0.1667	0.0000	0.5067	0.0746	0.4400	0.0871	0.1800	0.0454	0.4883	0.0681	0.3950	0.1102	0.1667	0.0000
3	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1667	0.0000	0.1683	0.0167	0.1733	0.0328	0.1700	0.0235	0.1667	0.0000	0.1700	0.0235	0.2633	0.1280	0.1717	0.0286	0.1850	0.0524	0.2200	0.1002
	E-net	0.1667	0.0000	0.1683	0.0167	0.1817	0.0479	0.1750	0.0365	0.1667	0.0000	0.1700	0.0235	0.3983	0.1551	0.1717	0.0286	0.2017	0.0682	0.2950	0.1418
	SCAD	0.1883	0.0563	0.2033	0.0733	0.1867	0.0544	0.1667	0.0000	0.2167	0.0838	0.2133	0.0857	0.1967	0.0726	0.2300	0.1080	0.2167	0.0768	0.1750	0.0435
	MCP	0.1850	0.0524	0.1817	0.0479	0.1767	0.0398	0.1667	0.0000	0.1950	0.0672	0.1950	0.0672	0.1733	0.0328	0.1983	0.0699	0.1817	0.0479	0.1717	0.0286
6	Ridge	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
	Lasso	0.1050	0.0809	0.1100	0.0793	0.1317	0.0760	0.1200	0.0752	0.1167	0.0768	0.1017	0.0817	0.1567	0.0881	0.1233	0.0735	0.1350	0.0699	0.1550	0.1012
	E-net	0.1033	0.0813	0.1083	0.0799	0.1300	0.0771	0.1267	0.0715	0.1150	0.0775	0.1000	0.0821	0.1783	0.1142	0.1217	0.0744	0.1350	0.0738	0.1733	0.1134
	SCAD	0.1850	0.0524	0.1850	0.0524	0.1867	0.0544	0.1400	0.0658	0.1967	0.0644	0.2000	0.0749	0.1750	0.0435	0.1967	0.0726	0.1750	0.0365	0.1550	0.0427
	MCP	0.1750	0.0365	0.1783	0.0427	0.1733	0.0328	0.1167	0.0768	0.1883	0.0563	0.1850	0.0524	0.1617	0.0440	0.1817	0.0479	0.1717	0.0286	0.1500	0.0503

5.4 Tables for the β-specificity of the non-linear simulations

Table 64: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 50$ and $p = 10$. See Figure 64 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.412	0.1472	0.408	0.1656	0.428	0.1505	0.486	0.1664	0.398	0.1670	0.428	0.1558	0.458	0.1713	0.382	0.1708	0.432	0.1497	0.466	0.1609
	BIC B	0.506	0.1081	0.500	0.1255	0.518	0.1104	0.590	0.1314	0.496	0.1255	0.526	0.1125	0.546	0.1417	0.508	0.1220	0.514	0.1279	0.566	0.1241
	AIC SB	0.412	0.1472	0.408	0.1656	0.428	0.1505	0.486	0.1664	0.398	0.1670	0.428	0.1558	0.458	0.1713	0.382	0.1708	0.432	0.1497	0.464	0.1605
	BIC SB	0.506	0.1081	0.498	0.1255	0.518	0.1104	0.590	0.1314	0.496	0.1255	0.526	0.1125	0.546	0.1417	0.512	0.1183	0.514	0.1279	0.566	0.1241
	AIC F	0.416	0.1441	0.440	0.1477	0.444	0.1493	0.528	0.1621	0.404	0.1705	0.466	0.1335	0.480	0.1504	0.392	0.1606	0.460	0.1435	0.488	0.1665
	BIC F	0.512	0.1076	0.514	0.1247	0.522	0.1060	0.606	0.1153	0.504	0.1222	0.542	0.0997	0.544	0.1209	0.524	0.1093	0.538	0.1013	0.572	0.1102
	AIC SF	0.416	0.1441	0.440	0.1477	0.448	0.1453	0.528	0.1621	0.406	0.1693	0.468	0.1309	0.504	0.1406	0.394	0.1594	0.460	0.1435	0.508	0.1433
	BIC SF	0.512	0.1076	0.514	0.1247	0.522	0.1060	0.606	0.1153	0.504	0.1222	0.542	0.0997	0.562	0.1126	0.524	0.1093	0.538	0.1013	0.586	0.0995
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.512	0.1249	0.476	0.1525	0.430	0.1541	0.412	0.1552	0.490	0.1432	0.478	0.1418	0.420	0.1717	0.476	0.1628	0.454	0.1629	0.428	0.1682
	E-net	0.500	0.1348	0.462	0.1575	0.396	0.1504	0.324	0.1628	0.476	0.1498	0.460	0.1435	0.352	0.1611	0.464	0.1630	0.434	0.1609	0.372	0.1776
	SCAD	0.410	0.1872	0.424	0.1870	0.434	0.1908	0.548	0.2082	0.416	0.1879	0.478	0.1727	0.492	0.1830	0.416	0.2063	0.496	0.1595	0.472	0.2118
	MCP	0.450	0.1829	0.496	0.1669	0.474	0.1790	0.542	0.1996	0.460	0.1959	0.512	0.1641	0.470	0.1829	0.464	0.2087	0.524	0.1525	0.512	0.1849
3	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.500	0.2118	0.524	0.1881	0.546	0.1702	0.598	0.1645	0.538	0.1857	0.560	0.1886	0.550	0.1977	0.572	0.1753	0.542	0.1827	0.582	0.1559
	BIC B	0.658	0.1512	0.634	0.1609	0.656	0.1479	0.702	0.1223	0.686	0.1429	0.694	0.1286	0.666	0.1241	0.682	0.1306	0.658	0.1590	0.668	0.1278
	AIC SB	0.498	0.2118	0.524	0.1881	0.546	0.1702	0.598	0.1645	0.538	0.1857	0.558	0.1913	0.548	0.2002	0.570	0.1761	0.538	0.1813	0.582	0.1559
	BIC SB	0.658	0.1512	0.634	0.1609	0.652	0.1494	0.700	0.1223	0.690	0.1403	0.690	0.1314	0.666	0.1273	0.682	0.1306	0.658	0.1590	0.668	0.1278
	AIC F	0.532	0.1825	0.554	0.1839	0.574	0.1721	0.648	0.1396	0.564	0.1761	0.584	0.1900	0.606	0.1830	0.596	0.1752	0.584	0.1600	0.660	0.1463
	BIC F	0.666	0.1423	0.648	0.1480	0.672	0.1464	0.730	0.1040	0.696	0.1286	0.710	0.1185	0.688	0.1217	0.696	0.1222	0.692	0.1346	0.706	0.1188
	AIC SF	0.532	0.1825	0.554	0.1839	0.574	0.1721	0.648	0.1396	0.566	0.1754	0.588	0.1860	0.620	0.1853	0.598	0.1717	0.584	0.1600	0.662	0.1469
	BIC SF	0.666	0.1423	0.648	0.1480	0.676	0.1415	0.730	0.1040	0.696	0.1286	0.710	0.1185	0.700	0.1155	0.696	0.1222	0.694	0.1317	0.706	0.1188
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.752	0.1396	0.756	0.1085	0.666	0.1683	0.656	0.1800	0.784	0.0615	0.768	0.0931	0.670	0.1567	0.766	0.0807	0.734	0.1506	0.710	0.1541
	E-net	0.752	0.1396	0.746	0.1201	0.654	0.1749	0.574	0.2121	0.780	0.0667	0.766	0.0987	0.616	0.1813	0.764	0.0871	0.728	0.1544	0.684	0.1686
	SCAD	0.540	0.2535	0.548	0.2584	0.536	0.2460	0.634	0.2345	0.590	0.2153	0.576	0.2332	0.602	0.2265	0.608	0.1968	0.536	0.2393	0.644	0.2022
	MCP	0.590	0.2627	0.580	0.2629	0.610	0.2468	0.626	0.2321	0.656	0.2071	0.642	0.2226	0.594	0.2317	0.664	0.1795	0.598	0.2486	0.662	0.2004
6	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.594	0.1979	0.578	0.1883	0.590	0.1691	0.590	0.1829	0.612	0.1725	0.634	0.1799	0.570	0.1936	0.644	0.1623	0.584	0.1791	0.590	0.1617
	BIC B	0.720	0.1271	0.706	0.1347	0.700	0.1287	0.700	0.1318	0.740	0.1223	0.732	0.1246	0.690	0.1432	0.744	0.0988	0.706	0.1347	0.688	0.1402
	AIC SB	0.594	0.1979	0.578	0.1883	0.588	0.1677	0.590	0.1829	0.612	0.1725	0.634	0.1821	0.568	0.1943	0.642	0.1615	0.584	0.1791	0.588	0.1629
	BIC SB	0.720	0.1271	0.706	0.1347	0.700	0.1287	0.700	0.1318	0.740	0.1223	0.730	0.1283	0.690	0.1432	0.744	0.0988	0.704	0.1348	0.686	0.1400
	AIC F	0.620	0.1853	0.614	0.1688	0.620	0.1764	0.662	0.1674	0.624	0.1615	0.664	0.1703	0.654	0.1500	0.676	0.1357	0.642	0.1615	0.626	0.1574
	BIC F	0.734	0.1174	0.722	0.1133	0.734	0.1066	0.738	0.1013	0.750	0.1115	0.750	0.0959	0.724	0.1129	0.748	0.0926	0.738	0.1013	0.714	0.1215
	AIC SF	0.622	0.1840	0.616	0.1674	0.622	0.1750	0.664	0.1630	0.622	0.1630	0.666	0.1683	0.658	0.1458	0.678	0.1330	0.646	0.1553	0.628	0.1558
	BIC SF	0.734	0.1174	0.722	0.1133	0.734	0.1066	0.740	0.0964	0.750	0.1115	0.750	0.0959	0.726	0.1088	0.748	0.0926	0.738	0.1013	0.714	0.1215
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.794	0.0445	0.796	0.0281	0.778	0.0746	0.762	0.0930	0.798	0.0200	0.798	0.0200	0.756	0.1085	0.798	0.0200	0.788	0.0477	0.778	0.0799
	E-net	0.794	0.0445	0.796	0.0281	0.778	0.0746	0.740	0.1318	0.798	0.0200	0.796	0.0281	0.742	0.1281	0.798	0.0200	0.792	0.0394	0.772	0.0944
	SCAD	0.640	0.2395	0.640	0.2494	0.612	0.2341	0.694	0.1958	0.684	0.1710	0.688	0.1849	0.670	0.1957	0.734	0.1304	0.634	0.2413	0.660	0.2040
	MCP	0.678	0.2290	0.668	0.2465	0.642	0.2383	0.690	0.1850	0.722	0.1630	0.726	0.1599	0.694	0.1808	0.746	0.1201	0.666	0.2328	0.688	0.1996

Table 65: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 50$ and $p = 100$. See Figure 65 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9598	0.0430	0.9418	0.0409	0.9181	0.0427	0.9151	0.0302	0.9639	0.0279	0.9627	0.0284	0.9657	0.0159	0.9592	0.0216	0.9491	0.0263	0.9438	0.0221
	E-net	0.9571	0.0455	0.9338	0.0406	0.9009	0.0476	0.8793	0.0312	0.9604	0.0311	0.9591	0.0293	0.9612	0.0162	0.9547	0.0232	0.9413	0.0271	0.9240	0.0220
	SCAD	0.9241	0.0358	0.9226	0.0379	0.9457	0.0272	0.9641	0.0301	0.9295	0.0368	0.9321	0.0411	0.9486	0.0266	0.9273	0.0377	0.9424	0.0319	0.9625	0.0210
	MCP	0.9591	0.0216	0.9588	0.0231	0.9669	0.0177	0.9743	0.0108	0.9621	0.0208	0.9639	0.0193	0.9653	0.0178	0.9578	0.0236	0.9646	0.0163	0.9700	0.0163
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9858	0.0114	0.9823	0.0190	0.9724	0.0228	0.9578	0.0267	0.9847	0.0170	0.9851	0.0154	0.9800	0.0248	0.9831	0.0190	0.9787	0.0183	0.9714	0.0198
	E-net	0.9852	0.0140	0.9802	0.0215	0.9661	0.0292	0.9385	0.0368	0.9836	0.0212	0.9845	0.0170	0.9762	0.0285	0.9826	0.0154	0.9768	0.0186	0.9606	0.0254
	SCAD	0.9361	0.0434	0.9365	0.0391	0.9493	0.0278	0.9680	0.0226	0.9415	0.0478	0.9412	0.0364	0.9638	0.0249	0.9386	0.0413	0.9529	0.0295	0.9671	0.0188
	MCP	0.9672	0.0254	0.9662	0.0282	0.9769	0.0140	0.9795	0.0123	0.9739	0.0204	0.9734	0.0210	0.9762	0.0193	0.9709	0.0214	0.9723	0.0219	0.9766	0.0142
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9871	0.0152	0.9837	0.0335	0.9848	0.0137	0.9805	0.0151	0.9873	0.0211	0.9865	0.0162	0.9847	0.0236	0.9868	0.0193	0.9882	0.0066	0.9851	0.0111
	E-net	0.9871	0.0152	0.9839	0.0290	0.9840	0.0154	0.9742	0.0249	0.9872	0.0211	0.9857	0.0184	0.9841	0.0247	0.9867	0.0203	0.9881	0.0074	0.9828	0.0157
	SCAD	0.9636	0.0389	0.9613	0.0357	0.9648	0.0268	0.9734	0.0182	0.9633	0.0385	0.9617	0.0359	0.9715	0.0286	0.9602	0.0381	0.9671	0.0279	0.9719	0.0238
	MCP	0.9758	0.0235	0.9761	0.0209	0.9798	0.0137	0.9819	0.0108	0.9793	0.0177	0.9773	0.0176	0.9818	0.0159	0.9797	0.0158	0.9792	0.0160	0.9803	0.0149

Table 66: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 50$ and $p = 2000$. See Figure 66 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9980	0.0024	0.9959	0.0027	0.9929	0.0028	0.9931	0.0020	0.9976	0.0025	0.9981	0.0018	0.9981	0.0012	0.9979	0.0017	0.9965	0.0020	0.9962	0.0017
	E-net	0.9978	0.0029	0.9951	0.0029	0.9911	0.0028	0.9894	0.0024	0.9974	0.0027	0.9979	0.0021	0.9977	0.0014	0.9974	0.0021	0.9958	0.0021	0.9942	0.0018
	SCAD	0.9918	0.0035	0.9929	0.0026	0.9941	0.0028	0.9960	0.0030	0.9916	0.0028	0.9921	0.0033	0.9952	0.0034	0.9927	0.0032	0.9944	0.0030	0.9976	0.0020
	MCP	0.9973	0.0014	0.9977	0.0012	0.9981	0.0008	0.9988	0.0004	0.9974	0.0013	0.9977	0.0012	0.9981	0.0014	0.9976	0.0012	0.9979	0.0012	0.9988	0.0009
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9993	0.0006	0.9985	0.0025	0.9978	0.0021	0.9970	0.0020	0.9994	0.0004	0.9991	0.0020	0.9991	0.0010	0.9992	0.0013	0.9983	0.0023	0.9982	0.0011
	E-net	0.9993	0.0009	0.9983	0.0027	0.9973	0.0023	0.9949	0.0032	0.9993	0.0005	0.9990	0.0023	0.9989	0.0013	0.9991	0.0015	0.9980	0.0026	0.9972	0.0019
	SCAD	0.9939	0.0042	0.9935	0.0033	0.9952	0.0023	0.9972	0.0022	0.9934	0.0044	0.9945	0.0042	0.9951	0.0039	0.9946	0.0039	0.9950	0.0030	0.9971	0.0021
	MCP	0.9984	0.0011	0.9980	0.0013	0.9986	0.0009	0.9990	0.0004	0.9982	0.0014	0.9985	0.0013	0.9984	0.0014	0.9984	0.0013	0.9985	0.0010	0.9986	0.0012
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9994	0.0006	0.9994	0.0005	0.9990	0.0015	0.9989	0.0012	0.9995	0.0001	0.9993	0.0016	0.9993	0.0010	0.9995	0.0002	0.9991	0.0017	0.9991	0.0007
	E-net	0.9994	0.0007	0.9994	0.0006	0.9989	0.0016	0.9984	0.0021	0.9995	0.0001	0.9993	0.0015	0.9993	0.0011	0.9995	0.0002	0.9990	0.0019	0.9989	0.0012
	SCAD	0.9971	0.0034	0.9958	0.0039	0.9965	0.0027	0.9981	0.0015	0.9966	0.0038	0.9971	0.0037	0.9975	0.0028	0.9967	0.0038	0.9969	0.0032	0.9977	0.0021
	MCP	0.9988	0.0011	0.9985	0.0014	0.9989	0.0008	0.9991	0.0004	0.9987	0.0014	0.9989	0.0010	0.9989	0.0010	0.9988	0.0013	0.9989	0.0009	0.9987	0.0014

Table 67: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 200$ and $p = 10$. See Figure 67 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.348	0.1159	0.368	0.1053	0.394	0.1462	0.452	0.1494	0.358	0.1249	0.372	0.1364	0.436	0.1514	0.358	0.1281	0.368	0.1355	0.454	0.1417
	BIC B	0.450	0.1000	0.454	0.1058	0.480	0.1137	0.556	0.0833	0.474	0.0970	0.472	0.1190	0.540	0.1119	0.466	0.1066	0.480	0.1137	0.562	0.0930
	AIC SB	0.348	0.1159	0.368	0.1053	0.394	0.1462	0.452	0.1494	0.358	0.1249	0.372	0.1364	0.434	0.1532	0.358	0.1281	0.368	0.1355	0.454	0.1417
	BIC SB	0.450	0.1000	0.454	0.1058	0.480	0.1137	0.556	0.0833	0.474	0.0970	0.472	0.1190	0.540	0.1119	0.466	0.1066	0.480	0.1137	0.562	0.0930
	AIC F	0.348	0.1087	0.368	0.1053	0.400	0.1449	0.472	0.1436	0.362	0.1196	0.382	0.1306	0.456	0.1395	0.360	0.1271	0.380	0.1318	0.470	0.1403
	BIC F	0.450	0.1000	0.454	0.1058	0.486	0.1146	0.562	0.0789	0.474	0.0970	0.480	0.1101	0.548	0.1010	0.470	0.1078	0.494	0.1081	0.562	0.0885
	AIC SF	0.348	0.1087	0.368	0.1053	0.400	0.1449	0.472	0.1436	0.362	0.1196	0.382	0.1306	0.456	0.1395	0.360	0.1271	0.382	0.1306	0.472	0.1379
	BIC SF	0.450	0.1000	0.454	0.1058	0.486	0.1146	0.562	0.0789	0.474	0.0970	0.480	0.1101	0.550	0.1000	0.470	0.1078	0.494	0.1081	0.564	0.0871
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.480	0.1239	0.418	0.1140	0.370	0.1642	0.378	0.1554	0.460	0.1255	0.440	0.0985	0.386	0.1457	0.466	0.1273	0.426	0.1383	0.388	0.1578
	E-net	0.456	0.1242	0.396	0.1063	0.338	0.1625	0.282	0.1533	0.452	0.1259	0.434	0.0945	0.310	0.1251	0.448	0.1210	0.394	0.1377	0.276	0.1793
	SCAD	0.266	0.1950	0.284	0.1994	0.346	0.2086	0.500	0.1741	0.294	0.1958	0.336	0.1773	0.502	0.1595	0.294	0.1979	0.322	0.2008	0.482	0.1930
	MCP	0.306	0.1999	0.328	0.2021	0.376	0.2036	0.508	0.1643	0.324	0.1985	0.376	0.1975	0.486	0.1589	0.334	0.2071	0.358	0.2189	0.496	0.1809
3	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.428	0.1364	0.452	0.1521	0.480	0.1633	0.588	0.1677	0.412	0.1653	0.464	0.1554	0.580	0.2020	0.432	0.1497	0.474	0.1468	0.562	0.1698
	BIC B	0.608	0.1447	0.586	0.1279	0.628	0.1393	0.708	0.1152	0.626	0.1411	0.642	0.1281	0.720	0.1239	0.596	0.1333	0.622	0.0980	0.656	0.1104
	AIC SB	0.428	0.1364	0.452	0.1521	0.480	0.1633	0.588	0.1677	0.412	0.1653	0.464	0.1554	0.580	0.2020	0.432	0.1497	0.474	0.1468	0.562	0.1698
	BIC SB	0.608	0.1447	0.586	0.1279	0.628	0.1393	0.708	0.1152	0.626	0.1411	0.642	0.1281	0.718	0.1242	0.596	0.1333	0.622	0.0980	0.656	0.1104
	AIC F	0.432	0.1355	0.454	0.1527	0.496	0.1669	0.614	0.1589	0.432	0.1746	0.494	0.1644	0.654	0.1604	0.432	0.1497	0.498	0.1318	0.586	0.1664
	BIC F	0.616	0.1383	0.588	0.1266	0.640	0.1172	0.720	0.1101	0.636	0.1345	0.650	0.1251	0.732	0.1145	0.598	0.1318	0.626	0.1011	0.664	0.1133
	AIC SF	0.432	0.1355	0.454	0.1527	0.496	0.1669	0.614	0.1589	0.432	0.1746	0.494	0.1644	0.658	0.1539	0.432	0.1497	0.498	0.1318	0.586	0.1664
	BIC SF	0.616	0.1383	0.588	0.1266	0.640	0.1172	0.720	0.1101	0.636	0.1345	0.650	0.1251	0.738	0.1090	0.598	0.1318	0.626	0.1011	0.664	0.1133
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.762	0.0930	0.720	0.1363	0.654	0.1553	0.614	0.1735	0.774	0.0787	0.740	0.1287	0.658	0.1565	0.774	0.0733	0.746	0.1096	0.690	0.1432
	E-net	0.760	0.0943	0.682	0.1533	0.618	0.1777	0.472	0.1832	0.770	0.0823	0.732	0.1340	0.562	0.1698	0.762	0.0930	0.740	0.1189	0.642	0.1689
	SCAD	0.492	0.2549	0.426	0.2338	0.516	0.2415	0.676	0.1965	0.466	0.2801	0.560	0.2238	0.648	0.2380	0.466	0.2221	0.492	0.2097	0.582	0.2091
	MCP	0.542	0.2531	0.478	0.2308	0.564	0.2402	0.664	0.2028	0.496	0.2835	0.610	0.2209	0.636	0.2351	0.518	0.2311	0.552	0.2110	0.626	0.1900
6	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.616	0.1674	0.620	0.1595	0.602	0.1764	0.634	0.1584	0.616	0.1698	0.616	0.1600	0.616	0.1879	0.604	0.1608	0.632	0.1442	0.602	0.1717
	BIC B	0.748	0.0926	0.748	0.0926	0.750	0.0916	0.734	0.0987	0.760	0.0804	0.766	0.0755	0.740	0.1155	0.744	0.0988	0.750	0.0916	0.724	0.1296
	AIC SB	0.616	0.1674	0.620	0.1595	0.602	0.1764	0.634	0.1584	0.612	0.1701	0.616	0.1600	0.616	0.1879	0.604	0.1608	0.632	0.1442	0.602	0.1717
	BIC SB	0.748	0.0926	0.748	0.0926	0.750	0.0916	0.734	0.0987	0.760	0.0804	0.766	0.0755	0.740	0.1155	0.744	0.0988	0.750	0.0916	0.724	0.1296
	AIC F	0.618	0.1660	0.624	0.1538	0.624	0.1712	0.654	0.1500	0.614	0.1712	0.642	0.1565	0.672	0.1596	0.612	0.1578	0.658	0.1372	0.648	0.1507
	BIC F	0.748	0.0926	0.752	0.0858	0.754	0.0892	0.740	0.0921	0.762	0.0789	0.772	0.0697	0.750	0.0959	0.746	0.0979	0.756	0.0833	0.736	0.1097
	AIC SF	0.618	0.1660	0.624	0.1538	0.624	0.1712	0.654	0.1500	0.614	0.1712	0.644	0.1520	0.680	0.1477	0.612	0.1578	0.658	0.1372	0.650	0.1460
	BIC SF	0.748	0.0926	0.752	0.0858	0.754	0.0892	0.740	0.0921	0.762	0.0789	0.772	0.0697	0.750	0.0959	0.746	0.0979	0.756	0.0833	0.736	0.1097
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.798	0.0200	0.800	0.0000	0.786	0.0652	0.758	0.0997	0.800	0.0000	0.794	0.0343	0.770	0.0772	0.800	0.0000	0.796	0.0400	0.790	0.0522
	E-net	0.798	0.0200	0.800	0.0000	0.784	0.0677	0.732	0.1340	0.800	0.0000	0.792	0.0394	0.754	0.1019	0.800	0.0000	0.796	0.0400	0.784	0.0735
	SCAD	0.612	0.2306	0.580	0.2370	0.624	0.2243	0.652	0.2082	0.624	0.2114	0.632	0.2197	0.668	0.2014	0.576	0.2483	0.646	0.1904	0.662	0.1984
	MCP	0.674	0.2232	0.644	0.2267	0.648	0.2544	0.672	0.1875	0.678	0.1926	0.686	0.2261	0.668	0.2150	0.630	0.2580	0.688	0.1783	0.688	0.1783

Table 68: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 200$ and $p = 100$. See Figure 68 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7469	0.0585	0.7458	0.0646	0.7442	0.0611	0.7608	0.0620	0.7596	0.0636	0.7777	0.0675	0.8578	0.0631	0.7524	0.0691	0.7621	0.0750	0.8635	0.0707
	BIC F	0.9434	0.0196	0.9476	0.0174	0.9526	0.0180	0.9606	0.0165	0.9472	0.0193	0.9526	0.0166	0.9704	0.0116	0.9493	0.0185	0.9586	0.0169	0.9682	0.0111
	AIC SF	0.7496	0.0589	0.7485	0.0625	0.7518	0.0586	0.7651	0.0632	0.7614	0.0594	0.7833	0.0613	0.8657	0.0562	0.7620	0.0650	0.7712	0.0686	0.8655	0.0672
	BIC SF	0.9438	0.0191	0.9476	0.0174	0.9528	0.0175	0.9606	0.0165	0.9472	0.0193	0.9528	0.0164	0.9708	0.0115	0.9492	0.0186	0.9586	0.0169	0.9682	0.0111
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9658	0.0263	0.9429	0.0321	0.9112	0.0300	0.9040	0.0328	0.9691	0.0180	0.9674	0.0112	0.9669	0.0091	0.9593	0.0220	0.9485	0.0232	0.9440	0.0185
	E-net	0.9635	0.0264	0.9316	0.0325	0.8913	0.0322	0.8589	0.0355	0.9657	0.0226	0.9644	0.0138	0.9618	0.0133	0.9551	0.0232	0.9386	0.0252	0.9218	0.0224
	SCAD	0.9227	0.0595	0.9282	0.0421	0.9399	0.0310	0.9729	0.0104	0.9359	0.0539	0.9344	0.0465	0.9665	0.0258	0.9208	0.0498	0.9397	0.0361	0.9625	0.0165
	MCP	0.9531	0.0346	0.9537	0.0258	0.9669	0.0140	0.9740	0.0088	0.9575	0.0341	0.9552	0.0344	0.9649	0.0189	0.9525	0.0282	0.9631	0.0189	0.9701	0.0122
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7575	0.0567	0.7624	0.0660	0.7613	0.0603	0.7647	0.0629	0.7569	0.0645	0.7880	0.0625	0.8727	0.0661	0.7687	0.0734	0.7819	0.0801	0.8625	0.0894
	BIC F	0.9546	0.0198	0.9600	0.0153	0.9631	0.0186	0.9685	0.0172	0.9546	0.0204	0.9613	0.0205	0.9725	0.0150	0.9580	0.0161	0.9641	0.0161	0.9768	0.0112
	AIC SF	0.7645	0.0532	0.7689	0.0621	0.7652	0.0571	0.7699	0.0616	0.7614	0.0611	0.7937	0.0576	0.8825	0.0585	0.7739	0.0676	0.7868	0.0703	0.8677	0.0796
	BIC SF	0.9551	0.0193	0.9601	0.0153	0.9634	0.0184	0.9689	0.0168	0.9546	0.0204	0.9615	0.0197	0.9732	0.0137	0.9579	0.0163	0.9640	0.0163	0.9768	0.0112
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9882	0.0064	0.9849	0.0119	0.9687	0.0246	0.9502	0.0214	0.9884	0.0076	0.9882	0.0043	0.9811	0.0091	0.9867	0.0068	0.9792	0.0136	0.9682	0.0151
	E-net	0.9878	0.0071	0.9829	0.0149	0.9617	0.0293	0.9177	0.0281	0.9884	0.0076	0.9877	0.0050	0.9766	0.0098	0.9856	0.0094	0.9749	0.0154	0.9492	0.0205
	SCAD	0.9455	0.0481	0.9402	0.0418	0.9475	0.0313	0.9767	0.0192	0.9547	0.0425	0.9613	0.0403	0.9668	0.0300	0.9435	0.0407	0.9503	0.0306	0.9749	0.0210
	MCP	0.9679	0.0357	0.9633	0.0278	0.9722	0.0228	0.9824	0.0095	0.9725	0.0268	0.9781	0.0253	0.9746	0.0193	0.9651	0.0286	0.9745	0.0183	0.9786	0.0138
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.7606	0.0585	0.7713	0.0672	0.7565	0.0677	0.7659	0.0712	0.7684	0.0662	0.7958	0.0599	0.8738	0.0608	0.7815	0.0692	0.7931	0.0754	0.8723	0.0852
	BIC F	0.9626	0.0178	0.9681	0.0159	0.9681	0.0202	0.9717	0.0124	0.9607	0.0198	0.9661	0.0188	0.9774	0.0122	0.9655	0.0166	0.9705	0.0146	0.9774	0.0132
	AIC SF	0.7664	0.0560	0.7766	0.0646	0.7674	0.0590	0.7749	0.0690	0.7777	0.0581	0.8015	0.0570	0.8805	0.0557	0.7877	0.0629	0.7997	0.0707	0.8774	0.0763
	BIC SF	0.9626	0.0178	0.9682	0.0157	0.9683	0.0199	0.9717	0.0124	0.9608	0.0196	0.9662	0.0185	0.9774	0.0122	0.9655	0.0166	0.9708	0.0138	0.9775	0.0130
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9893	0.0021	0.9895	0.0000	0.9868	0.0080	0.9789	0.0158	0.9895	0.0000	0.9888	0.0044	0.9874	0.0050	0.9892	0.0023	0.9885	0.0034	0.9847	0.0101
	E-net	0.9893	0.0021	0.9894	0.0011	0.9862	0.0099	0.9725	0.0243	0.9895	0.0000	0.9888	0.0044	0.9863	0.0068	0.9892	0.0023	0.9883	0.0039	0.9815	0.0149
	SCAD	0.9491	0.0470	0.9448	0.0376	0.9458	0.0304	0.9700	0.0205	0.9509	0.0411	0.9557	0.0383	0.9596	0.0302	0.9471	0.0411	0.9536	0.0244	0.9667	0.0176
	MCP	0.9726	0.0254	0.9723	0.0220	0.9734	0.0200	0.9815	0.0070	0.9746	0.0221	0.9759	0.0203	0.9758	0.0175	0.9735	0.0233	0.9772	0.0133	0.9763	0.0137

Table 69: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 200$ and $p = 2000$. See Figure 69 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9988	0.0005	0.9948	0.0031	0.9911	0.0024	0.9907	0.0023	0.9984	0.0016	0.9983	0.0013	0.9982	0.0008	0.9980	0.0013	0.9958	0.0048	0.9955	0.0013
	E-net	0.9986	0.0009	0.9931	0.0033	0.9889	0.0025	0.9864	0.0028	0.9982	0.0020	0.9980	0.0017	0.9980	0.0007	0.9976	0.0016	0.9948	0.0048	0.9932	0.0016
	SCAD	0.9959	0.0045	0.9937	0.0048	0.9942	0.0033	0.9973	0.0037	0.9944	0.0071	0.9954	0.0062	0.9961	0.0044	0.9948	0.0055	0.9959	0.0046	0.9967	0.0019
	MCP	0.9979	0.0022	0.9971	0.0020	0.9982	0.0009	0.9989	0.0003	0.9977	0.0022	0.9979	0.0019	0.9978	0.0020	0.9976	0.0022	0.9980	0.0017	0.9979	0.0012
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9995	0.0002	0.9991	0.0011	0.9976	0.0022	0.9957	0.0020	0.9995	0.0001	0.9994	0.0002	0.9992	0.0004	0.9994	0.0006	0.9989	0.0009	0.9977	0.0011
	E-net	0.9995	0.0002	0.9990	0.0013	0.9969	0.0027	0.9929	0.0027	0.9995	0.0002	0.9994	0.0002	0.9989	0.0004	0.9994	0.0008	0.9986	0.0011	0.9961	0.0015
	SCAD	0.9948	0.0059	0.9943	0.0042	0.9950	0.0032	0.9961	0.0031	0.9936	0.0066	0.9948	0.0062	0.9972	0.0039	0.9943	0.0059	0.9958	0.0041	0.9979	0.0019
	MCP	0.9984	0.0018	0.9980	0.0017	0.9984	0.0009	0.9991	0.0004	0.9982	0.0018	0.9982	0.0022	0.9988	0.0012	0.9982	0.0018	0.9987	0.0013	0.9988	0.0011
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9995	0.0002	0.9994	0.0008	0.9992	0.0009	0.9987	0.0011	0.9995	0.0000	0.9995	0.0001	0.9994	0.0002	0.9995	0.0001	0.9995	0.0002	0.9992	0.0005
	E-net	0.9995	0.0002	0.9994	0.0009	0.9991	0.0010	0.9981	0.0018	0.9995	0.0000	0.9995	0.0001	0.9994	0.0002	0.9995	0.0001	0.9994	0.0003	0.9991	0.0009
	SCAD	0.9952	0.0061	0.9946	0.0051	0.9944	0.0034	0.9977	0.0016	0.9949	0.0069	0.9939	0.0073	0.9969	0.0032	0.9945	0.0061	0.9945	0.0044	0.9969	0.0021
	MCP	0.9982	0.0020	0.9979	0.0018	0.9983	0.0009	0.9990	0.0003	0.9980	0.0018	0.9979	0.0023	0.9986	0.0016	0.9981	0.0020	0.9983	0.0014	0.9986	0.0011

Table 70: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 1000$ and $p = 10$. See Figure 70 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.326	0.1125	0.336	0.0980	0.338	0.0930	0.440	0.1206	0.316	0.1143	0.338	0.1052	0.348	0.1259	0.340	0.0964	0.336	0.1059	0.356	0.1157
	BIC B	0.400	0.0284	0.392	0.0394	0.402	0.0449	0.504	0.1044	0.400	0.0284	0.396	0.0281	0.496	0.1118	0.392	0.0394	0.394	0.0343	0.492	0.1116
	AIC SB	0.326	0.1125	0.336	0.0980	0.338	0.0930	0.440	0.1206	0.316	0.1143	0.338	0.1052	0.348	0.1259	0.340	0.0964	0.336	0.1059	0.356	0.1157
	BIC SB	0.400	0.0284	0.392	0.0394	0.402	0.0449	0.504	0.1044	0.400	0.0284	0.396	0.0281	0.496	0.1118	0.392	0.0394	0.394	0.0343	0.492	0.1116
	AIC F	0.326	0.1125	0.336	0.0980	0.338	0.0930	0.448	0.1210	0.318	0.1140	0.344	0.1028	0.374	0.1125	0.342	0.0997	0.340	0.1005	0.370	0.1150
	BIC F	0.400	0.0284	0.392	0.0394	0.402	0.0449	0.506	0.1043	0.400	0.0284	0.396	0.0281	0.496	0.1082	0.392	0.0394	0.394	0.0343	0.494	0.1118
	AIC SF	0.326	0.1125	0.336	0.0980	0.338	0.0930	0.448	0.1210	0.318	0.1140	0.344	0.1028	0.378	0.1097	0.344	0.0946	0.340	0.1005	0.370	0.1150
	BIC SF	0.400	0.0284	0.392	0.0394	0.402	0.0449	0.506	0.1043	0.400	0.0284	0.396	0.0281	0.496	0.1082	0.392	0.0394	0.394	0.0343	0.494	0.1118
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.400	0.0402	0.382	0.0642	0.340	0.0964	0.342	0.1281	0.402	0.0348	0.394	0.0343	0.322	0.1203	0.392	0.0394	0.354	0.0937	0.320	0.1393
	E-net	0.396	0.0400	0.368	0.0790	0.308	0.1220	0.186	0.1311	0.400	0.0284	0.392	0.0394	0.282	0.1140	0.388	0.0477	0.342	0.0997	0.198	0.1348
	SCAD	0.264	0.1501	0.280	0.1421	0.278	0.1501	0.446	0.1654	0.280	0.1363	0.276	0.1471	0.320	0.2089	0.276	0.1386	0.286	0.1511	0.312	0.2016
	MCP	0.308	0.1376	0.316	0.1369	0.292	0.1542	0.448	0.1660	0.318	0.1336	0.302	0.1378	0.324	0.2104	0.312	0.1373	0.316	0.1339	0.330	0.1977
3	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.338	0.1013	0.326	0.1050	0.354	0.1132	0.504	0.1435	0.324	0.1093	0.338	0.1052	0.438	0.1469	0.328	0.1083	0.350	0.1040	0.458	0.1485
	BIC B	0.430	0.0718	0.436	0.0823	0.468	0.0952	0.652	0.0926	0.448	0.0858	0.454	0.1058	0.600	0.1025	0.422	0.0799	0.452	0.0882	0.606	0.0600
	AIC SB	0.338	0.1013	0.326	0.1050	0.354	0.1132	0.504	0.1435	0.324	0.1093	0.338	0.1052	0.438	0.1469	0.328	0.1083	0.350	0.1040	0.458	0.1485
	BIC SB	0.430	0.0718	0.436	0.0823	0.468	0.0952	0.652	0.0926	0.448	0.0858	0.454	0.1058	0.600	0.1025	0.422	0.0799	0.452	0.0882	0.606	0.0600
	AIC F	0.338	0.1013	0.328	0.1045	0.356	0.1122	0.520	0.1421	0.326	0.1088	0.344	0.1028	0.484	0.1454	0.330	0.1078	0.354	0.1058	0.492	0.1316
	BIC F	0.430	0.0718	0.436	0.0823	0.470	0.0959	0.656	0.0903	0.448	0.0858	0.458	0.1037	0.612	0.1094	0.422	0.0799	0.456	0.0903	0.608	0.0563
	AIC SF	0.338	0.1013	0.328	0.1045	0.356	0.1122	0.520	0.1421	0.326	0.1088	0.344	0.1028	0.486	0.1484	0.330	0.1078	0.354	0.1058	0.492	0.1316
	BIC SF	0.430	0.0718	0.436	0.0823	0.470	0.0959	0.656	0.0903	0.448	0.0858	0.458	0.1037	0.612	0.1094	0.422	0.0799	0.456	0.0903	0.608	0.0563
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.724	0.1232	0.624	0.1564	0.528	0.1349	0.490	0.1738	0.698	0.1407	0.658	0.1615	0.490	0.1691	0.670	0.1592	0.596	0.1530	0.560	0.1633
	E-net	0.706	0.1317	0.592	0.1555	0.466	0.1241	0.296	0.1595	0.672	0.1621	0.608	0.1727	0.398	0.1491	0.654	0.1604	0.580	0.1491	0.466	0.2071
	SCAD	0.306	0.1669	0.306	0.1594	0.326	0.1697	0.558	0.2226	0.248	0.1685	0.312	0.1914	0.502	0.1938	0.302	0.1463	0.322	0.1679	0.502	0.1809
	MCP	0.360	0.1449	0.352	0.1636	0.356	0.1898	0.556	0.2231	0.302	0.1875	0.358	0.1996	0.510	0.1915	0.340	0.1435	0.362	0.1722	0.534	0.1659
6	OLS	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	AIC B	0.478	0.1727	0.516	0.1686	0.542	0.1640	0.640	0.1752	0.492	0.1739	0.526	0.1649	0.586	0.1870	0.476	0.1628	0.508	0.1619	0.624	0.1485
	BIC B	0.700	0.1189	0.712	0.1076	0.730	0.0959	0.776	0.0653	0.710	0.1219	0.724	0.1093	0.756	0.0880	0.712	0.1148	0.682	0.1029	0.710	0.1040
	AIC SB	0.478	0.1727	0.516	0.1686	0.542	0.1640	0.640	0.1752	0.492	0.1739	0.526	0.1649	0.586	0.1870	0.476	0.1628	0.508	0.1619	0.624	0.1485
	BIC SB	0.700	0.1189	0.712	0.1076	0.730	0.0959	0.776	0.0653	0.710	0.1219	0.724	0.1093	0.756	0.0880	0.712	0.1148	0.682	0.1029	0.710	0.1040
	AIC F	0.480	0.1729	0.520	0.1729	0.558	0.1590	0.676	0.1603	0.498	0.1764	0.542	0.1689	0.656	0.1479	0.476	0.1628	0.522	0.1554	0.648	0.1453
	BIC F	0.702	0.1155	0.712	0.1076	0.732	0.0952	0.776	0.0653	0.712	0.1183	0.726	0.1088	0.756	0.0925	0.712	0.1148	0.690	0.1040	0.712	0.1037
	AIC SF	0.480	0.1729	0.520	0.1729	0.558	0.1590	0.676	0.1603	0.498	0.1764	0.544	0.1635	0.658	0.1430	0.476	0.1628	0.522	0.1554	0.648	0.1453
	BIC SF	0.702	0.1155	0.712	0.1076	0.732	0.0952	0.776	0.0653	0.712	0.1183	0.726	0.1088	0.760	0.0853	0.712	0.1148	0.690	0.1040	0.712	0.1037
	Ridge	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
	Lasso	0.800	0.0000	0.800	0.0000	0.798	0.0200	0.730	0.1150	0.800	0.0000	0.800	0.0000	0.738	0.1126	0.800	0.0000	0.800	0.0000	0.782	0.0575
	E-net	0.800	0.0000	0.800	0.0000	0.790	0.0522	0.646	0.1604	0.800	0.0000	0.800	0.0000	0.682	0.1366	0.800	0.0000	0.800	0.0000	0.774	0.0836
	SCAD	0.610	0.2385	0.602	0.2535	0.628	0.2292	0.720	0.1798	0.582	0.2576	0.630	0.2209	0.682	0.2185	0.584	0.2489	0.572	0.2089	0.650	0.1936
	MCP	0.650	0.2263	0.640	0.2327	0.684	0.1973	0.716	0.1587	0.632	0.2441	0.678	0.2008	0.676	0.1985	0.632	0.2339	0.628	0.2128	0.666	0.1821

Table 71: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 1000$ and $p = 100$. See Figure 71 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8161	0.0338	0.8169	0.0391	0.8104	0.0384	0.8092	0.0443	0.8105	0.0378	0.8213	0.0394	0.8896	0.0397	0.8105	0.0407	0.8269	0.0478	0.8899	0.0492
	BIC F	0.9606	0.0093	0.9609	0.0095	0.9601	0.0093	0.9659	0.0083	0.9601	0.0084	0.9617	0.0087	0.9713	0.0076	0.9607	0.0102	0.9631	0.0092	0.9696	0.0080
	AIC SF	0.8165	0.0331	0.8181	0.0382	0.8119	0.0377	0.8104	0.0450	0.8112	0.0383	0.8237	0.0391	0.8935	0.0387	0.8120	0.0397	0.8273	0.0476	0.8912	0.0488
	BIC SF	0.9606	0.0093	0.9609	0.0095	0.9601	0.0093	0.9659	0.0083	0.9601	0.0084	0.9617	0.0087	0.9713	0.0076	0.9607	0.0102	0.9631	0.0092	0.9696	0.0080
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9660	0.0061	0.9524	0.0235	0.9157	0.0292	0.8825	0.0289	0.9662	0.0113	0.9679	0.0023	0.9659	0.0058	0.9656	0.0061	0.9527	0.0157	0.9349	0.0202
	E-net	0.9654	0.0072	0.9437	0.0264	0.8922	0.0311	0.8260	0.0327	0.9654	0.0144	0.9674	0.0038	0.9639	0.0056	0.9646	0.0077	0.9441	0.0177	0.9066	0.0221
	SCAD	0.8940	0.0469	0.8994	0.0487	0.9156	0.0358	0.9714	0.0105	0.8898	0.0535	0.8942	0.0498	0.9498	0.0255	0.9012	0.0526	0.9054	0.0369	0.9574	0.0219
	MCP	0.9412	0.0276	0.9423	0.0295	0.9514	0.0209	0.9727	0.0085	0.9399	0.0312	0.9364	0.0325	0.9649	0.0158	0.9436	0.0345	0.9436	0.0195	0.9626	0.0174
3	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8044	0.0392	0.8121	0.0388	0.8123	0.0415	0.8241	0.0338	0.8115	0.0379	0.8305	0.0417	0.8878	0.0427	0.8112	0.0434	0.8280	0.0443	0.9041	0.0459
	BIC F	0.9619	0.0117	0.9623	0.0085	0.9624	0.0113	0.9760	0.0075	0.9614	0.0106	0.9657	0.0118	0.9769	0.0066	0.9636	0.0092	0.9665	0.0094	0.9793	0.0072
	AIC SF	0.8051	0.0388	0.8135	0.0387	0.8128	0.0419	0.8242	0.0338	0.8119	0.0377	0.8327	0.0404	0.8911	0.0416	0.8123	0.0427	0.8304	0.0429	0.9047	0.0448
	BIC SF	0.9619	0.0117	0.9623	0.0085	0.9625	0.0112	0.9760	0.0075	0.9614	0.0106	0.9657	0.0118	0.9769	0.0066	0.9636	0.0092	0.9665	0.0094	0.9793	0.0072
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9865	0.0062	0.9793	0.0118	0.9667	0.0184	0.9361	0.0307	0.9862	0.0059	0.9833	0.0089	0.9755	0.0094	0.9806	0.0080	0.9733	0.0104	0.9634	0.0148
	E-net	0.9860	0.0065	0.9765	0.0136	0.9548	0.0262	0.8768	0.0311	0.9852	0.0070	0.9809	0.0095	0.9696	0.0079	0.9792	0.0082	0.9685	0.0121	0.9320	0.0173
	SCAD	0.9144	0.0504	0.9076	0.0451	0.9238	0.0327	0.9785	0.0107	0.9138	0.0485	0.9244	0.0516	0.9544	0.0288	0.9228	0.0506	0.9272	0.0323	0.9702	0.0196
	MCP	0.9483	0.0345	0.9439	0.0255	0.9562	0.0197	0.9809	0.0089	0.9468	0.0361	0.9568	0.0276	0.9694	0.0164	0.9514	0.0295	0.9559	0.0197	0.9791	0.0119
6	OLS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	AIC F	0.8105	0.0412	0.8216	0.0420	0.8236	0.0457	0.8323	0.0377	0.8239	0.0384	0.8416	0.0421	0.8984	0.0444	0.8242	0.0431	0.8373	0.0481	0.9121	0.0466
	BIC F	0.9788	0.0104	0.9765	0.0111	0.9775	0.0110	0.9801	0.0091	0.9768	0.0105	0.9802	0.0113	0.9840	0.0080	0.9757	0.0119	0.9799	0.0089	0.9853	0.0075
	AIC SF	0.8114	0.0407	0.8220	0.0421	0.8251	0.0444	0.8332	0.0377	0.8245	0.0380	0.8443	0.0411	0.9015	0.0422	0.8254	0.0421	0.8389	0.0465	0.9122	0.0466
	BIC SF	0.9788	0.0104	0.9765	0.0111	0.9775	0.0110	0.9801	0.0091	0.9768	0.0105	0.9802	0.0113	0.9840	0.0080	0.9757	0.0119	0.9799	0.0089	0.9854	0.0072
	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9895	0.0000	0.9892	0.0023	0.9889	0.0023	0.9697	0.0214	0.9895	0.0000	0.9894	0.0011	0.9872	0.0049	0.9895	0.0000	0.9893	0.0015	0.9824	0.0098
	E-net	0.9895	0.0000	0.9888	0.0036	0.9879	0.0057	0.9527	0.0315	0.9895	0.0000	0.9894	0.0011	0.9857	0.0059	0.9894	0.0011	0.9889	0.0031	0.9743	0.0167
	SCAD	0.9666	0.0371	0.9579	0.0413	0.9633	0.0325	0.9755	0.0219	0.9656	0.0423	0.9734	0.0355	0.9783	0.0217	0.9612	0.0508	0.9639	0.0364	0.9771	0.0171
	MCP	0.9777	0.0240	0.9749	0.0246	0.9786	0.0184	0.9837	0.0081	0.9762	0.0279	0.9834	0.0167	0.9832	0.0126	0.9749	0.0296	0.9781	0.0199	0.9818	0.0115

Table 72: Mean and standard deviation of the β-specificity for the non-linear simulations when $n = 1000$ and $p = 2000$. See Figure 72 for the corresponding visualization.

	Type	Independent		Symmetric						Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		0.9		0.2		0.5		0.9		0.2		0.5		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9984	0.0004	0.9952	0.0031	0.9903	0.0030	0.9886	0.0028	0.9984	0.0003	0.9985	0.0002	0.9984	0.0003	0.9982	0.0004	0.9964	0.0014	0.9948	0.0014
	E-net	0.9983	0.0006	0.9938	0.0035	0.9874	0.0032	0.9826	0.0034	0.9984	0.0004	0.9985	0.0002	0.9982	0.0003	0.9979	0.0007	0.9954	0.0015	0.9916	0.0015
	SCAD	0.9914	0.0060	0.9907	0.0040	0.9937	0.0027	0.9990	0.0000	0.9902	0.0079	0.9913	0.0053	0.9987	0.0005	0.9914	0.0057	0.9960	0.0018	0.9990	0.0001
	MCP	0.9960	0.0025	0.9957	0.0024	0.9973	0.0011	0.9990	0.0000	0.9957	0.0029	0.9965	0.0022	0.9988	0.0004	0.9959	0.0028	0.9973	0.0012	0.9990	0.0001
3	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9994	0.0002	0.9991	0.0007	0.9971	0.0023	0.9945	0.0021	0.9994	0.0003	0.9993	0.0003	0.9988	0.0004	0.9992	0.0003	0.9986	0.0008	0.9973	0.0012
	E-net	0.9994	0.0003	0.9989	0.0010	0.9957	0.0027	0.9892	0.0026	0.9993	0.0003	0.9993	0.0004	0.9985	0.0004	0.9991	0.0004	0.9981	0.0011	0.9944	0.0013
	SCAD	0.9943	0.0057	0.9909	0.0058	0.9920	0.0031	0.9989	0.0007	0.9926	0.0068	0.9949	0.0053	0.9960	0.0045	0.9936	0.0051	0.9928	0.0048	0.9980	0.0021
	MCP	0.9970	0.0027	0.9960	0.0023	0.9973	0.0012	0.9993	0.0002	0.9968	0.0025	0.9973	0.0022	0.9980	0.0021	0.9970	0.0020	0.9971	0.0016	0.9987	0.0011
6	Ridge	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Lasso	0.9995	0.0000	0.9995	0.0000	0.9993	0.0005	0.9977	0.0015	0.9995	0.0000	0.9995	0.0000	0.9994	0.0002	0.9995	0.0000	0.9995	0.0001	0.9988	0.0009
	E-net	0.9995	0.0000	0.9995	0.0000	0.9992	0.0007	0.9964	0.0024	0.9995	0.0000	0.9995	0.0000	0.9992	0.0003	0.9995	0.0000	0.9995	0.0001	0.9982	0.0013
	SCAD	0.9970	0.0043	0.9956	0.0043	0.9964	0.0031	0.9969	0.0032	0.9960	0.0060	0.9970	0.0045	0.9979	0.0029	0.9970	0.0034	0.9975	0.0029	0.9982	0.0020
	MCP	0.9985	0.0022	0.9982	0.0018	0.9988	0.0010	0.9992	0.0003	0.9985	0.0019	0.9989	0.0011	0.9990	0.0010	0.9989	0.0013	0.9989	0.0011	0.9990	0.0009