SUPPLEMENTARY MATERIALS: Supplementary Materials: A Comparative Study of Penalized Regression and Machine Learning Algorithms in High Dimensional Scenarios

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SM1. 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.

We used two different response functions for our simulations. **Model 1** used a linear response,

$$\mathbf{y} = 1 + 2\mathbf{X}_1 - 2\mathbf{X}_2 + 0.5\mathbf{X}_5 + 3\mathbf{X}_6 + \mathbf{e} \tag{SM1.1}$$

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 (**Model 2**) used

$$\mathbf{y} = 6 \times 1_{\mathbf{X}_1>0} + \mathbf{X}_2^2 + 0.5\mathbf{X}_6 + 3\mathbf{X}_7 + 2 \times 1_{\mathbf{X}_8>0} \times 1_{\mathbf{X}_9>0} + \mathbf{e} \tag{SM1.2}$$

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

$$1_{\mathbf{X}_i>0} = \begin{cases} 0, & \mathbf{X}_i \leq 0 \\ 1, & \mathbf{X}_i > 0 \end{cases}. \tag{SM1.3}$$

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.

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SM2. Figures for the simulations Using Model 1.

SM2.1. Figures for the average training MSE for Model 1.

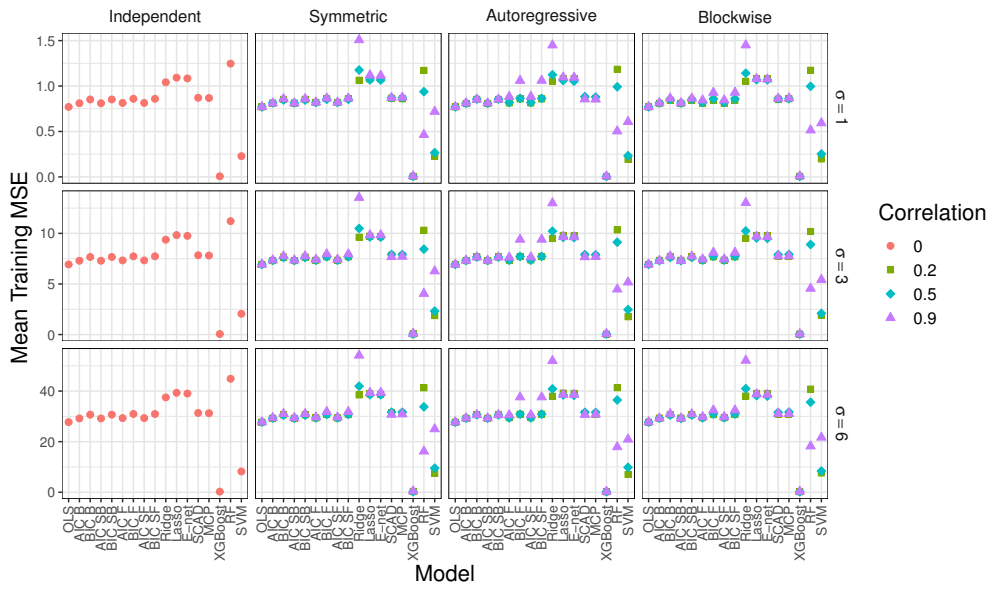

Figure SM1: Average training MSE for Model 1 when $n = 50$ and $p = 10$. See Table SM1 for the corresponding data.

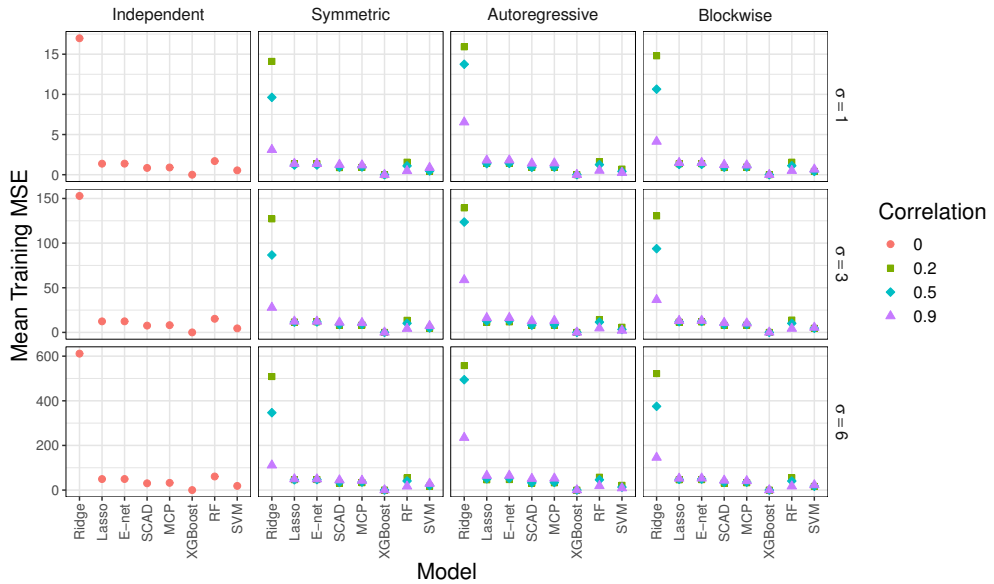

Figure SM2: Average training MSE for Model 1 when $n = 50$ and $p = 100$. See Table SM2 for the corresponding data.

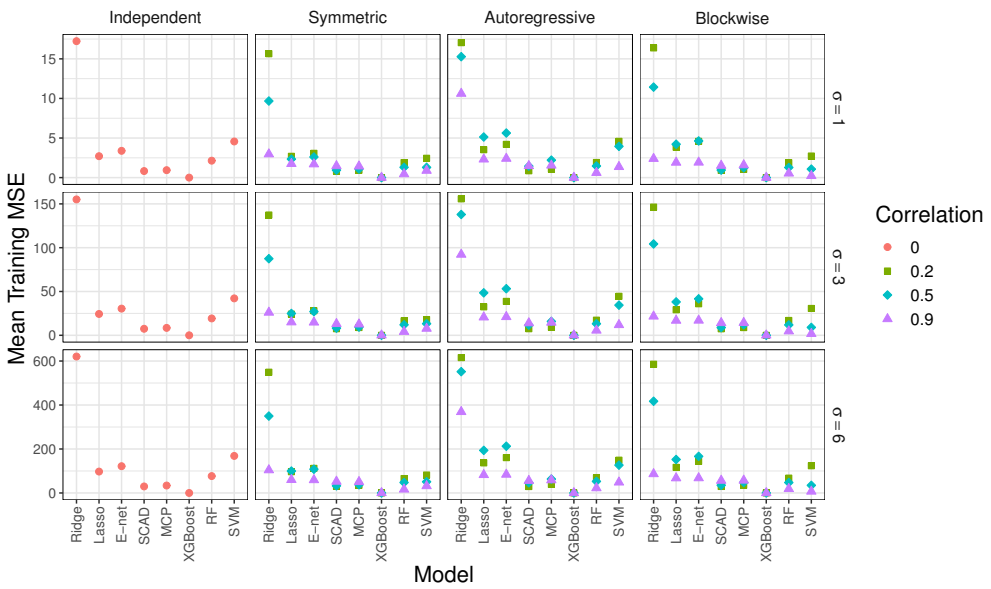

Figure SM3: Average training MSE for Model 1 when $n = 50$ and $p = 2000$. See Table SM3 for the corresponding data.

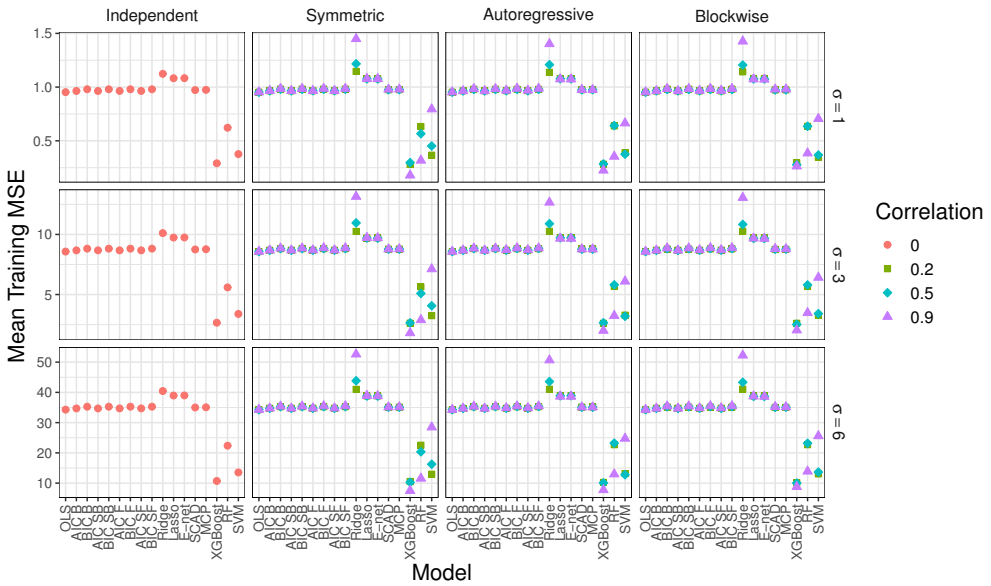

Figure SM4: Average training MSE for Model 1 when $n = 200$ and $p = 10$. See Table SM4 for the corresponding data.

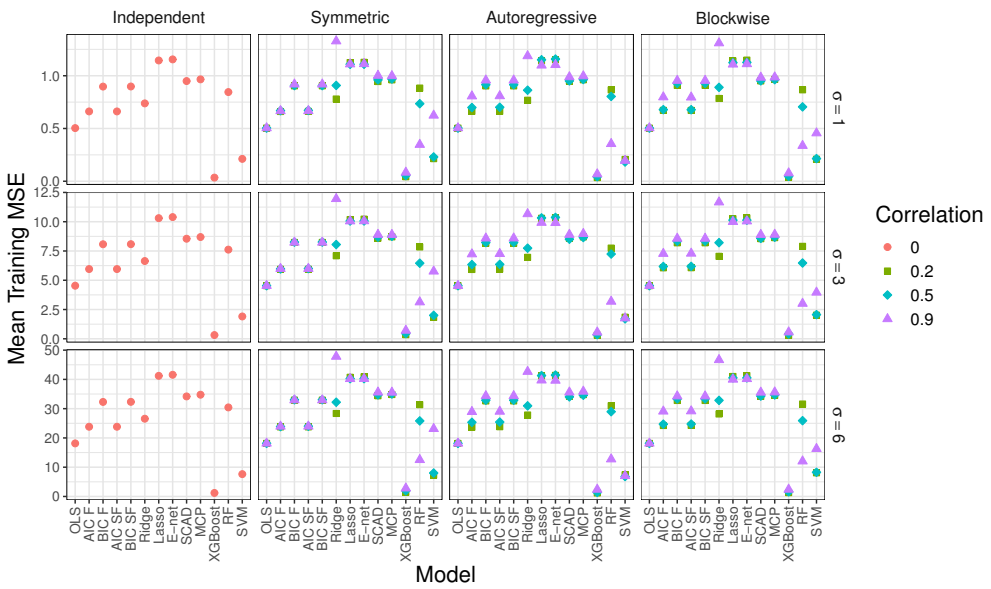

Figure SM5: Average training MSE for Model 1 when $n = 200$ and $p = 100$. See Table SM5 for the corresponding data.

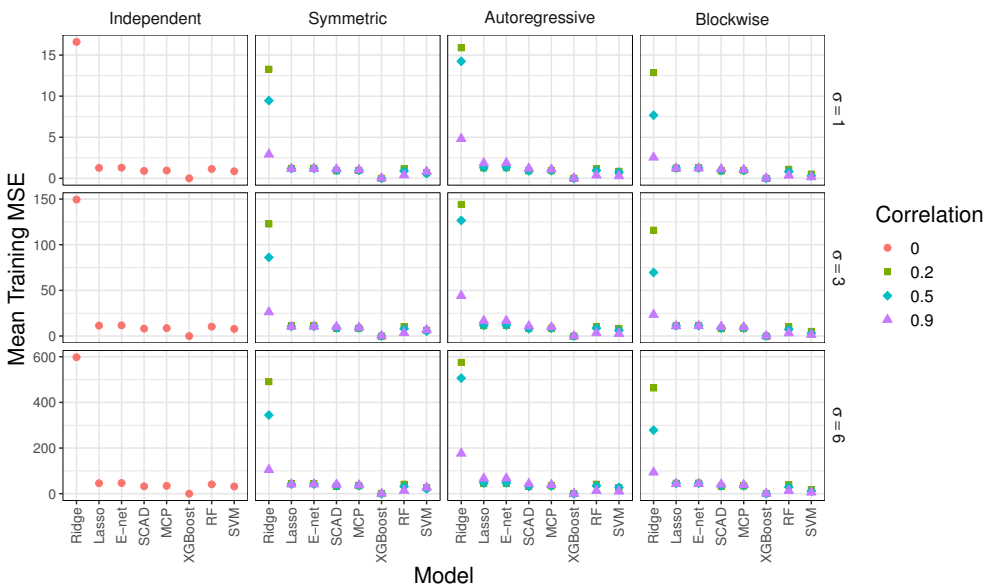

Figure SM6: Average training MSE for Model 1 when $n = 200$ and $p = 2000$. See Table SM6 for the corresponding data.

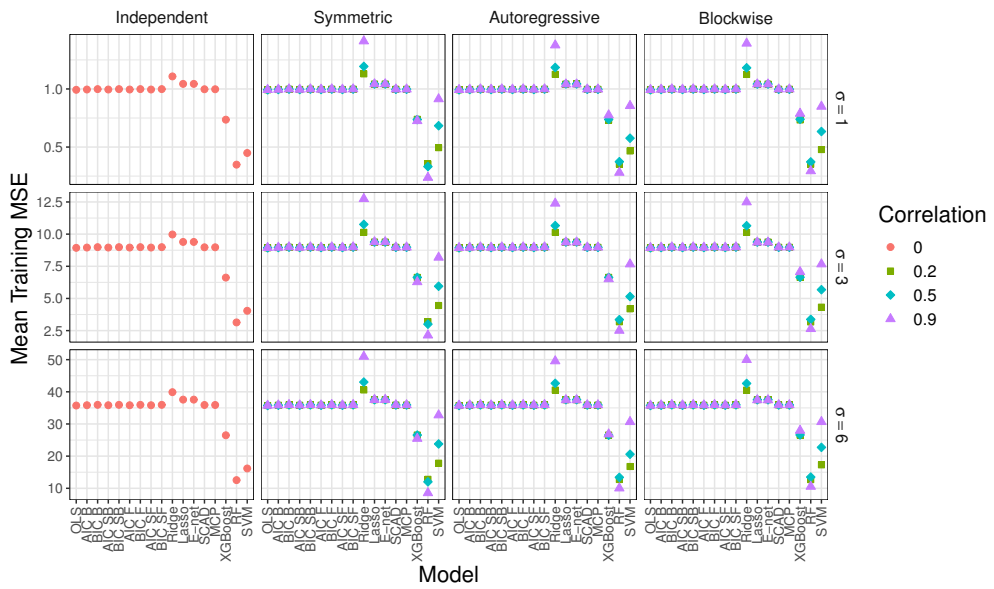

Figure SM7: Average training MSE for Model 1 when $n = 1000$ and $p = 10$. See Table SM7 for the corresponding data.

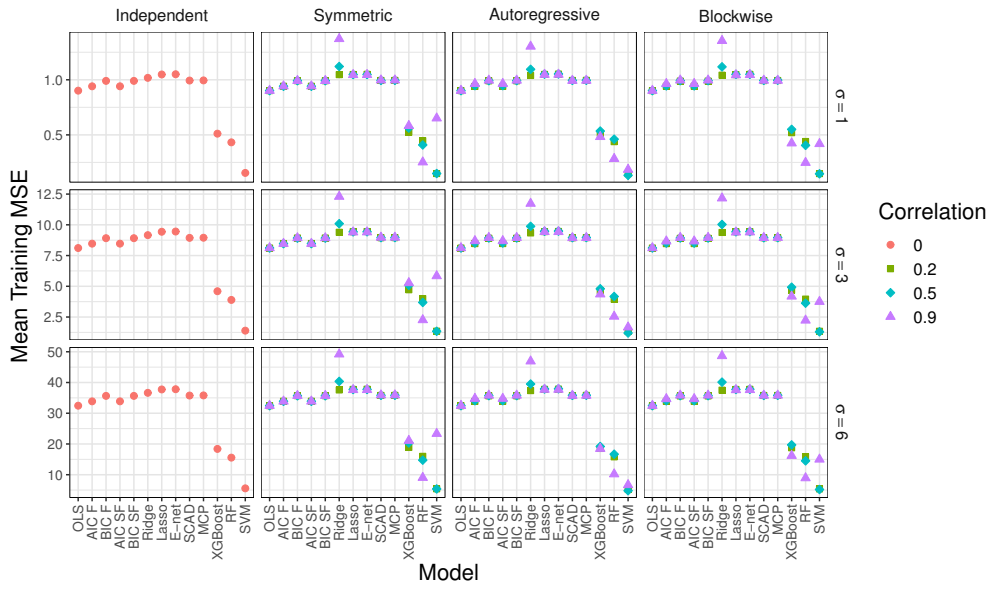

Figure SM8: Average training MSE for Model 1 when $n = 1000$ and $p = 100$. See Table SM8 for the corresponding data.

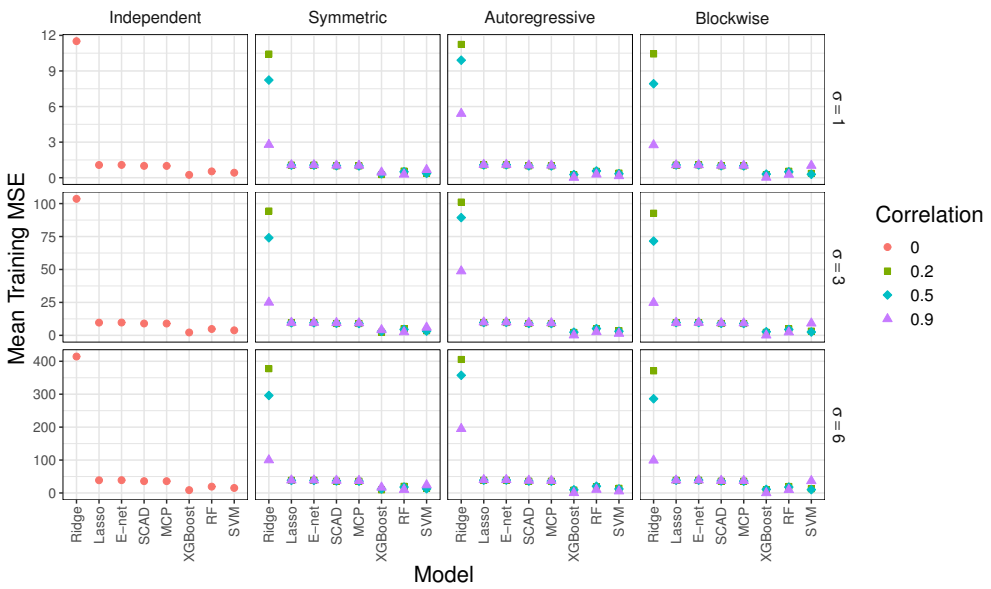

Figure SM9: Average training MSE for Model 1 when $n = 1000$ and $p = 2000$. See Table SM9 for the corresponding data.

SM2.2. Figures for the average testing MSE for Model 1.

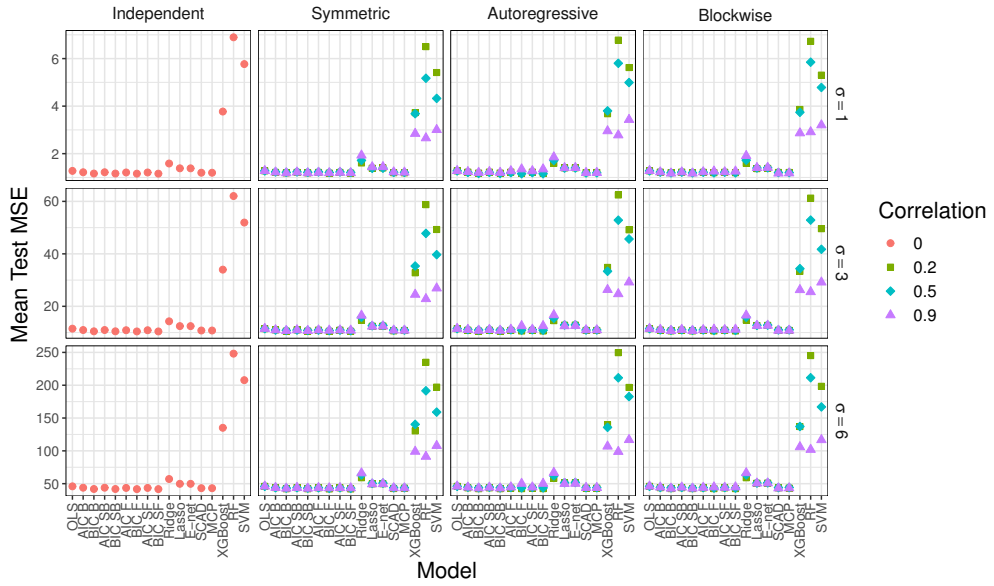

Figure SM10: Average testing MSE for Model 1 when $n = 50$ and $p = 10$. See Table SM10 for the corresponding data.

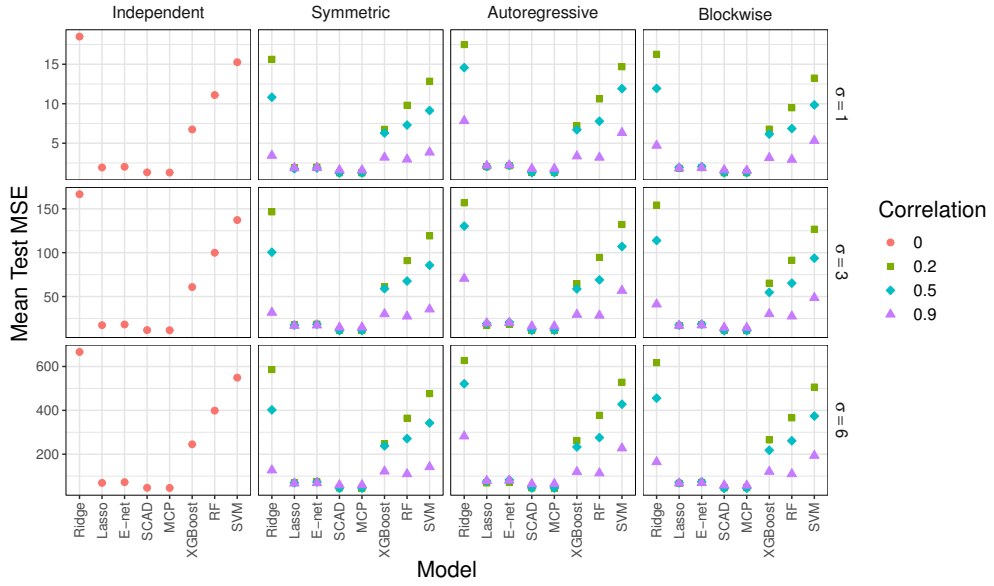

Figure SM11: Average testing MSE for Model 1 when $n = 50$ and $p = 100$. See Table SM11 for the corresponding data.

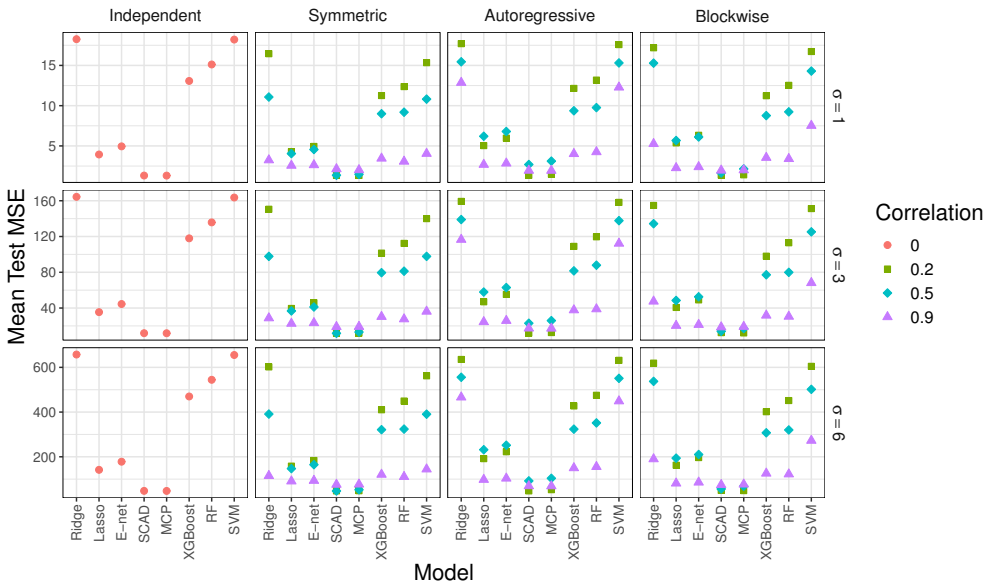

Figure SM12: Average testing MSE for Model 1 when $n = 50$ and $p = 2000$. See Table SM12 for the corresponding data.

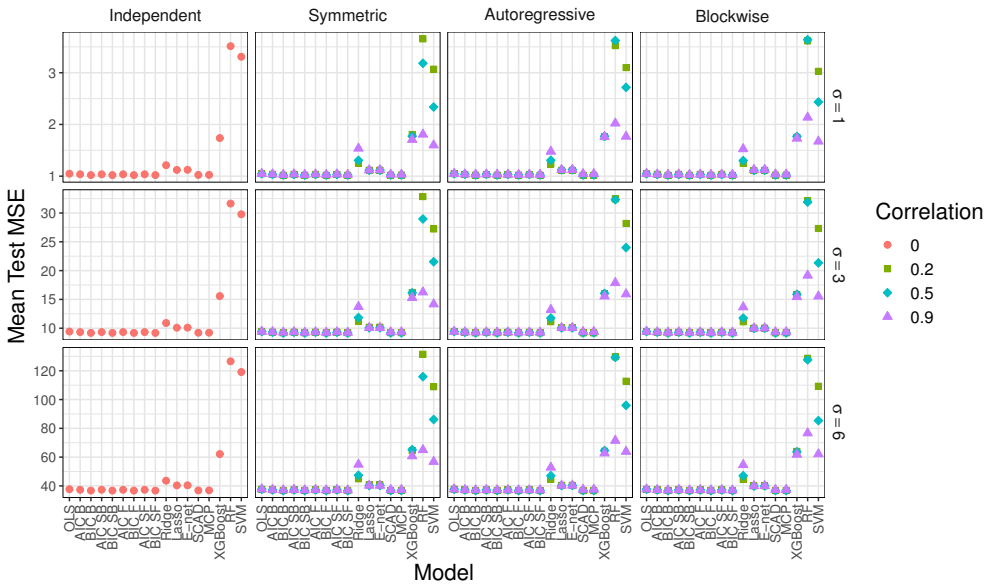

Figure SM13: Average testing MSE for Model 1 when $n = 200$ and $p = 10$. See Table SM13 for the corresponding data.

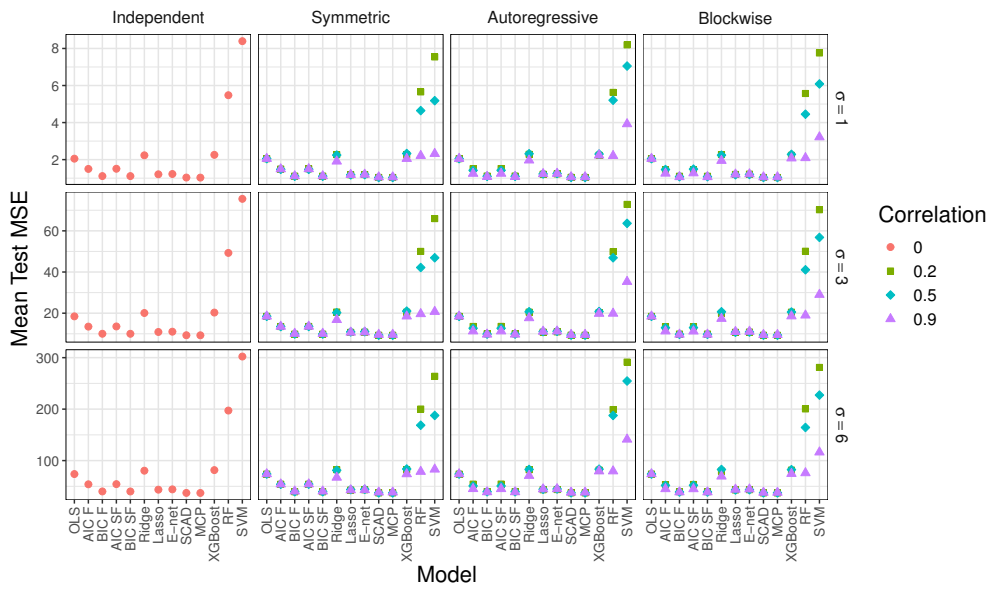

Figure SM14: Average testing MSE for Model 1 when $n = 200$ and $p = 100$. See Table SM14 for the corresponding data.

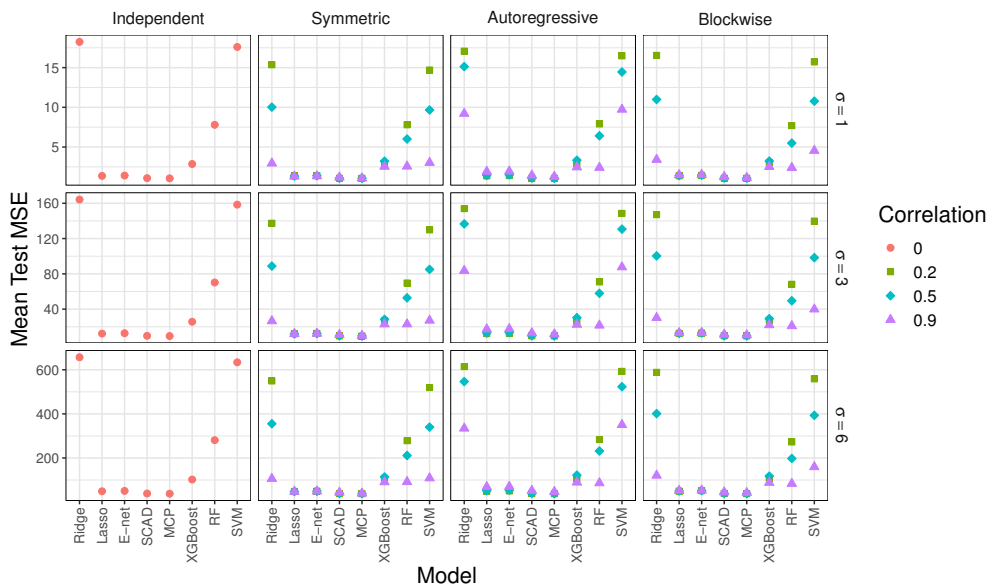

Figure SM15: Average testing MSE for Model 1 when $n = 200$ and $p = 2000$. See Table SM15 for the corresponding data.

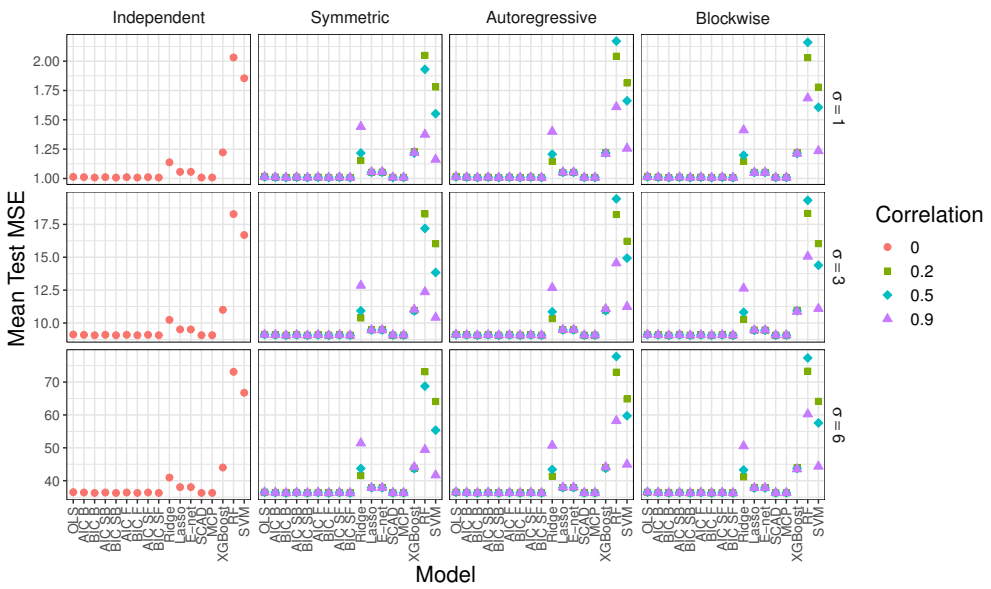

Figure SM16: Average testing MSE for Model 1 when $n = 1000$ and $p = 10$. See Table SM16 for the corresponding data.

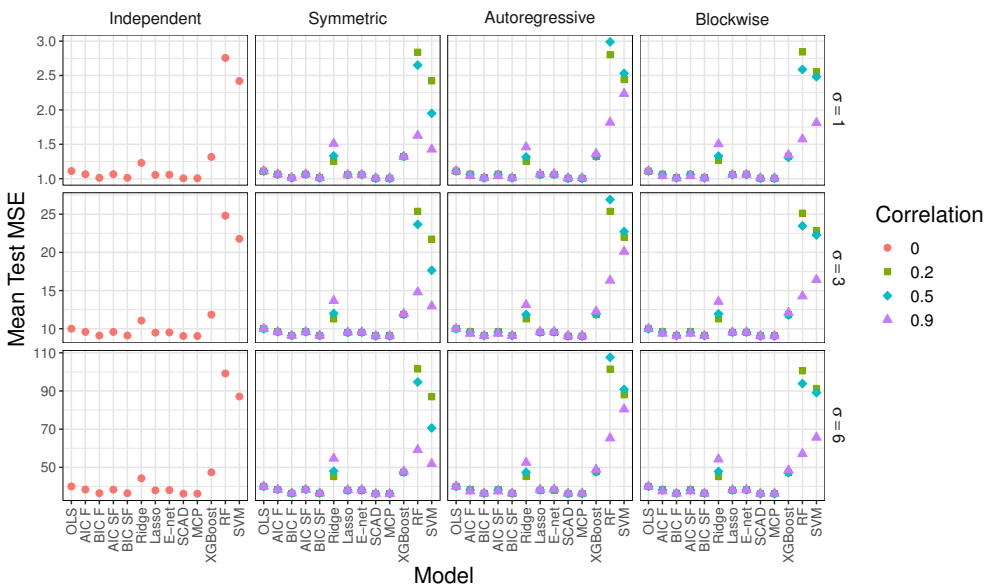

Figure SM17: Average testing MSE for Model 1 when $n = 1000$ and $p = 100$. See Table SM17 for the corresponding data.

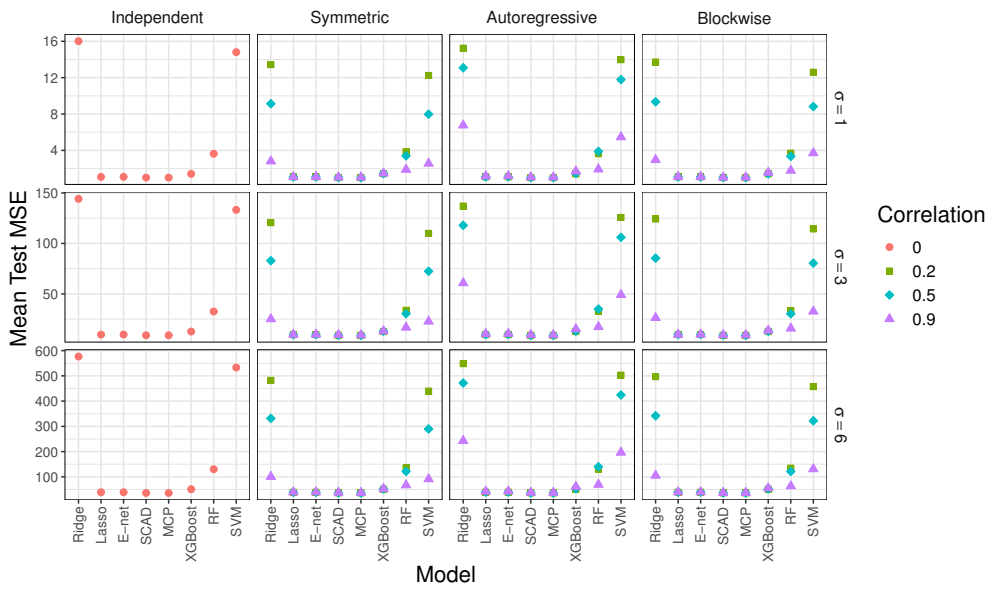

Figure SM18: Average testing MSE for Model 1 when $n = 1000$ and $p = 2000$. See Table SM18 for the corresponding data.

SM2.3. Figures for the average β-sensitivity for Model 1.

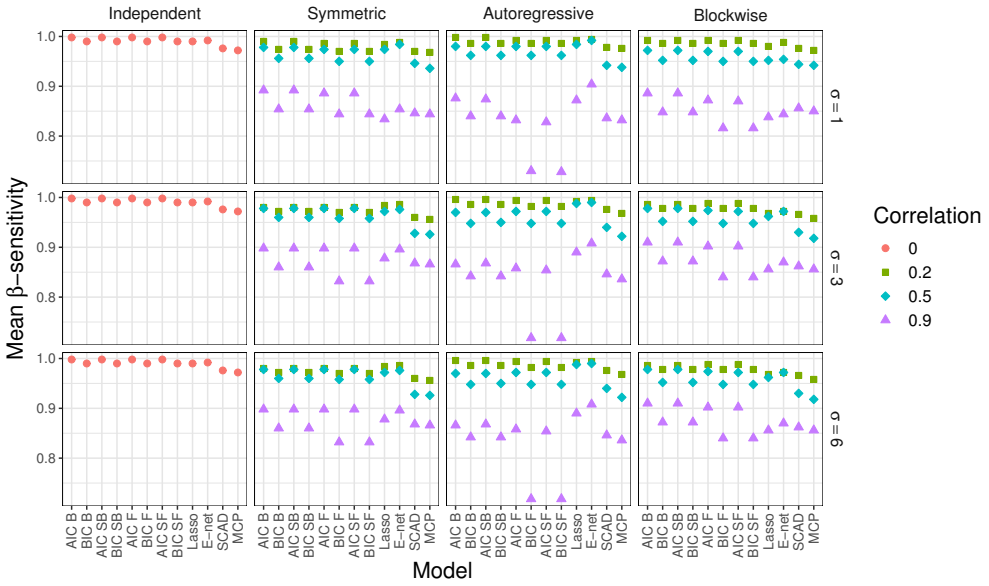

Figure SM19: Average β-sensitivity for Model 1 when $n = 50$ and $p = 10$. See Table SM19 for the corresponding data.

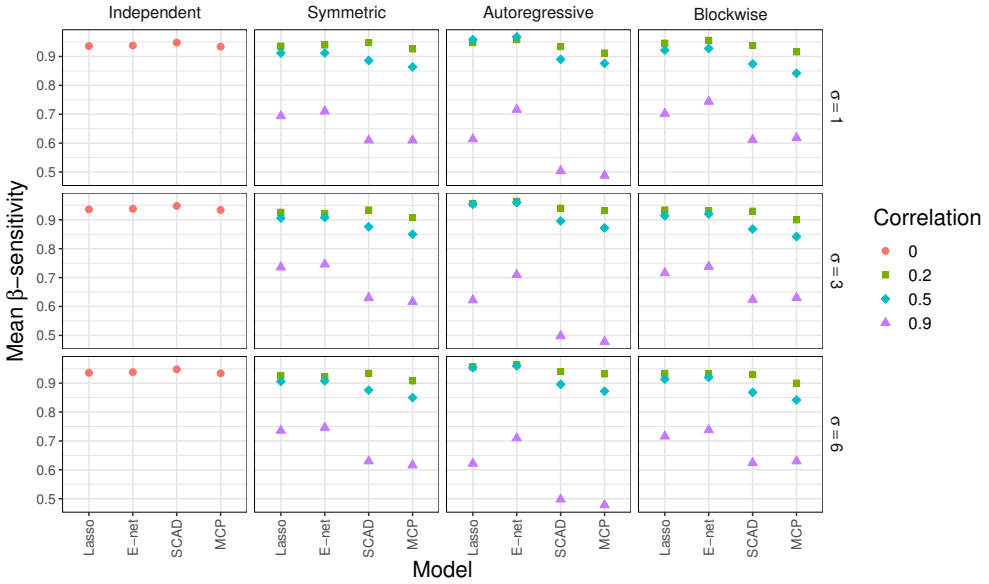

Figure SM20: Average β-sensitivity for Model 1 when $n = 50$ and $p = 100$. See Table SM20 for the corresponding data.

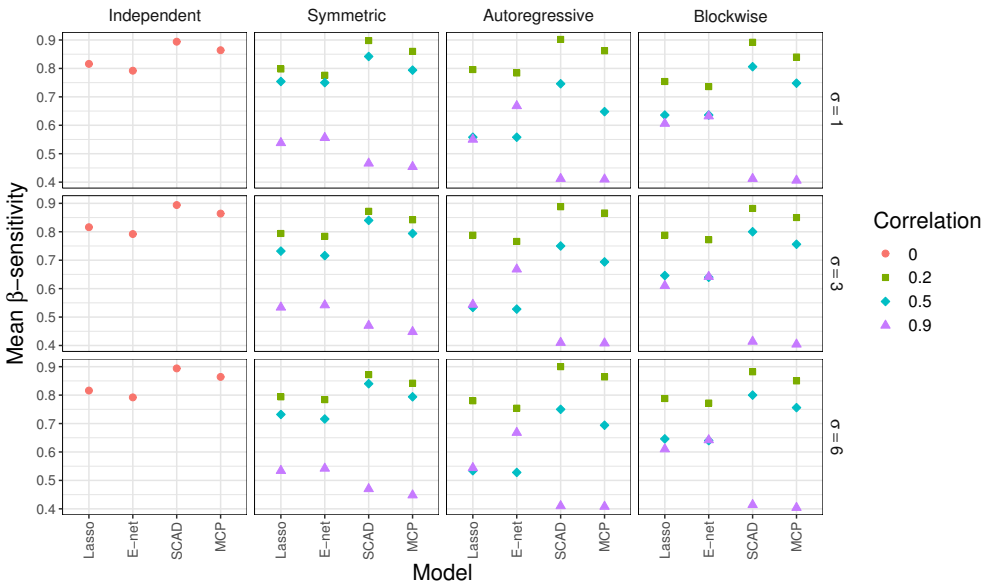

Figure SM21: Average β-sensitivity for Model 1 when $n = 50$ and $p = 2000$. See Table SM21 for the corresponding data.

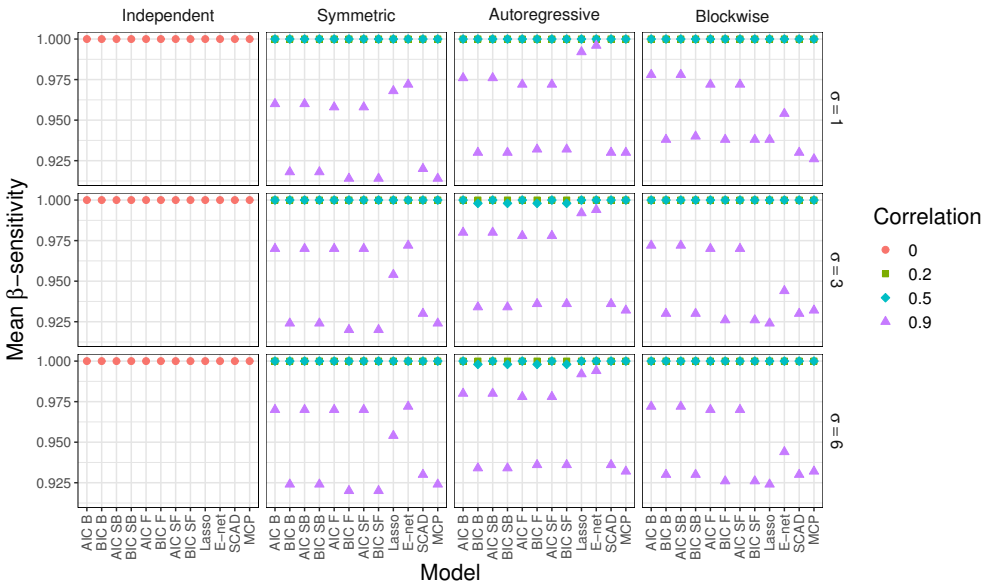

Figure SM22: Average β-sensitivity for Model 1 when $n = 200$ and $p = 10$. See Table SM22 for the corresponding data.

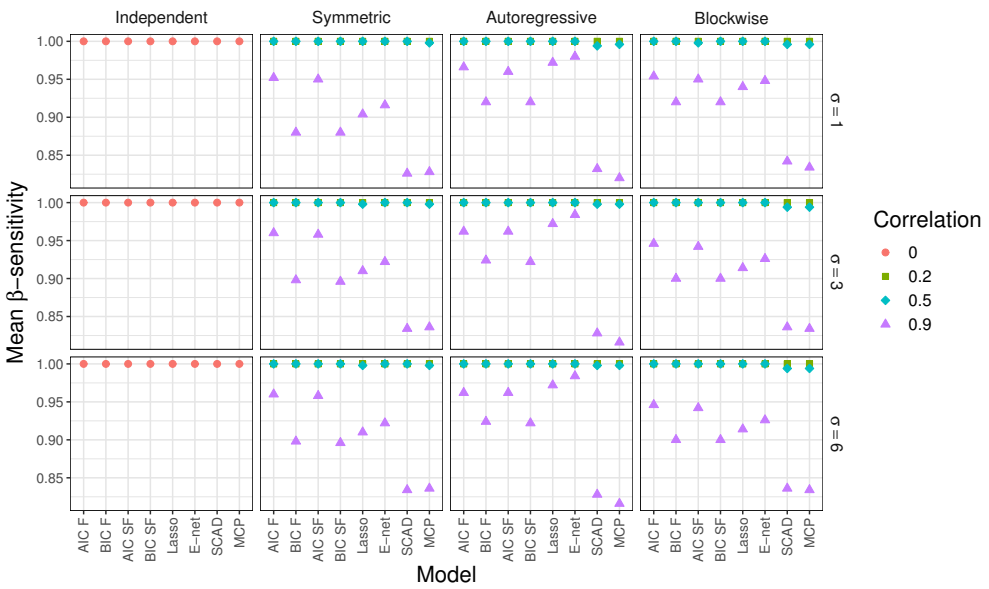

Figure SM23: Average β-sensitivity for Model 1 when $n = 200$ and $p = 100$. See Table SM23 for the corresponding data.

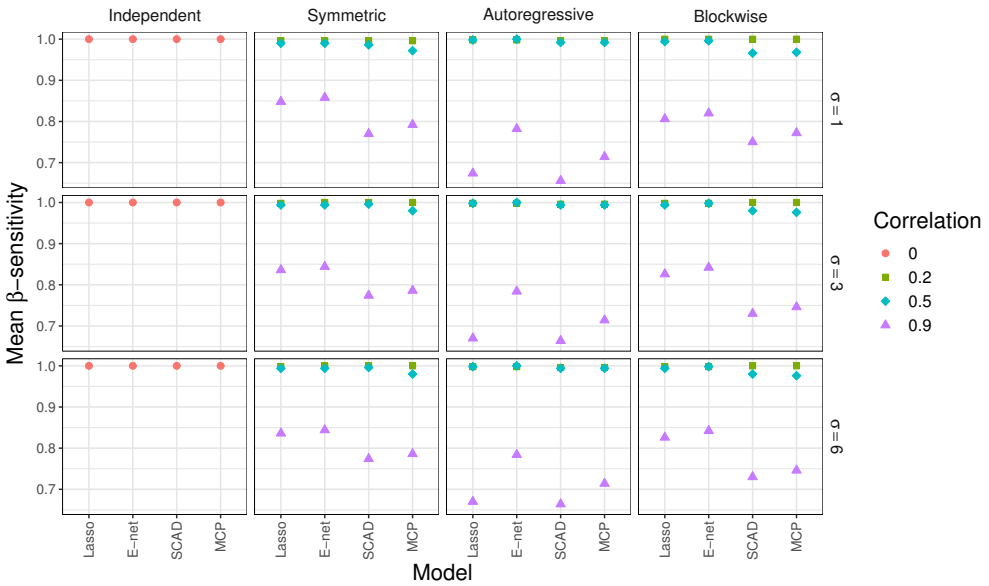

Figure SM24: Average β-sensitivity for Model 1 when $n = 200$ and $p = 2000$. See Table SM24 for the corresponding data.

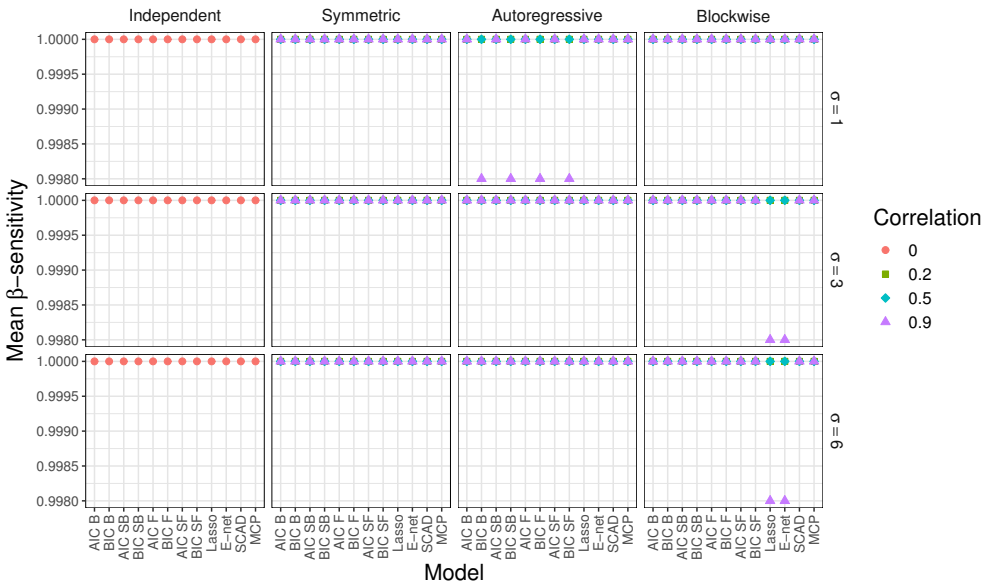

Figure SM25: Average β-sensitivity for Model 1 when $n = 1000$ and $p = 10$. See Table SM25 for the corresponding data.

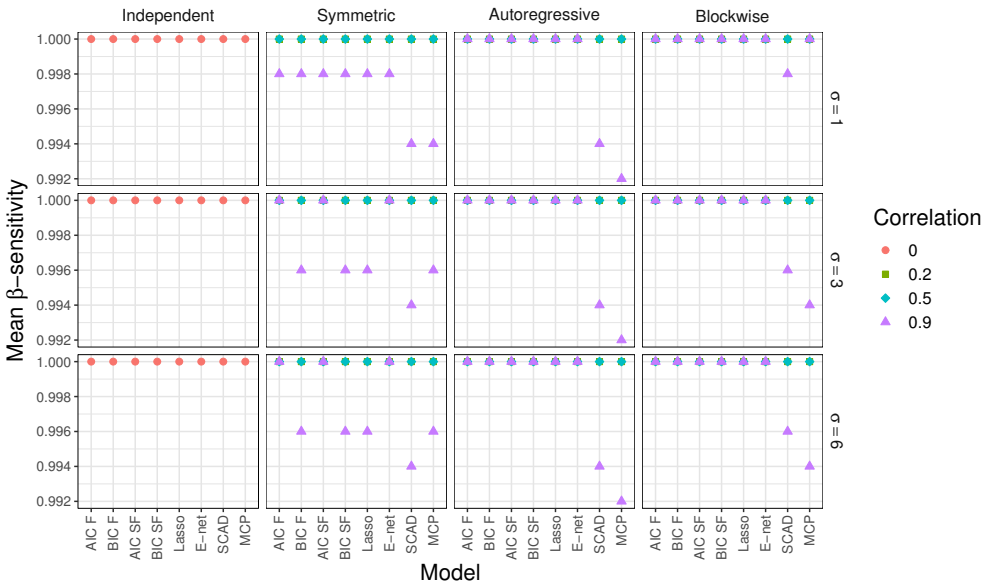

Figure SM26: Average β-sensitivity for Model 1 when $n = 1000$ and $p = 100$. See Table SM26 for the corresponding data.

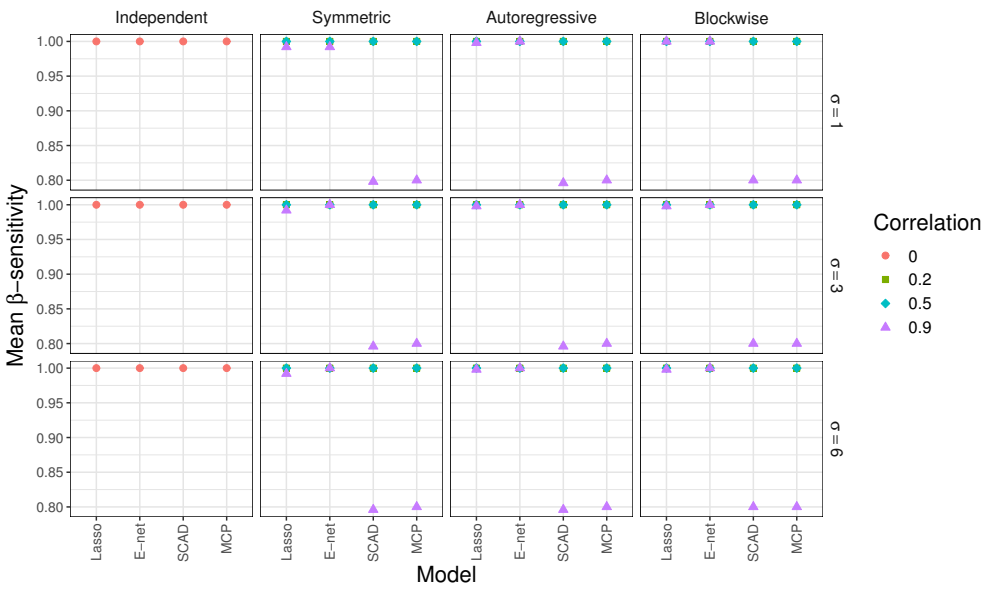

Figure SM27: Average β-sensitivity for Model 1 when $n = 1000$ and $p = 2000$. See Table SM27 for the corresponding data.

SM2.4. Figures for the average β-specificity for Model 1.

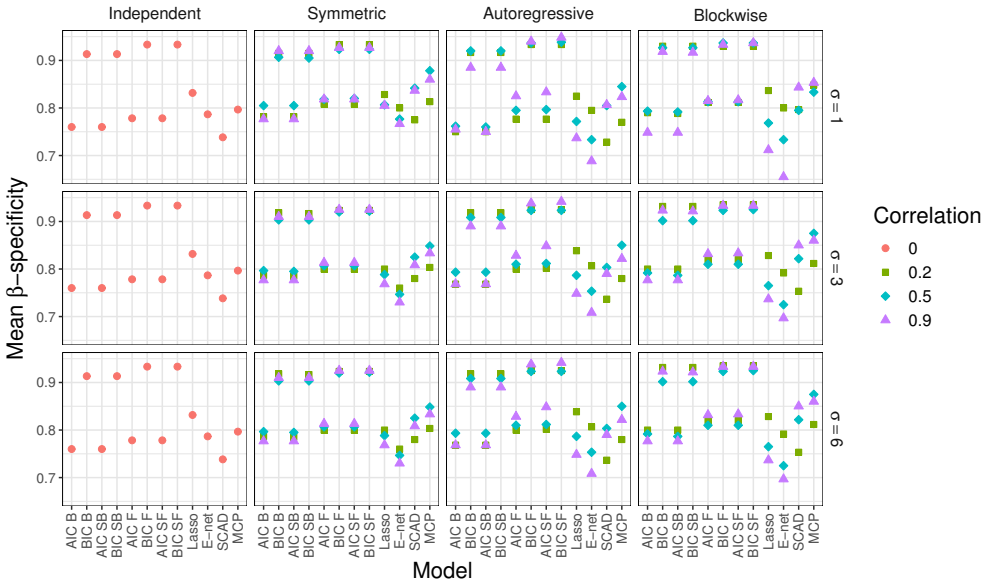

Figure SM28: Average β-specificity for Model 1 when $n = 50$ and $p = 10$. See Table SM28 for the corresponding data.

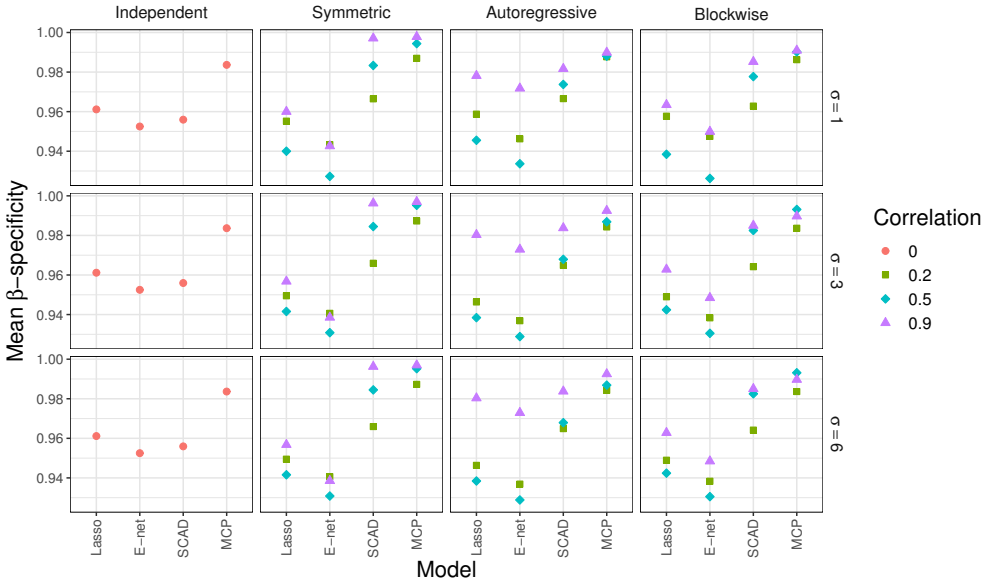

Figure SM29: Average β-specificity for Model 1 when $n = 50$ and $p = 100$. See Table SM29 for the corresponding data.

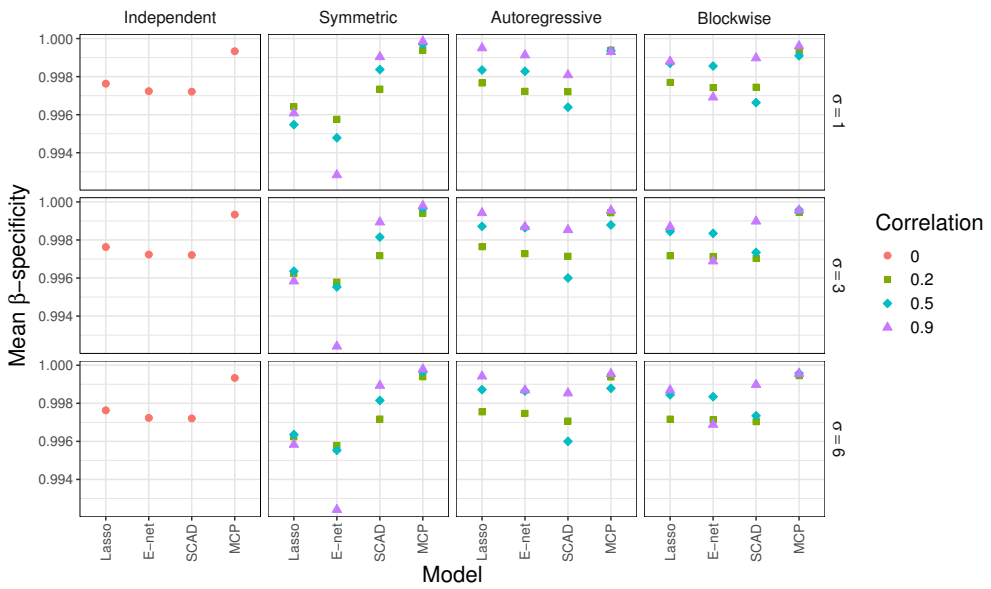

Figure SM30: Average β-specificity for Model 1 when $n = 50$ and $p = 2000$. See Table SM30 for the corresponding data.

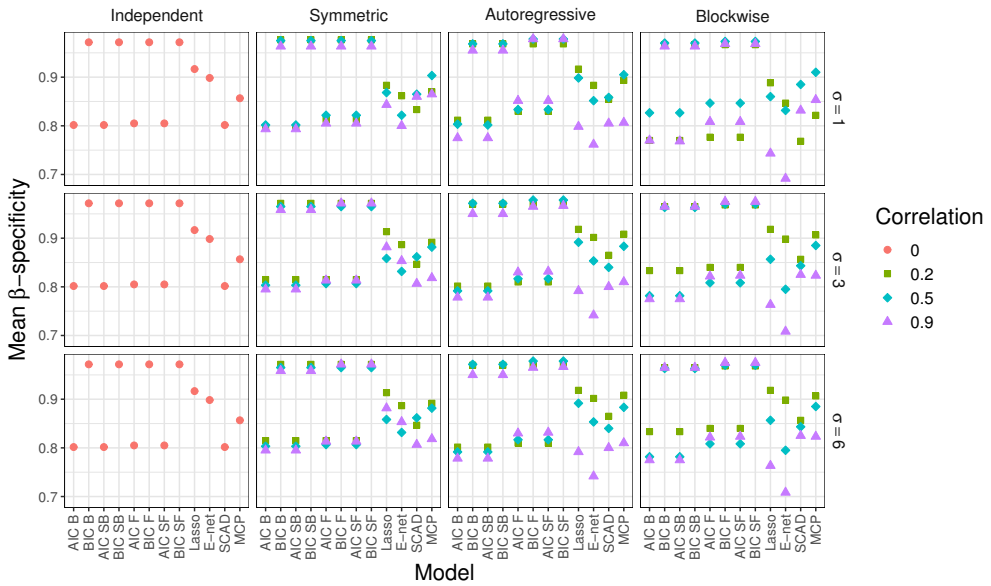

Figure SM31: Average β-specificity for Model 1 when $n = 200$ and $p = 10$. See Table SM31 for the corresponding data.

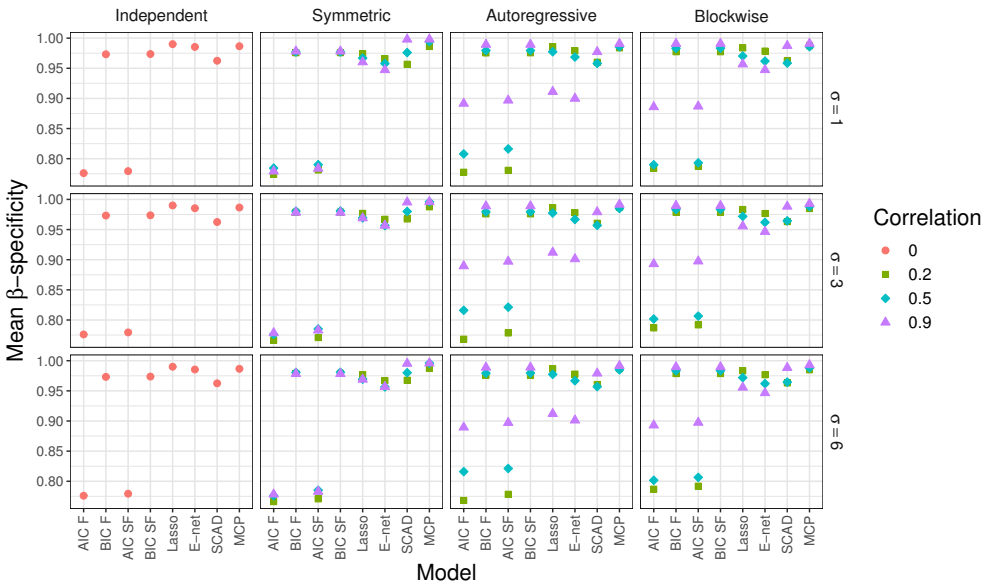

Figure SM32: Average β-specificity for Model 1 when $n = 200$ and $p = 100$. See Table SM32 for the corresponding data.

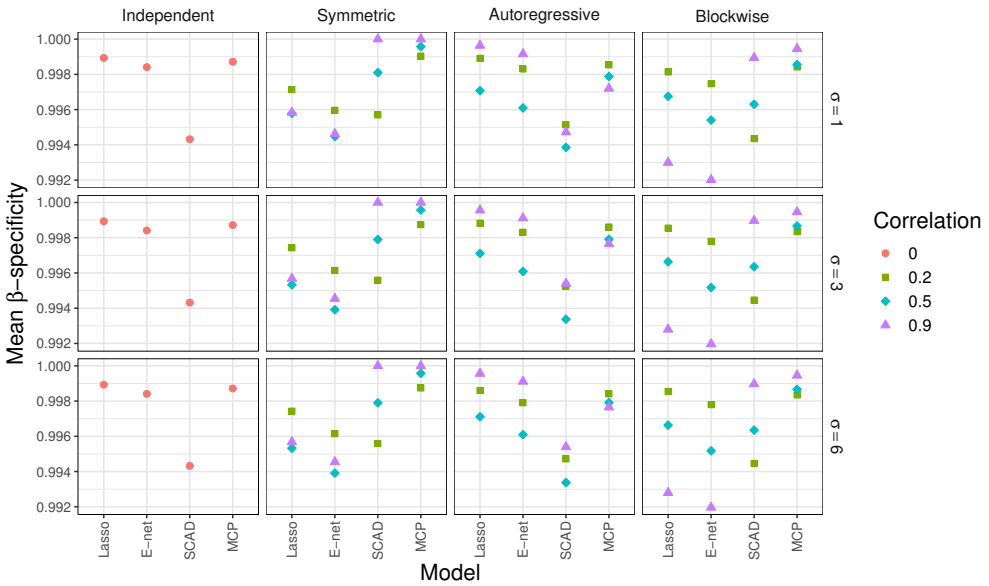

Figure SM33: Average β-specificity for Model 1 when $n = 200$ and $p = 2000$. See Table SM33 for the corresponding data.

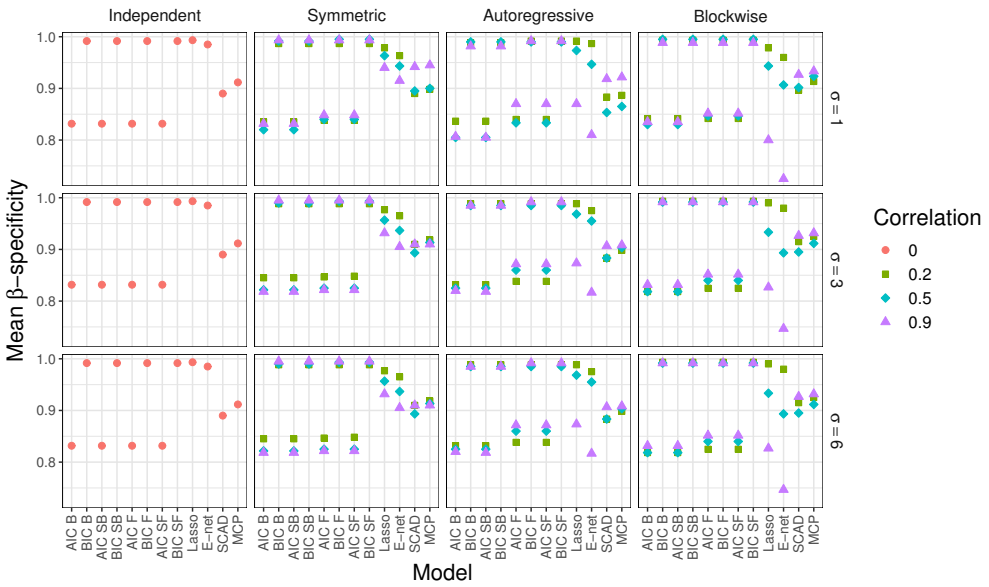

Figure SM34: Average β-specificity for Model 1 when $n = 1000$ and $p = 10$. See Table SM34 for the corresponding data.

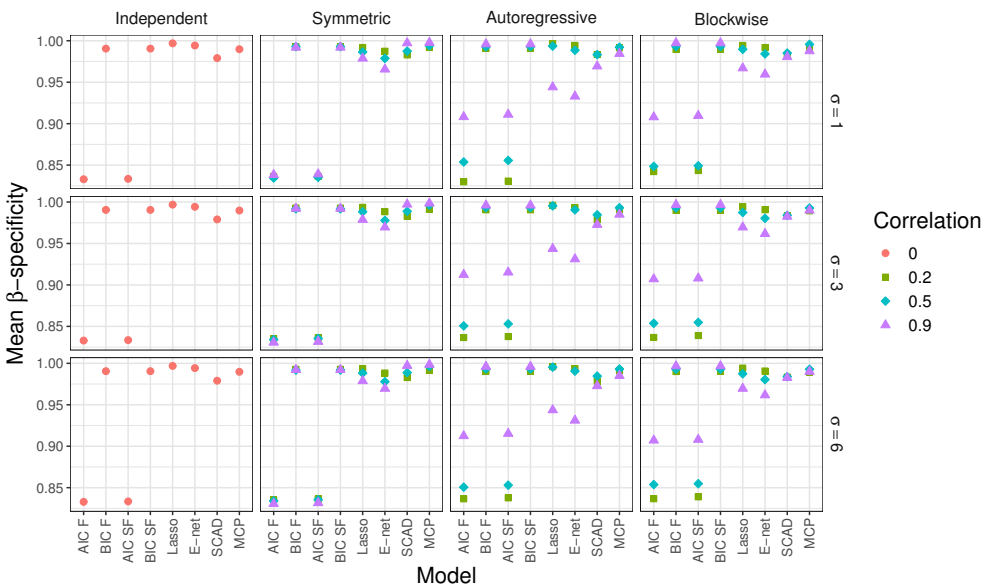

Figure SM35: Average β-specificity for Model 1 when $n = 1000$ and $p = 100$. See Table SM35 for the corresponding data.

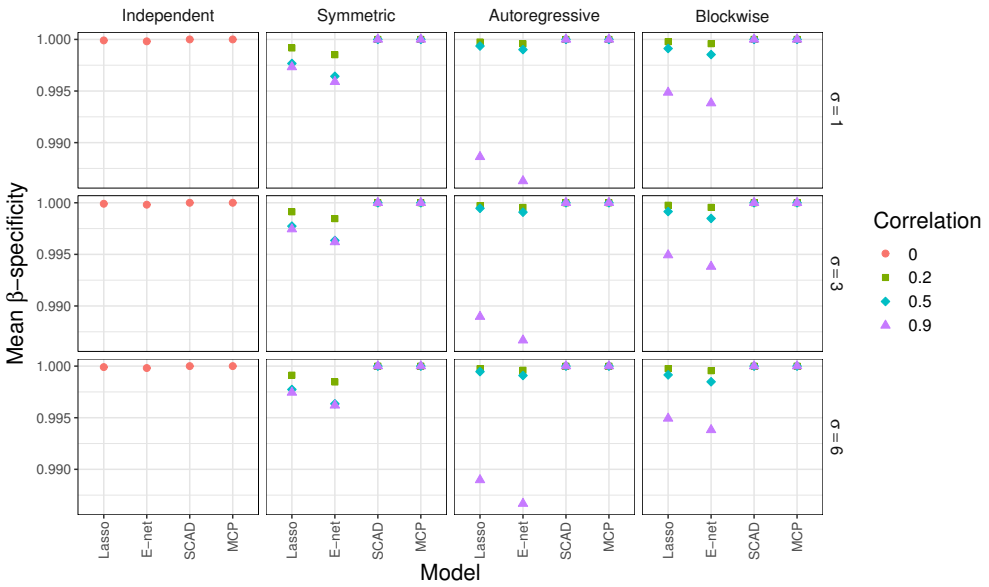

Figure SM36: Average β-specificity for Model 1 when $n = 1000$ and $p = 2000$. See Table SM36 for the corresponding data.

SM3. Figures for the simulations Using Model 2.

SM3.1. Figures for the average training MSE for Model 2.

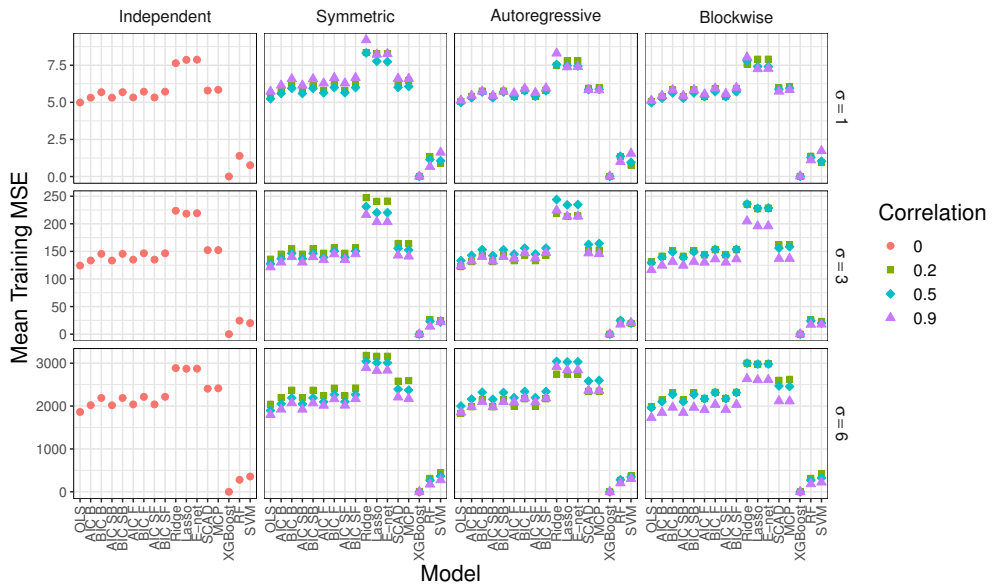

Figure SM37: Average training MSE for Model 2 when $n = 50$ and $p = 10$. See Table SM37 for the corresponding data.

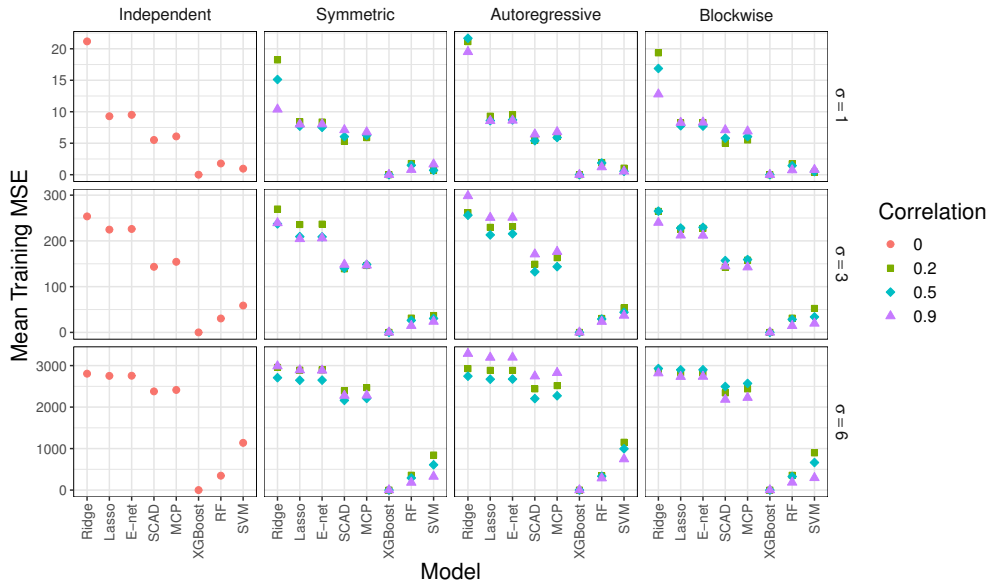

Figure SM38: Average training MSE for Model 2 when $n = 50$ and $p = 100$. See Table SM38 for the corresponding data.

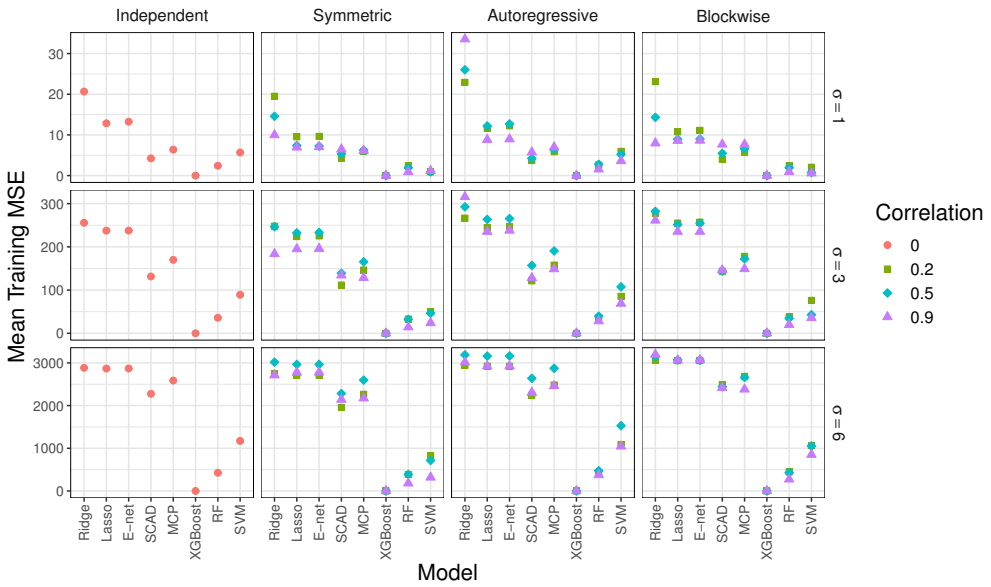

Figure SM39: Average training MSE for Model 2 when $n = 50$ and $p = 2000$. See Table SM39 for the corresponding data.

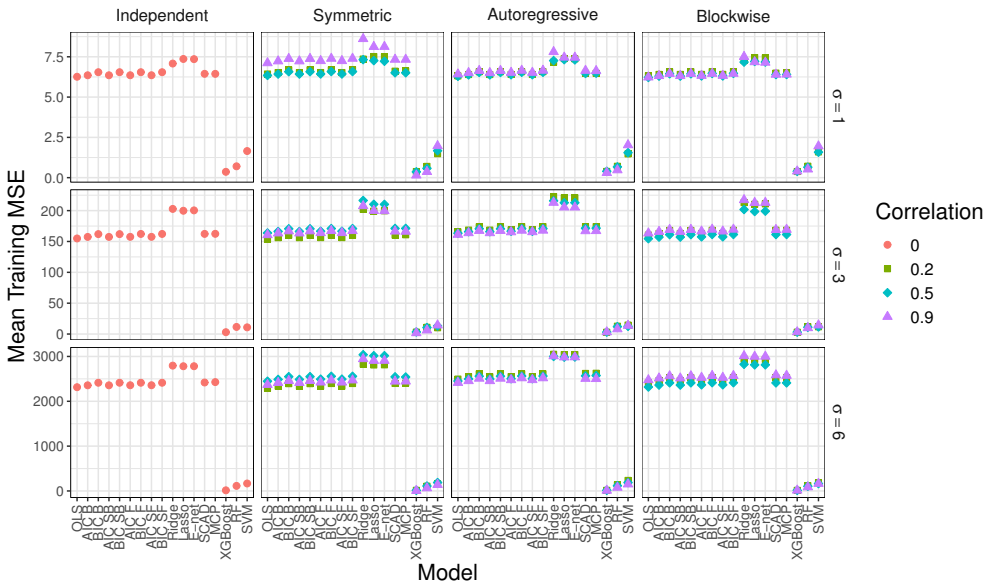

Figure SM40: Average training MSE for Model 2 when $n = 200$ and $p = 10$. See Table SM40 for the corresponding data.

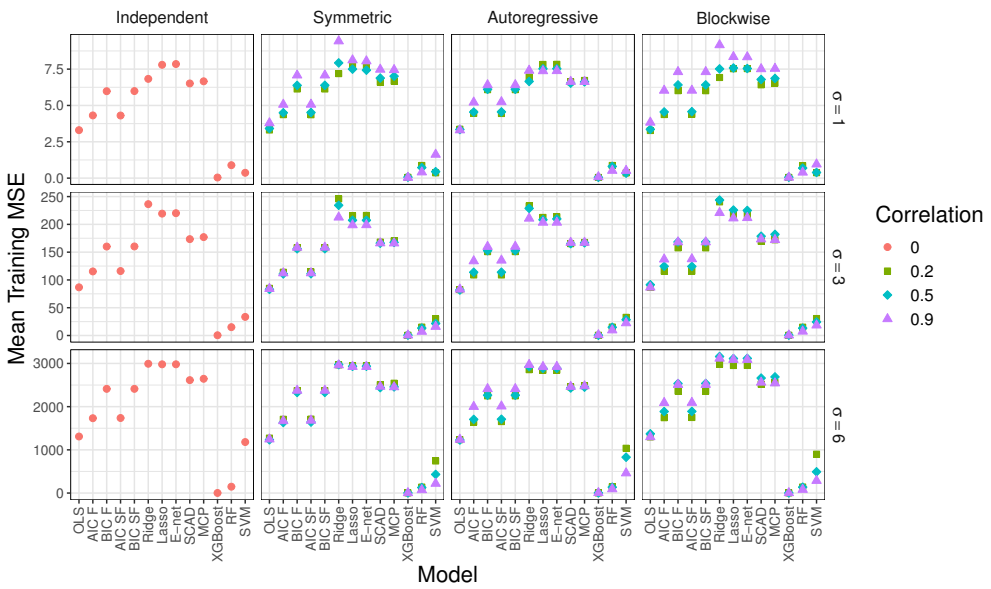

Figure SM41: Average training MSE for Model 2 when $n = 200$ and $p = 100$. See Table SM41 for the corresponding data.

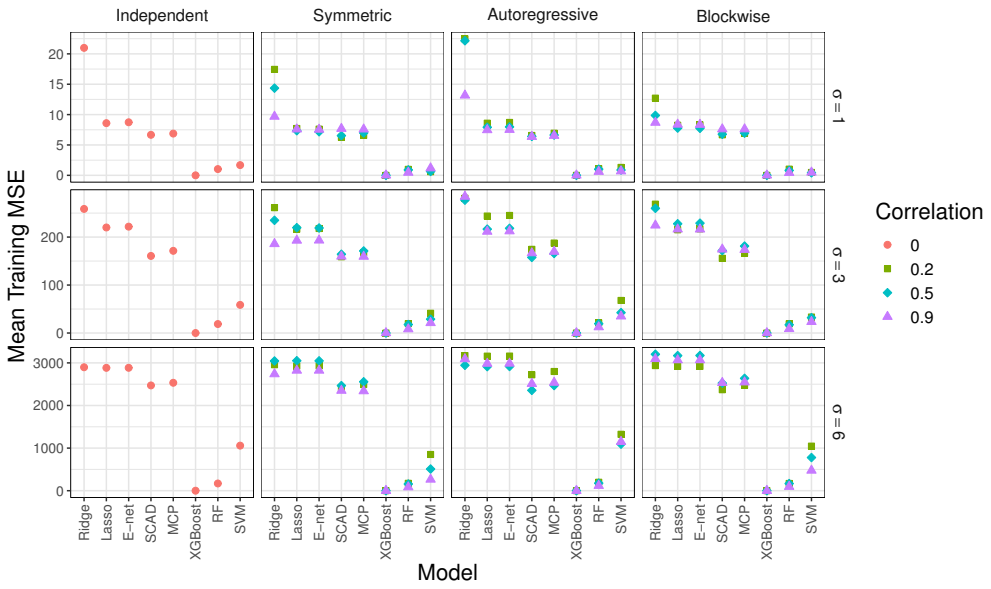

Figure SM42: Average training MSE for Model 2 when $n = 200$ and $p = 2000$. See Table SM42 for the corresponding data.

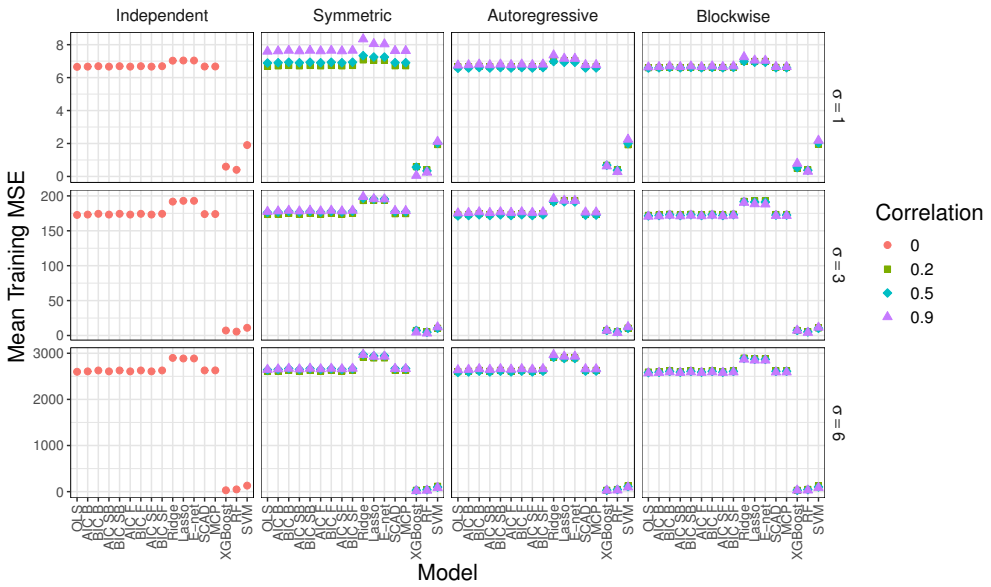

Figure SM43: Average training MSE for Model 2 when $n = 1000$ and $p = 10$. See Table SM43 for the corresponding data.

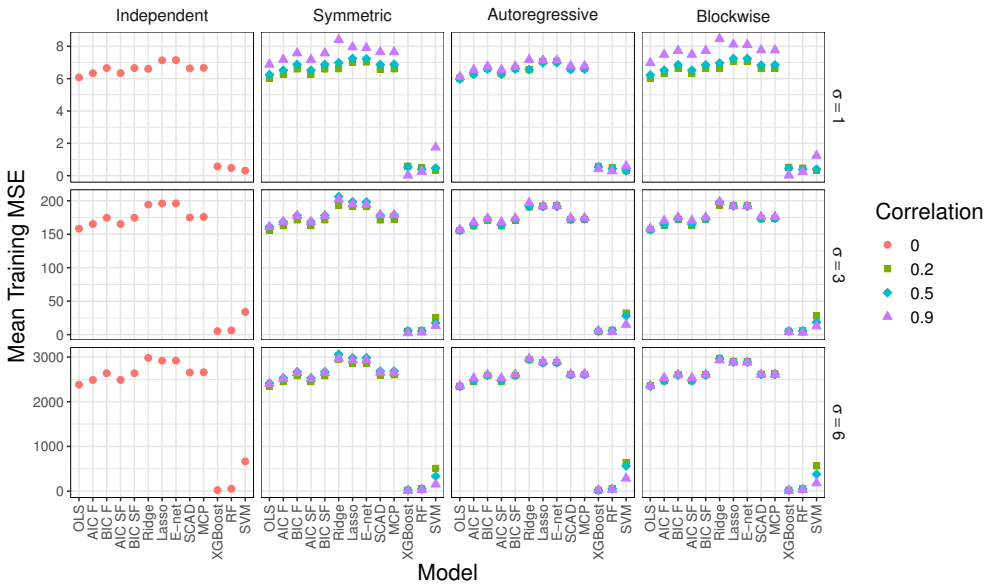

Figure SM44: Average training MSE for Model 2 when $n = 1000$ and $p = 100$. See Table SM44 for the corresponding data.

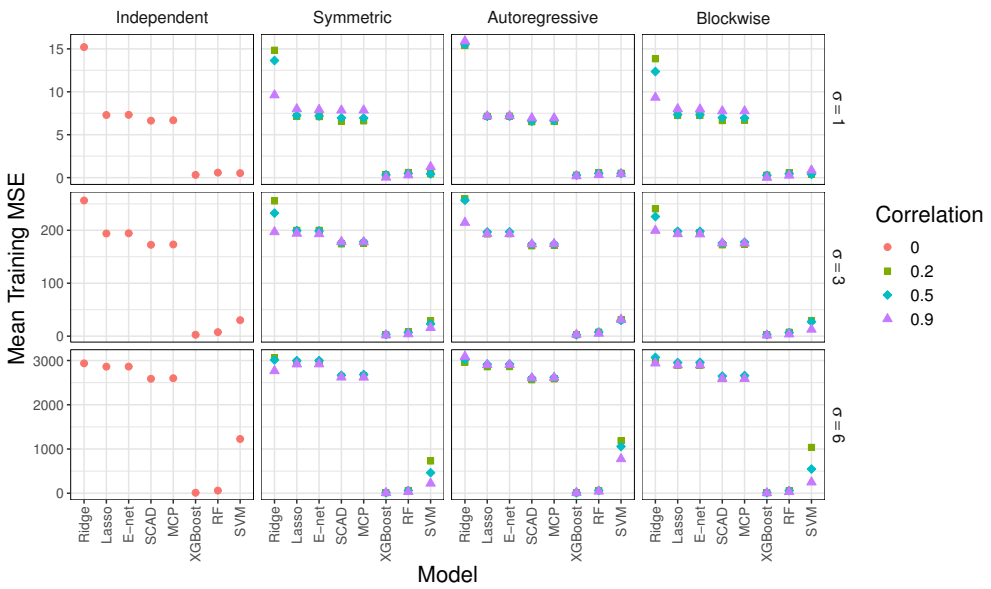

Figure SM45: Average training MSE for Model 2 when $n = 1000$ and $p = 2000$. See Table SM45 for the corresponding data.

SM3.2. Figures for the average testing MSE for Model 2.

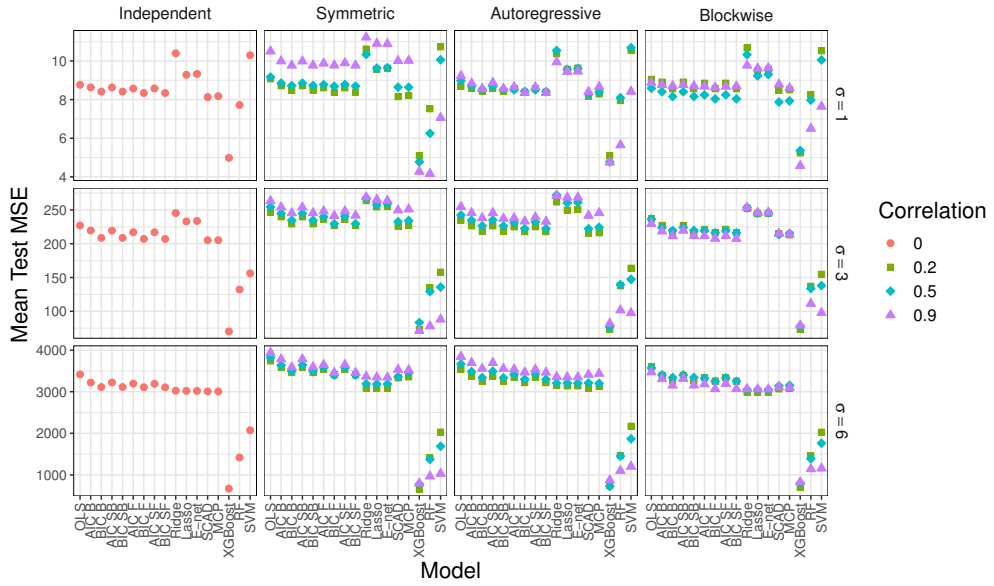

Figure SM46: Average testing MSE for Model 2 when $n = 50$ and $p = 10$. See Table SM46 for the corresponding data.

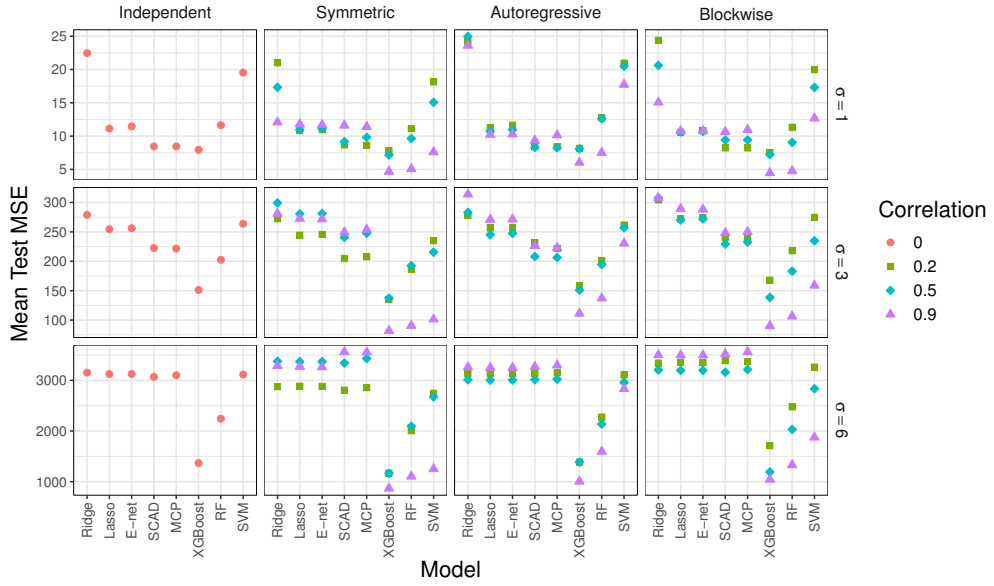

Figure SM47: Average testing MSE for Model 2 when $n = 50$ and $p = 100$. See Table SM47 for the corresponding data.

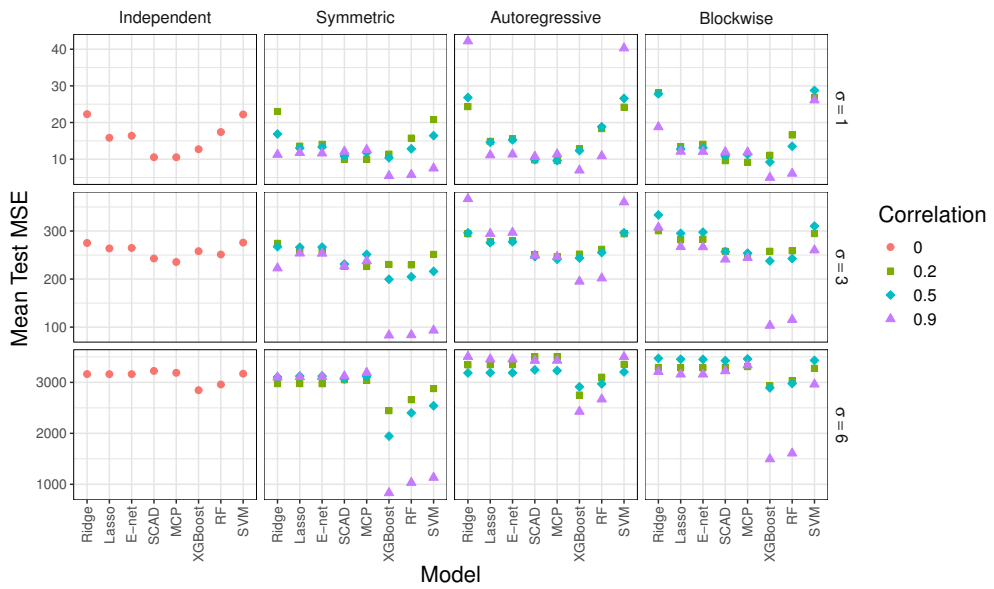

Figure SM48: Average testing MSE for Model 2 when $n = 50$ and $p = 2000$. See Table SM48 for the corresponding data.

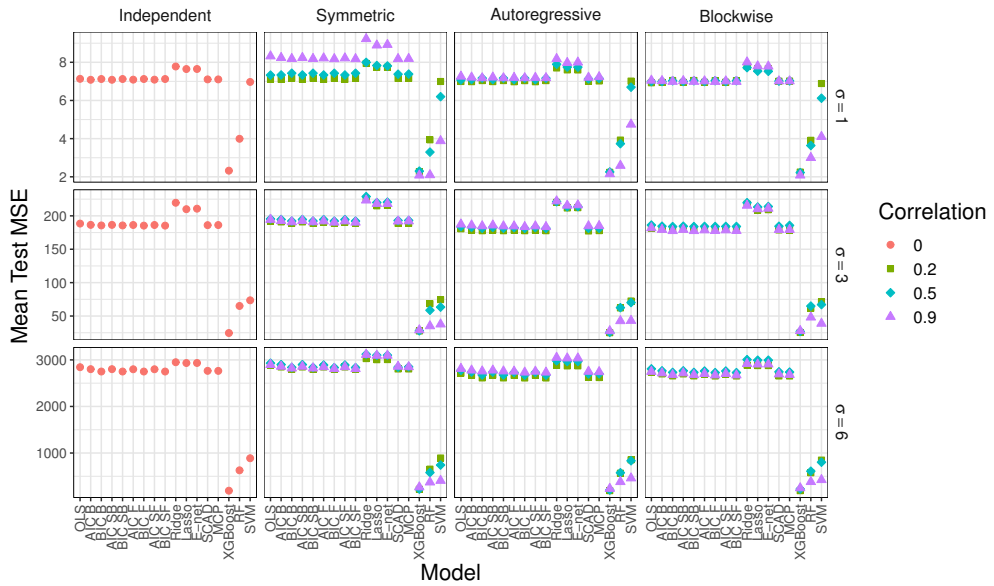

Figure SM49: Average testing MSE for Model 2 when $n = 200$ and $p = 10$. See Table SM49 for the corresponding data.

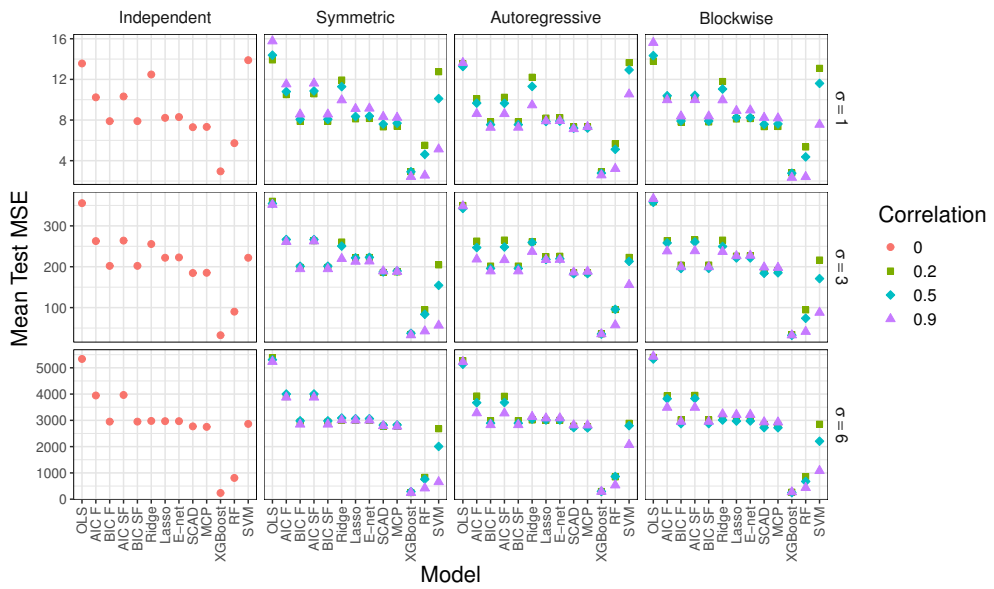

Figure SM50: Average testing MSE for Model 2 when $n = 200$ and $p = 100$. See Table SM50 for the corresponding data.

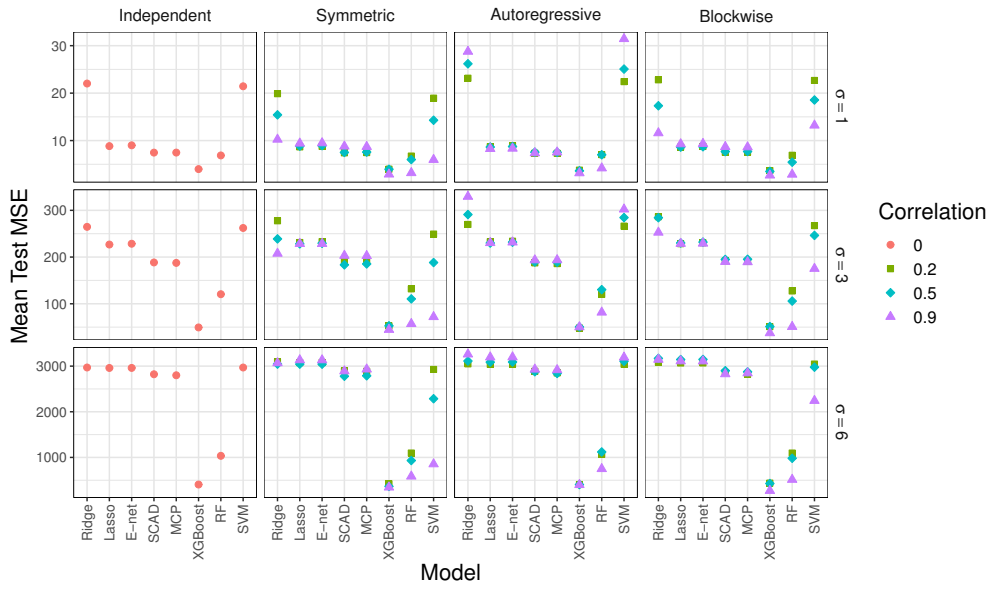

Figure SM51: Average testing MSE for Model 2 when $n = 200$ and $p = 2000$. See Table SM51 for the corresponding data.

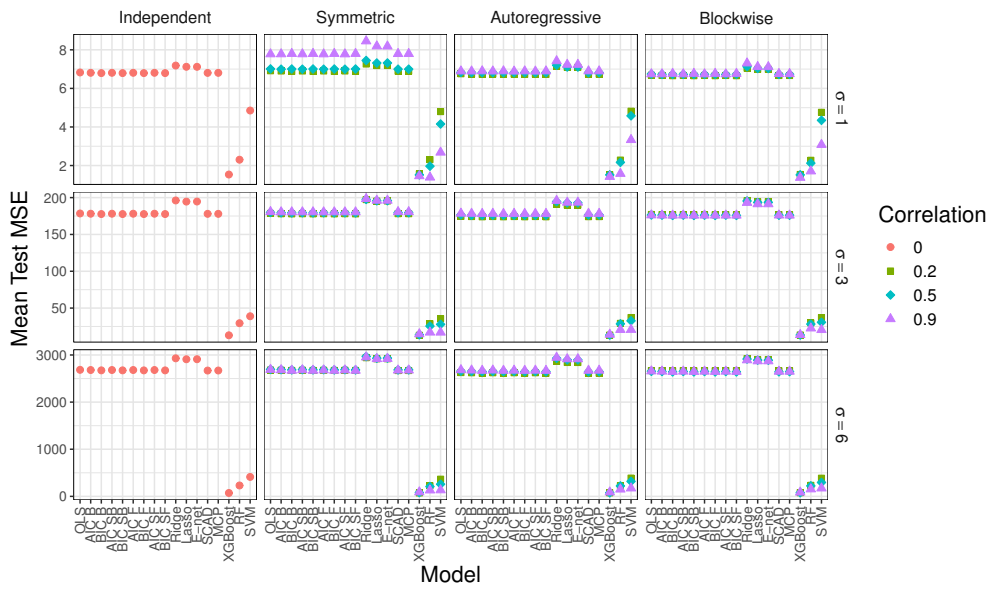

Figure SM52: Average testing MSE for Model 2 when $n = 1000$ and $p = 10$. See Table SM52 for the corresponding data.

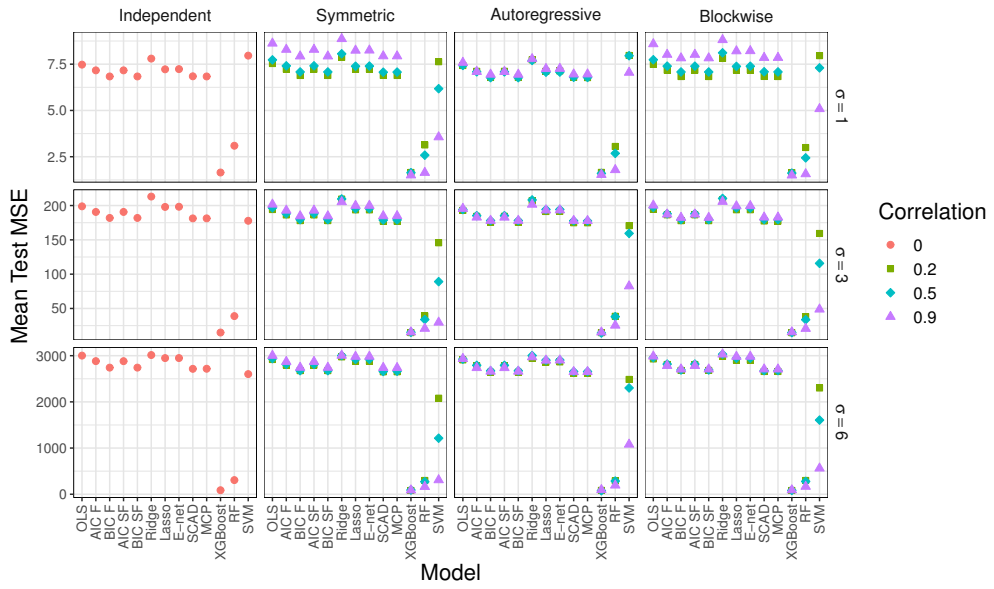

Figure SM53: Average testing MSE for Model 2 when $n = 1000$ and $p = 100$. See Table SM53 for the corresponding data.

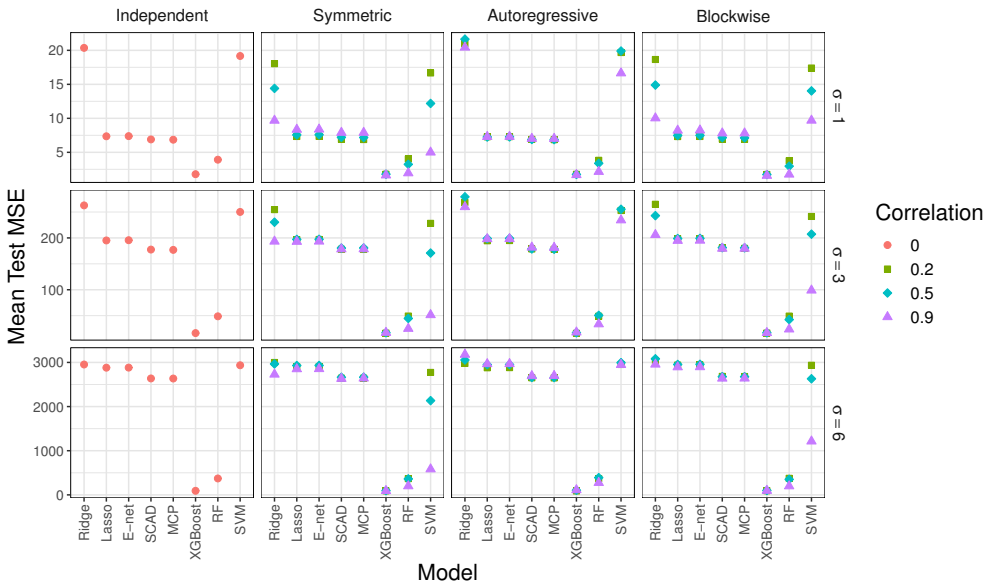

Figure SM54: Average testing MSE for Model 2 when $n = 1000$ and $p = 2000$. See Table SM54 for the corresponding data.

SM3.3. Figures for the average β-sensitivity for Model 2.

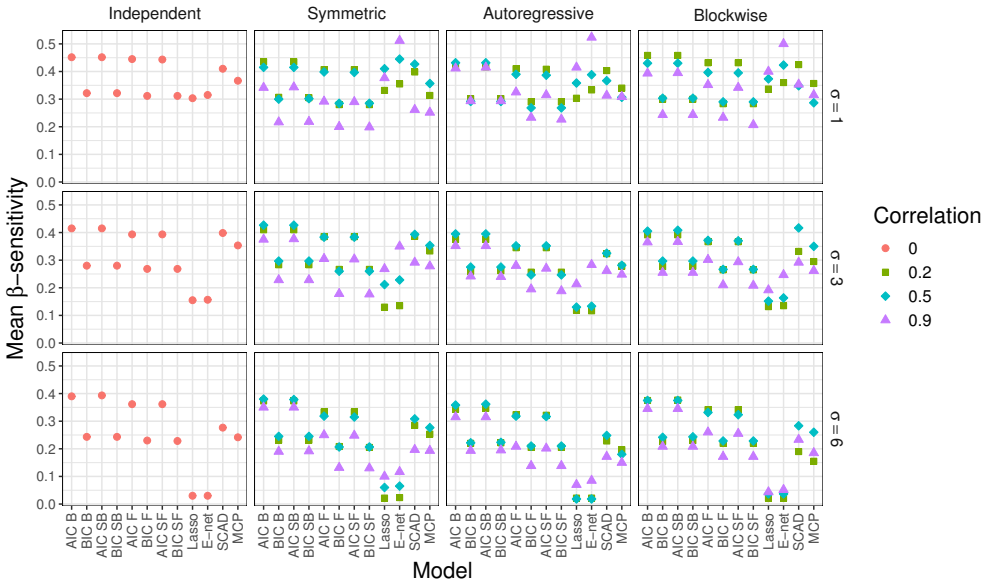

Figure SM55: Average β-sensitivity for Model 2 when $n = 50$ and $p = 10$. See Table SM55 for the corresponding data.

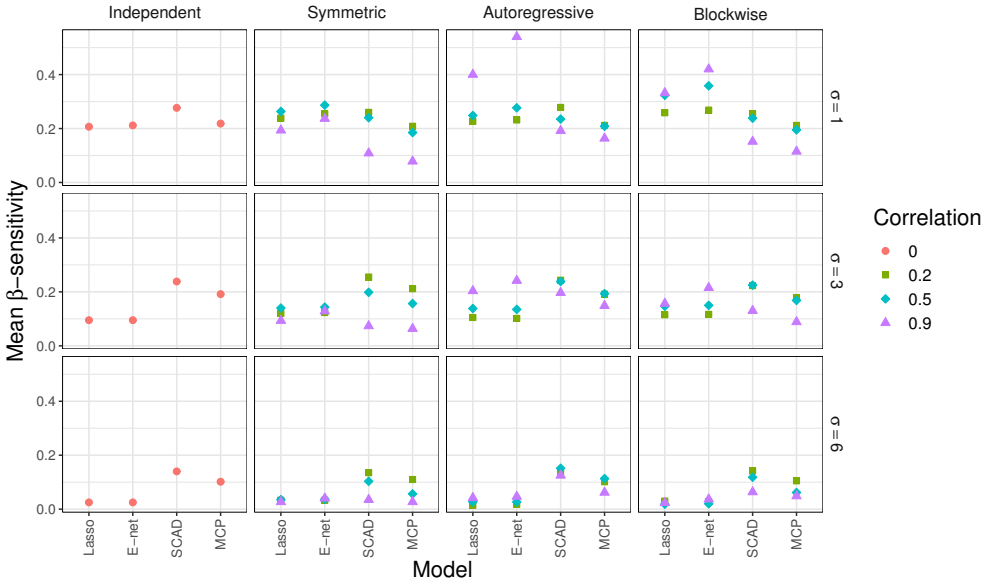

Figure SM56: Average β-sensitivity for Model 2 when $n = 50$ and $p = 100$. See Table SM56 for the corresponding data.

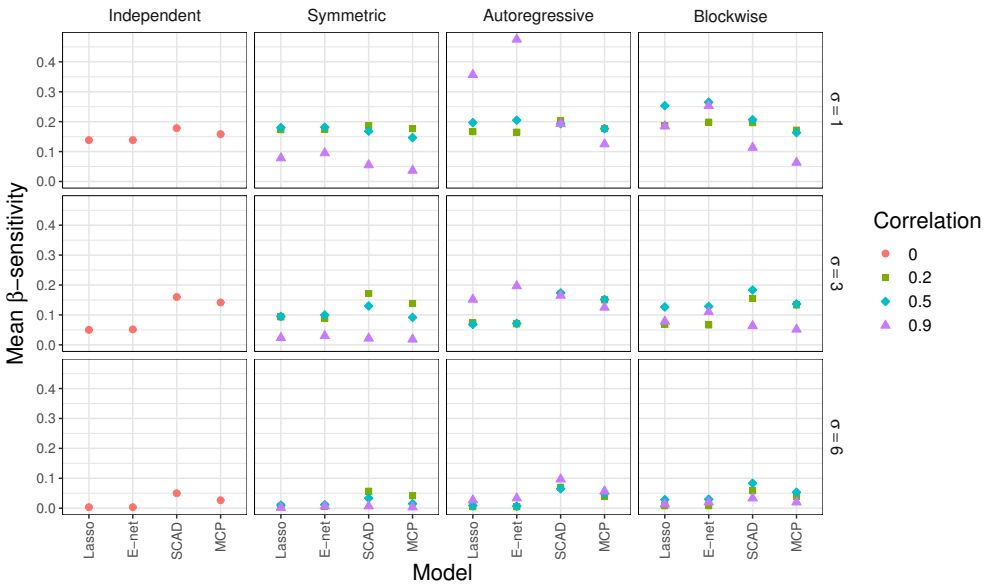

Figure SM57: Average β-sensitivity for Model 2 when $n = 50$ and $p = 2000$. See Table SM57 for the corresponding data.

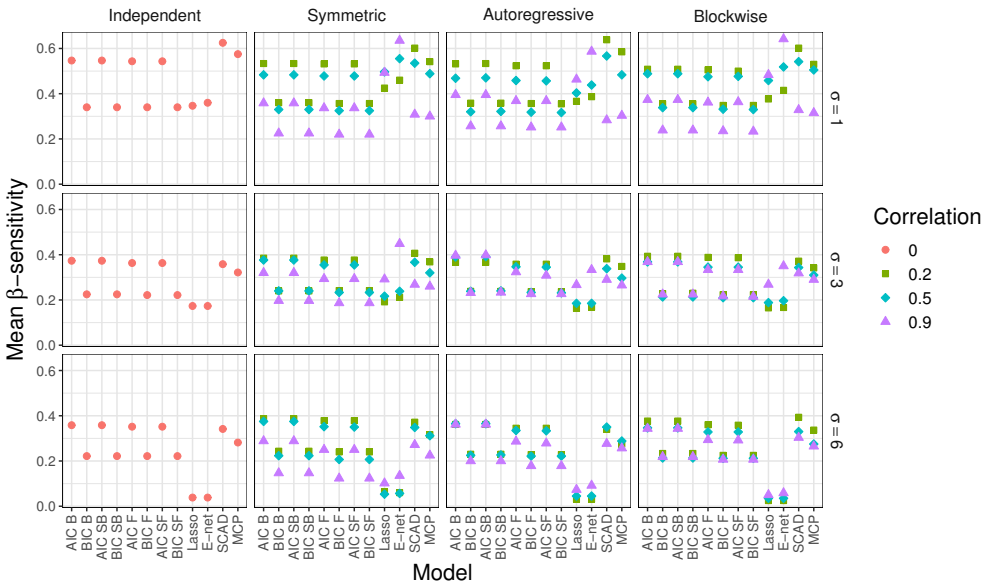

Figure SM58: Average β-sensitivity for Model 2 when $n = 200$ and $p = 10$. See Table SM58 for the corresponding data.

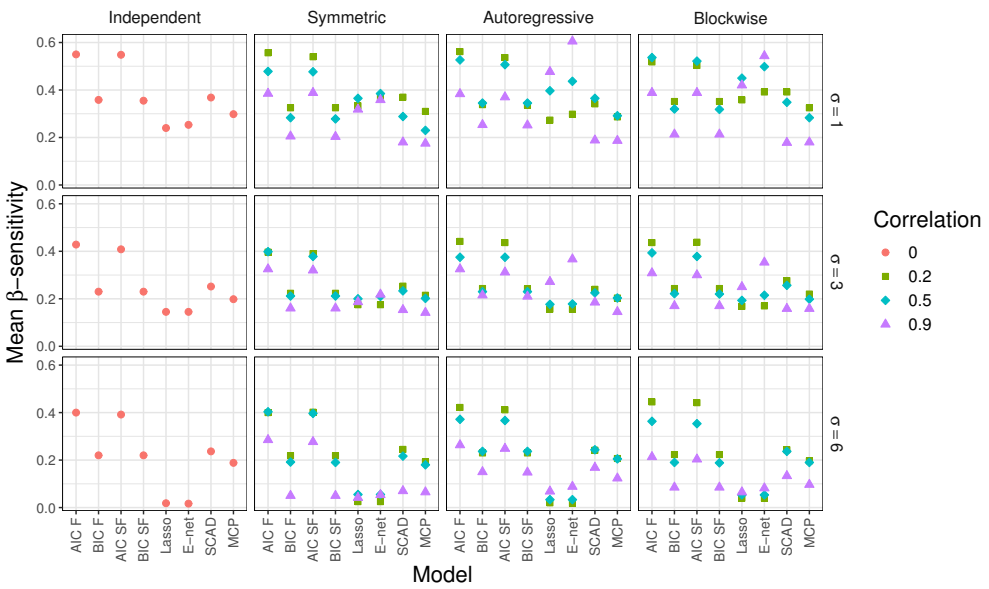

Figure SM59: Average β-sensitivity for Model 2 when $n = 200$ and $p = 100$. See Table SM59 for the corresponding data.

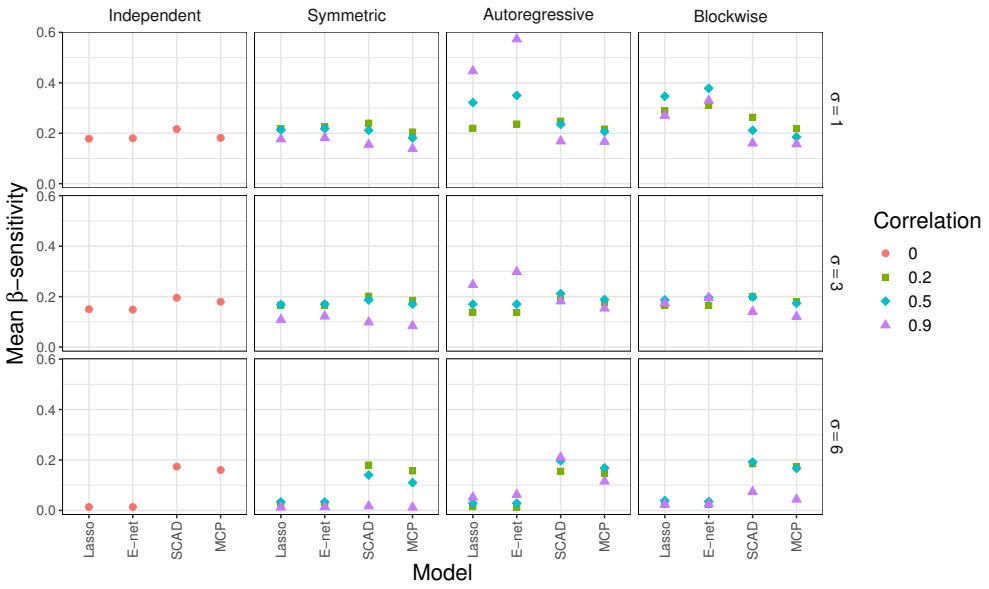

Figure SM60: Average β-sensitivity for Model 2 when $n = 200$ and $p = 2000$. See Table SM60 for the corresponding data.

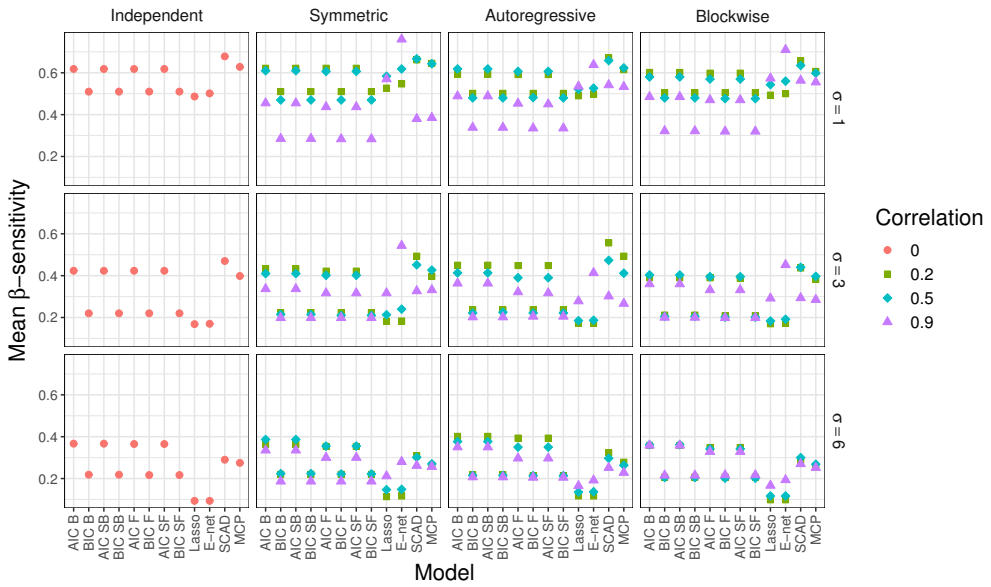

Figure SM61: Average β-sensitivity for Model 2 when $n = 1000$ and $p = 10$. See Table SM61 for the corresponding data.

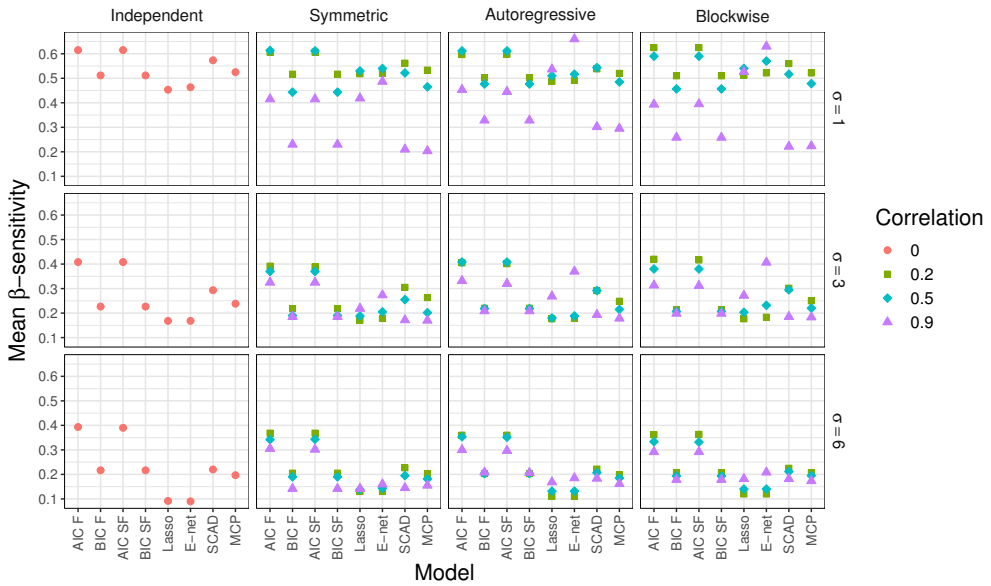

Figure SM62: Average β-sensitivity for Model 2 when $n = 1000$ and $p = 100$. See Table SM62 for the corresponding data.

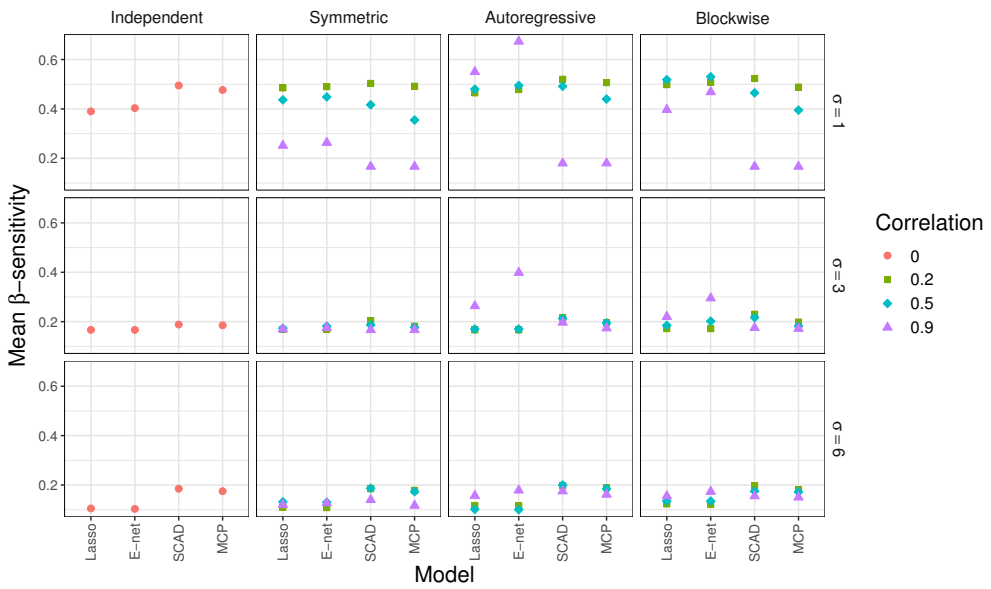

Figure SM63: Average β-sensitivity for Model 2 when $n = 1000$ and $p = 2000$. See Table SM63 for the corresponding data.

SM3.4. Figures for the average β-specificity for Model 2.

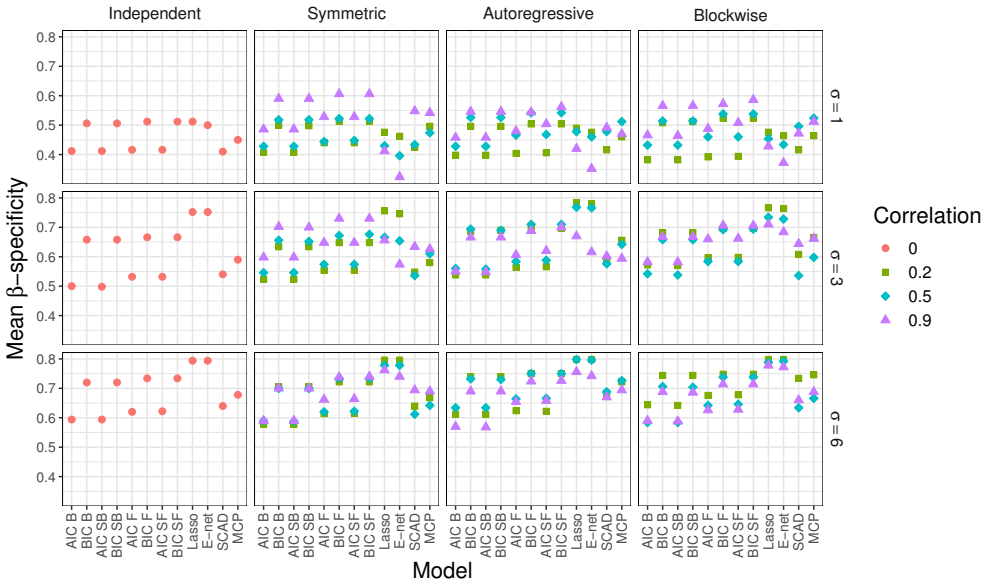

Figure SM64: Average β-specificity for Model 2 when $n = 50$ and $p = 10$. See Table SM64 for the corresponding data.

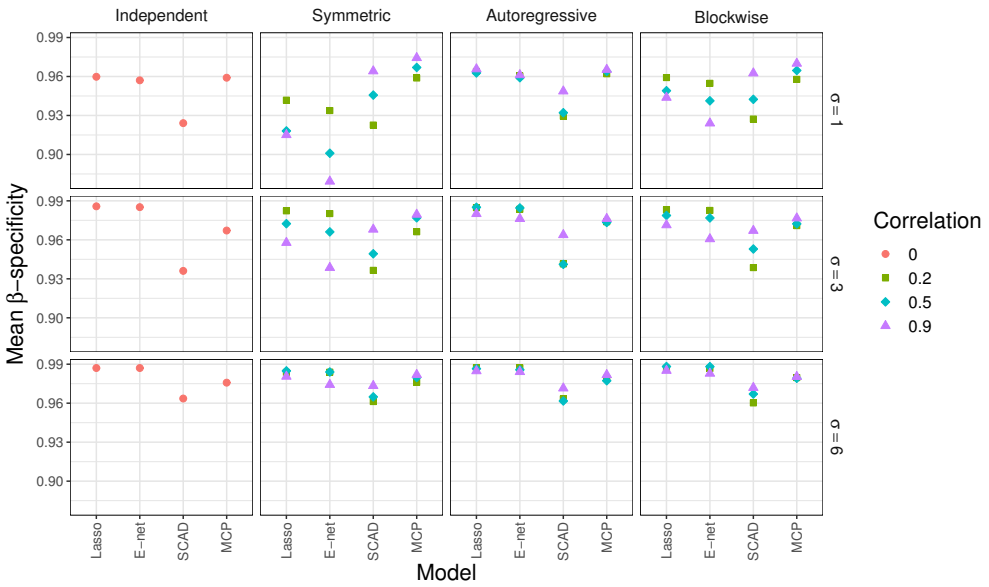

Figure SM65: Average β-specificity for Model 2 when $n = 50$ and $p = 100$. See Table SM65 for the corresponding data.

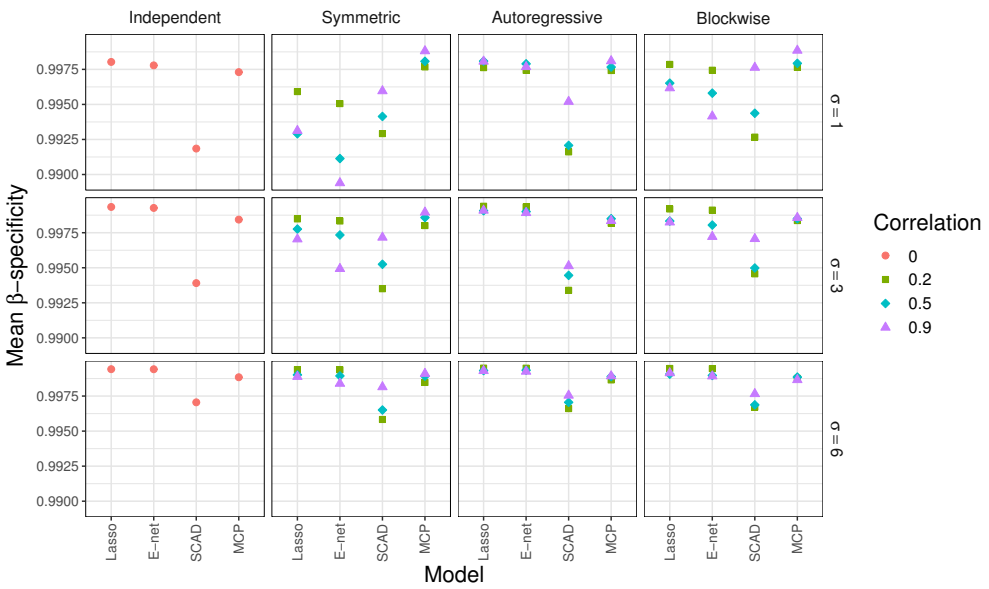

Figure SM66: Average β-specificity for Model 2 when $n = 50$ and $p = 2000$. See Table SM66 for the corresponding data.

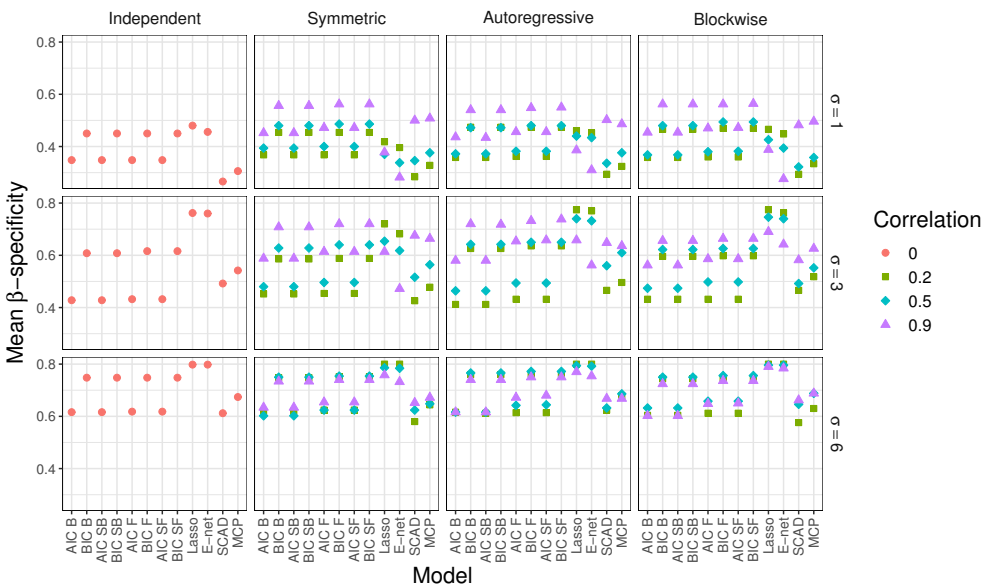

Figure SM67: Average β-specificity for Model 2 when $n = 200$ and $p = 10$. See Table SM67 for the corresponding data.

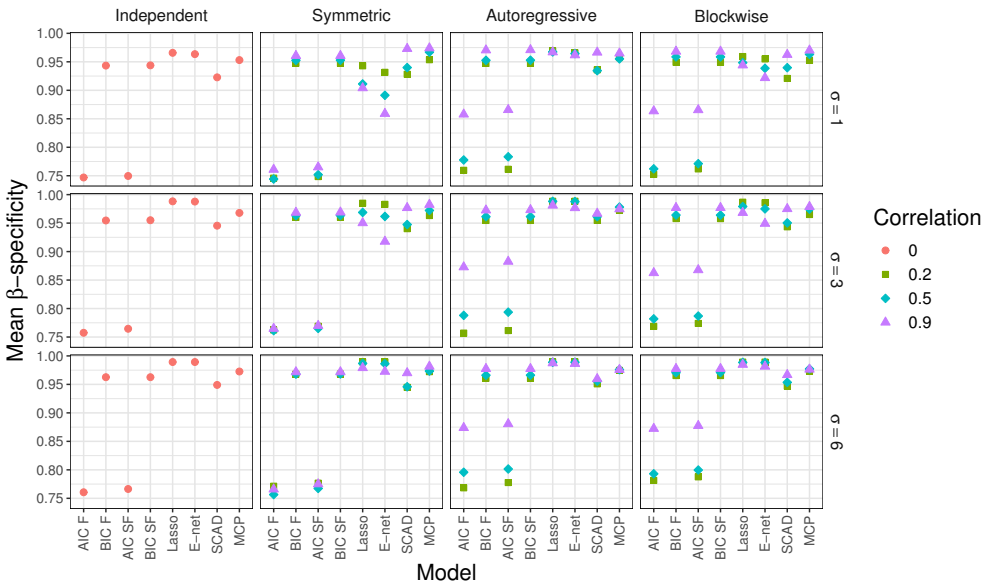

Figure SM68: Average β-specificity for Model 2 when $n = 200$ and $p = 100$. See Table SM68 for the corresponding data.

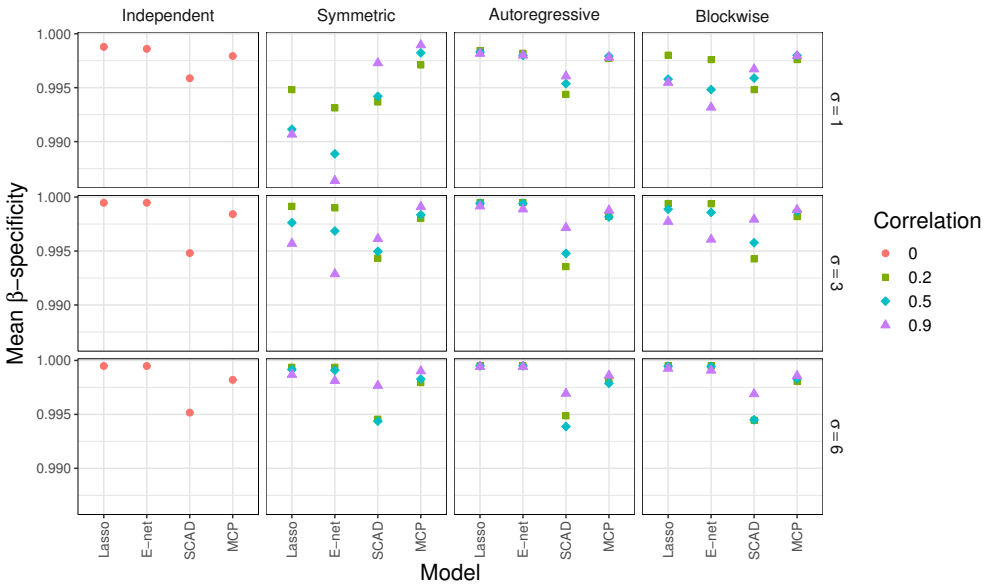

Figure SM69: Average β-specificity for Model 2 when $n = 200$ and $p = 2000$. See Table SM69 for the corresponding data.

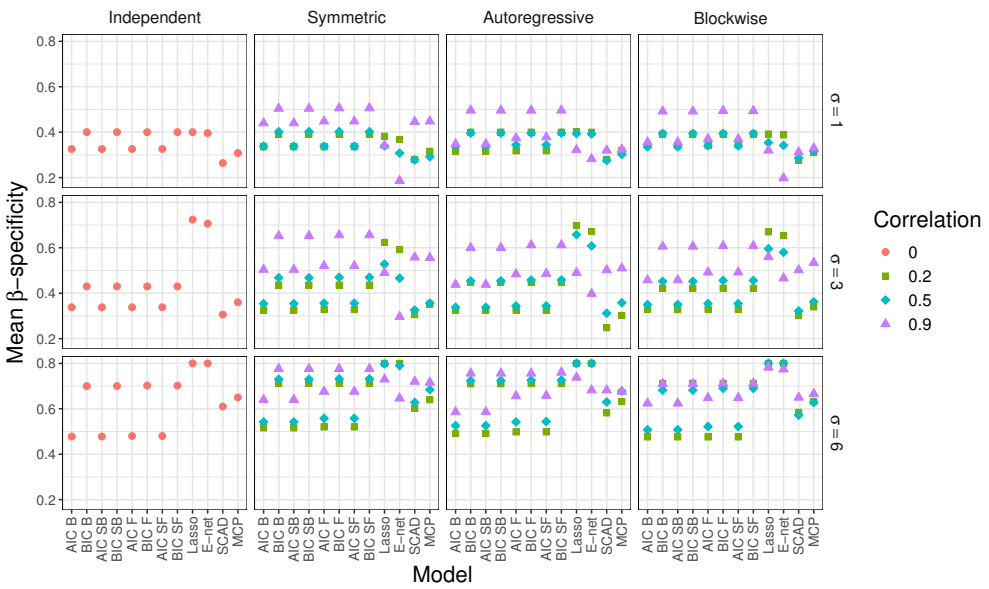

Figure SM70: Average β-specificity for Model 2 when $n = 1000$ and $p = 10$. See Table SM70 for the corresponding data.

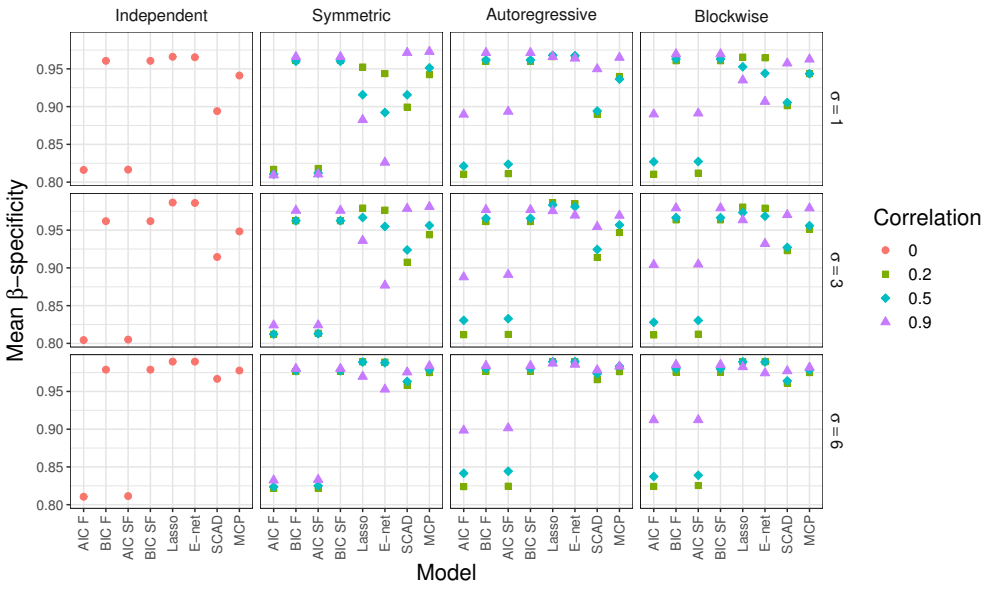

Figure SM71: Average β-specificity for Model 2 when $n = 1000$ and $p = 100$. See Table SM71 for the corresponding data.

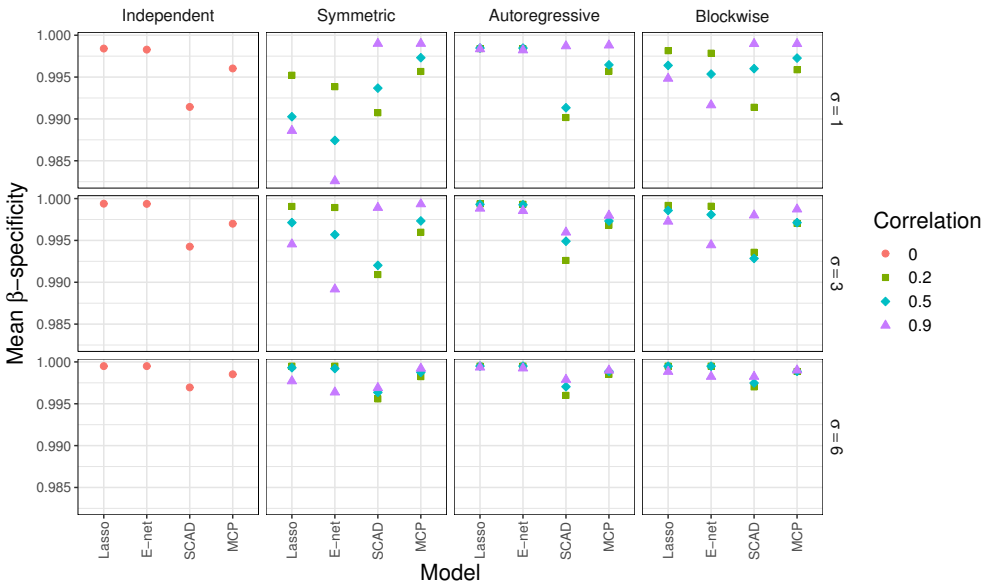

Figure SM72: Average β-specificity for Model 2 when $n = 1000$ and $p = 2000$. See Table SM72 for the corresponding data.

SM4. Tables from the linear simulations.

SM4.1. Tables for the training MSE of the linear simulations.

Table SM1: Mean and standard deviation of the training MSE for Model 1 when $n = 50$ and $p = 10$. See Figure SM1 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 SM2: Mean and standard deviation of the training MSE for Model 1 when $n = 50$ and $p = 100$. See Figure SM2 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	15.92	3.74	13.75	2.76	14.80	3.09	10.64	2.14
	Lasso	1.37	0.46	1.34	0.45	1.20	0.44	1.41	0.50	1.38	0.53	1.36	0.43	1.27	0.55
	E-net	1.38	0.48	1.36	0.47	1.20	0.47	1.42	0.55	1.41	0.56	1.38	0.46	1.29	0.58
	SCAD	0.84	0.29	0.88	0.25	0.94	0.25	0.90	0.28	0.93	0.27	0.90	0.29	0.94	0.26
	MCP	0.90	0.29	0.92	0.25	0.96	0.24	0.95	0.28	0.94	0.29	0.96	0.30	0.96	0.28
	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
	RF	1.70	0.29	1.56	0.29	1.10	0.20	1.60	0.33	1.25	0.21	1.56	0.30	1.12	0.20
	SVM	0.54	0.91	0.46	0.53	0.47	0.61	0.70	1.36	0.41	0.45	0.42	0.71	0.41	0.40
3	Ridge	152.82	33.38	127.16	29.14	86.66	18.70	139.47	30.76	123.60	25.72	130.48	26.46	93.78	21.72
	Lasso	12.35	4.12	11.64	4.20	11.51	4.13	11.52	4.69	12.66	6.75	11.52	4.51	11.97	5.15
	E-net	12.40	4.33	11.79	4.28	11.71	4.24	11.80	4.99	13.10	7.43	11.69	4.70	12.28	5.57
	SCAD	7.59	2.60	7.91	2.37	8.74	2.22	7.88	2.40	8.13	2.38	7.90	2.56	8.62	2.33
	MCP	8.10	2.61	8.28	2.31	8.96	2.26	8.16	2.40	8.55	2.49	8.22	2.75	8.84	2.31
	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
	RF	15.26	2.63	13.54	2.57	10.19	1.83	14.41	2.58	11.51	2.09	13.82	2.55	10.11	1.95
	SVM	4.50	6.06	4.57	5.63	4.87	6.13	5.76	11.52	3.28	3.07	4.59	6.70	4.64	6.94
6	Ridge	611.28	133.53	508.65	116.54	346.64	74.78	557.86	123.04	494.42	102.89	521.93	105.84	375.14	86.89
	Lasso	49.38	16.47	46.54	16.79	46.05	16.50	46.09	18.76	50.63	26.99	46.08	18.05	47.89	20.60
	E-net	49.60	17.30	47.18	17.12	46.85	16.97	47.19	19.95	52.39	29.72	46.77	18.81	49.11	22.27
	SCAD	30.37	10.42	31.64	9.47	34.94	8.88	31.53	9.61	32.52	9.51	31.62	10.25	34.49	9.33
	MCP	32.38	10.46	33.11	9.25	35.83	9.05	32.65	9.59	34.21	9.96	32.86	10.99	35.38	9.23
	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
	RF	60.87	10.44	54.21	10.32	40.78	7.32	57.69	10.29	46.13	8.42	55.32	10.18	40.47	7.73
	SVM	18.70	25.14	17.62	20.26	20.01	25.63	21.28	33.19	13.15	12.11	16.49	22.80	17.19	21.10

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.9		0.2		0.9		0.2		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	16.98	3.71	14.10	3.02	3.11	0.61	15.92	3.74	6.53	1.39	14.80	3.09	4.13	0.89
	Lasso	1.37	0.46	1.34	0.45	1.38	0.41	1.41	0.50	1.79	0.53	1.36	0.43	1.48	0.55
	E-net	1.38	0.48	1.36	0.47	1.37	0.39	1.42	0.55	1.80	0.53	1.38	0.46	1.49	0.55
	SCAD	0.84	0.29	0.88	0.25	1.25	0.39	0.90	0.28	1.41	0.44	0.90	0.29	1.23	0.43
	MCP	0.90	0.29	0.92	0.25	1.18	0.38	0.95	0.28	1.43	0.46	0.96	0.30	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
	RF	1.70	0.29	1.56	0.29	0.47	0.09	1.60	0.33	0.52	0.13	1.56	0.30	0.50	0.11
	SVM	0.54	0.91	0.46	0.53	0.87	0.53	0.70	1.36	0.25	0.24	0.42	0.71	0.67	0.55
3	Ridge	152.82	33.38	127.16	29.14	27.80	5.77	139.47	30.76	58.74	12.46	130.48	26.46	36.47	6.31
	Lasso	12.35	4.12	11.64	4.20	12.31	4.03	11.52	4.69	16.20	4.87	11.52	4.51	13.05	4.69
	E-net	12.40	4.33	11.79	4.28	12.24	3.99	11.80	4.99	16.28	4.73	11.69	4.70	13.17	4.74
	SCAD	7.59	2.60	7.91	2.37	11.14	3.41	7.88	2.40	12.79	4.04	7.90	2.56	10.80	3.56
	MCP	8.10	2.61	8.28	2.31	10.66	3.47	8.16	2.40	13.12	4.02	8.22	2.75	10.22	3.28
	XGBoost	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
	RF	15.26	2.63	13.54	2.57	4.18	0.95	14.41	2.58	4.70	1.22	13.82	2.55	4.30	0.94
	SVM	4.50	6.06	4.57	5.63	7.30	4.15	5.76	11.52	2.14	1.64	4.59	6.70	5.45	4.15
6	Ridge	611.28	133.53	508.65	116.54	111.20	23.09	557.86	123.04	234.94	49.86	521.93	105.84	145.88	25.25
	Lasso	49.38	16.47	46.54	16.79	49.24	16.13	46.09	18.76	64.78	19.48	46.08	18.05	52.20	18.77
	E-net	49.60	17.30	47.18	17.12	48.97	15.95	47.19	19.95	65.11	18.92	46.77	18.81	52.69	18.97
	SCAD	30.37	10.42	31.64	9.47	44.55	13.66	31.53	9.61	51.15	16.15	31.62	10.25	43.19	14.24
	MCP	32.38	10.46	33.11	9.25	42.64	13.87	32.65	9.59	52.48	16.07	32.86	10.99	40.86	13.13
	XGBoost	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
	RF	60.87	10.44	54.21	10.32	16.77	3.82	57.69	10.29	18.81	4.88	55.32	10.18	17.23	3.76
	SVM	18.70	25.14	17.62	20.26	28.93	15.98	21.28	33.19	8.76	7.26	16.49	22.80	22.57	16.59

Table SM3: Mean and standard deviation of the training MSE for Model 1 when $n = 50$ and $p = 2000$. See Figure SM3 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 SM4: Mean and standard deviation of the training MSE for Model 1 when $n = 200$ and $p = 10$. See Figure SM4 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 SM5: Mean and standard deviation of the training MSE for Model 1 when $n = 200$ and $p = 100$. See Figure SM5 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 SM6: Mean and standard deviation of the training MSE for Model 1 when $n = 200$ and $p = 2000$. See Figure SM6 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	15.89	2.50	14.25	2.38	12.87	3.13	7.68	1.43
	Lasso	1.27	0.14	1.21	0.18	1.19	0.16	1.27	0.16	1.29	0.21	1.25	0.19	1.25	0.19
	E-net	1.30	0.15	1.22	0.19	1.20	0.17	1.30	0.17	1.32	0.22	1.28	0.21	1.26	0.20
	SCAD	0.90	0.14	0.92	0.14	0.98	0.11	0.91	0.14	0.90	0.16	0.90	0.13	0.96	0.14
	MCP	0.96	0.11	0.96	0.12	0.98	0.11	0.94	0.12	0.93	0.14	0.94	0.13	0.96	0.13
	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
	RF	1.14	0.10	1.15	0.11	0.89	0.09	1.17	0.11	0.96	0.09	1.10	0.11	0.81	0.08
	SVM	0.86	1.33	0.65	0.68	0.57	0.51	0.85	1.21	0.74	1.02	0.52	0.31	0.30	0.08
3	Ridge	149.45	28.28	122.74	21.78	86.14	10.91	144.11	22.82	126.59	22.42	115.88	26.48	69.61	14.02
	Lasso	11.44	1.26	11.01	1.49	10.50	1.52	11.44	1.51	11.58	1.72	11.40	1.43	11.26	1.63
	E-net	11.72	1.39	11.11	1.58	10.55	1.62	11.72	1.62	11.84	1.87	11.62	1.59	11.34	1.71
	SCAD	8.10	1.28	8.30	1.15	8.77	0.89	8.21	1.34	7.96	1.28	8.11	1.23	8.62	1.13
	MCP	8.61	1.03	8.59	1.04	8.80	0.98	8.53	1.11	8.43	1.12	8.46	1.08	8.67	1.08
	XGBoost	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01
	RF	10.28	0.89	10.37	0.75	7.95	0.78	10.50	1.02	8.63	0.82	9.91	0.86	7.32	0.69
	SVM	7.86	11.99	6.38	8.36	5.20	4.55	8.28	12.54	6.05	8.98	5.02	5.23	2.90	0.81
6	Ridge	597.82	113.12	490.95	87.14	344.57	43.64	575.16	92.27	506.35	89.69	463.51	105.92	278.45	56.06
	Lasso	45.78	5.06	44.03	5.95	41.98	6.08	45.44	6.21	46.33	6.89	45.62	5.73	45.04	6.51
	E-net	46.87	5.56	44.46	6.33	42.20	6.48	46.52	6.79	47.35	7.47	46.47	6.37	45.38	6.83
	SCAD	32.40	5.12	33.21	4.61	35.10	3.55	32.60	5.25	31.86	5.12	32.43	4.94	34.46	4.50
	MCP	34.43	4.11	34.34	4.14	35.21	3.91	33.95	4.51	33.71	4.48	33.82	4.31	34.66	4.34
	XGBoost	0.02	0.01	0.03	0.01	0.08	0.04	0.02	0.01	0.02	0.01	0.02	0.01	0.04	0.03
	RF	41.06	3.58	41.51	2.98	31.84	3.14	41.88	3.81	34.50	3.22	39.62	3.47	29.28	2.76
	SVM	31.78	48.08	25.20	33.41	21.21	18.47	26.42	25.49	27.93	47.38	18.08	6.67	11.61	3.26

	Type	Autoregressive			
	Corr.	0.9			
σ	Model	Mean	SD		
1	Ridge	4.81	1.02		
	Lasso	1.86	0.22		
	E-net	1.88	0.23		
	SCAD	1.21	0.34		
	MCP	1.09	0.31		
	XGBoost	0.00	0.00		
	RF	0.37	0.04		
	SVM	0.28	0.08		
3	Ridge	44.09	9.15		
	Lasso	16.67	2.00		
	E-net	16.86	2.05		
	SCAD	10.83	3.09		
	MCP	9.75	2.61		
	XGBoost	0.01	0.01		
	RF	3.26	0.39		
	SVM	2.56	0.79		
6	Ridge	176.35	36.62		
	Lasso	66.69	8.00		
	E-net	67.43	8.21		
	SCAD	43.32	12.36		
	MCP	39.01	10.46		
	XGBoost	0.03	0.02		
	RF	13.03	1.55		
	SVM	10.23	3.16		

	Type	Blockwise			
	Corr.	0.9			
σ	Model	Mean	SD		
1	Ridge	2.55	0.27		
	Lasso	1.22	0.29		
	E-net	1.23	0.29		
	SCAD	1.13	0.28		
	MCP	1.04	0.19		
	XGBoost	0.01	0.01		
	RF	0.35	0.03		
	SVM	0.16	0.03		
3	Ridge	23.39	2.88		
	Lasso	10.90	2.44		
	E-net	11.05	2.39		
	SCAD	10.28	2.67		
	MCP	9.72	2.14		
	XGBoost	0.08	0.05		
	RF	3.18	0.33		
	SVM	1.48	0.74		
6	Ridge	93.58	11.53		
	Lasso	43.60	9.75		
	E-net	44.21	9.57		
	SCAD	41.14	10.68		
	MCP	38.88	8.54		
	XGBoost	0.29	0.22		
	RF	12.71	1.31		
	SVM	5.92	2.97		

Table SM7: Mean and standard deviation of the training MSE for Model 1 when $n = 1000$ and $p = 10$. See Figure SM7 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 SM8: Mean and standard deviation of the training MSE for Model 1 when $n = 1000$ and $p = 100$. See Figure SM8 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC F	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.95	0.05	0.94	0.05	0.94	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
	AIC SF	0.94	0.05	0.94	0.05	0.94	0.05	0.94	0.05	0.95	0.05	0.94	0.05	0.94	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
	Ridge	1.02	0.05	1.05	0.05	1.37	0.07	1.04	0.05	1.09	0.06	1.04	0.05	1.12	0.06
	Lasso	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
	E-net	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
	SCAD	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
	MCP	0.99	0.05	0.99	0.05	1.00	0.05	1.00	0.05	1.00	0.05	0.99	0.05	1.00	0.05
	XGBoost	0.51	0.03	0.56	0.03	0.58	0.26	0.51	0.03	0.53	0.03	0.52	0.03	0.55	0.03
	RF	0.43	0.02	0.45	0.02	0.25	0.01	0.44	0.02	0.46	0.02	0.44	0.02	0.40	0.02
	SVM	0.15	0.01	0.15	0.01	0.65	0.04	0.15	0.01	0.13	0.01	0.15	0.01	0.15	0.01
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
	AIC F	8.47	0.43	8.48	0.43	8.47	0.44	8.47	0.44	8.52	0.45	8.47	0.43	8.51	0.43
	BIC F	8.91	0.45	8.93	0.44	8.92	0.43	8.91	0.45	8.93	0.44	8.90	0.43	8.93	0.44
	AIC SF	8.47	0.43	8.48	0.42	8.47	0.44	8.47	0.44	8.52	0.45	8.47	0.43	8.52	0.43
	BIC SF	8.91	0.45	8.93	0.44	8.92	0.43	8.91	0.45	8.93	0.44	8.91	0.43	8.93	0.44
	Ridge	9.16	0.48	9.39	0.46	10.09	0.44	9.34	0.47	9.88	0.51	11.73	0.55	9.38	0.44
	Lasso	9.44	0.47	9.44	0.47	9.43	0.48	9.45	0.48	9.47	0.48	9.42	0.49	9.44	0.48
	E-net	9.45	0.48	9.46	0.47	9.43	0.48	9.46	0.49	9.49	0.48	9.43	0.49	9.45	0.48
	SCAD	8.94	0.45	8.95	0.44	8.96	0.44	8.94	0.45	8.95	0.43	8.93	0.43	8.94	0.44
	MCP	8.95	0.44	8.96	0.44	8.96	0.44	8.96	0.44	8.96	0.43	8.94	0.43	8.95	0.45
	XGBoost	4.60	0.23	4.72	0.28	5.08	0.27	4.64	0.27	4.80	0.25	4.35	2.60	4.69	0.26
	RF	3.89	0.16	4.00	0.15	3.69	0.15	3.95	0.18	4.17	0.17	2.55	0.12	3.96	0.15
	SVM	1.39	0.06	1.35	0.06	1.34	0.11	1.32	0.06	1.20	0.05	1.67	0.13	1.34	0.07
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
	AIC F	33.87	1.72	33.91	1.70	33.87	1.73	33.89	1.76	34.07	1.79	34.75	1.86	34.05	1.70
	BIC F	35.65	1.79	35.71	1.75	35.67	1.76	35.65	1.79	35.72	1.74	35.80	1.72	35.71	1.78
	AIC SF	33.87	1.72	33.92	1.70	33.88	1.74	33.89	1.76	34.09	1.79	34.75	1.86	34.06	1.70
	BIC SF	35.65	1.79	35.71	1.75	35.67	1.76	35.65	1.79	35.72	1.74	35.80	1.72	35.71	1.78
	Ridge	36.64	1.91	37.58	1.84	40.37	1.78	37.36	1.87	39.50	2.02	46.91	2.21	40.12	1.92
	Lasso	37.74	1.90	37.75	1.88	37.72	1.90	37.79	1.93	37.89	1.91	37.70	1.96	37.74	1.90
	E-net	37.82	1.92	37.82	1.88	37.74	1.92	37.85	1.95	37.96	1.93	37.70	1.97	37.79	1.91
	SCAD	35.76	1.80	35.79	1.77	35.83	1.75	35.76	1.80	35.81	1.73	35.73	1.72	35.79	1.77
	MCP	35.80	1.77	35.83	1.76	35.84	1.76	35.82	1.76	35.85	1.70	35.76	1.72	35.82	1.76
	XGBoost	18.39	0.92	18.87	1.10	20.32	1.10	18.54	1.08	19.18	0.99	18.46	9.67	19.70	1.07
	RF	15.56	0.64	15.98	0.59	14.74	0.58	15.81	0.73	16.68	0.70	10.18	0.48	14.51	0.53
	SVM	5.57	0.25	5.41	0.24	5.37	0.43	5.29	0.24	4.80	0.22	6.67	0.53	5.19	0.33

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	OLS	0.90	0.05	
	AIC F	0.96	0.05	
	BIC F	1.00	0.05	
	AIC SF	0.96	0.05	
	BIC SF	1.00	0.05	
	Ridge	1.35	0.06	
	Lasso	1.04	0.05	
	E-net	1.04	0.05	
	SCAD	0.99	0.05	
	MCP	0.99	0.05	
	XGBoost	0.42	0.33	
	RF	0.25	0.01	
	SVM	0.42	0.03	
3	OLS	8.11	0.41	
	AIC F	8.66	0.45	
	BIC F	8.95	0.43	
	AIC SF	8.66	0.45	
	BIC SF	8.95	0.43	
	Ridge	12.16	0.55	
	Lasso	9.39	0.48	
	E-net	9.40	0.47	
	SCAD	8.94	0.44	
	MCP	8.95	0.44	
	XGBoost	4.18	2.88	
	RF	2.23	0.09	
	SVM	3.75	0.30	
6	OLS	32.45	1.66	
	AIC F	34.65	1.82	
	BIC F	35.81	1.74	
	AIC SF	34.66	1.81	
	BIC SF	35.81	1.74	
	Ridge	48.65	2.20	
	Lasso	37.56	1.90	
	E-net	37.60	1.90	
	SCAD	35.78	1.74	
	MCP	35.80	1.76	
	XGBoost	16.19	11.69	
	RF	8.91	0.37	
	SVM	14.98	1.21	

Table SM9: Mean and standard deviation of the training MSE for Model 1 when $n = 1000$ and $p = 2000$. See Figure SM9 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

SM4.2. Tables for the testing MSE of the linear simulations.

Table SM10: Mean and standard deviation of the testing MSE for Model 1 when $n = 50$ and $p = 10$. See Figure SM10 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 SM11: Mean and standard deviation of the testing MSE for Model 1 when $n = 50$ and $p = 100$. See Figure SM11 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 SM12: Mean and standard deviation of the testing MSE for Model 1 when $n = 50$ and $p = 2000$. See Figure SM12 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	17.70	3.71	15.45	2.64	17.19	3.53	15.28	3.46
	Lasso	3.93	2.62	4.29	3.55	4.05	2.20	5.04	3.76	6.20	2.28	5.38	3.74	5.67	2.40
	E-net	4.94	3.33	4.94	3.75	4.56	2.32	5.97	3.97	6.79	2.27	6.32	3.87	6.11	2.40
	SCAD	1.32	0.32	1.33	0.28	1.36	0.72	1.35	0.36	2.69	2.02	1.38	0.56	1.64	1.13
	MCP	1.31	0.27	1.33	0.29	1.47	0.92	1.49	1.42	3.11	2.11	1.41	0.56	2.14	2.22
	XGBoost	13.07	4.31	11.25	3.27	9.00	2.21	12.15	3.90	9.36	2.26	11.23	3.36	8.77	2.42
	RF	15.12	3.90	12.37	2.89	9.19	2.08	13.18	3.65	9.76	2.01	12.53	3.15	9.23	2.37
	SVM	18.21	4.09	15.34	3.07	10.81	2.45	17.59	3.69	15.31	2.66	16.72	3.48	14.30	3.21
3	Ridge	164.35	36.81	150.51	32.67	97.78	23.37	159.29	32.76	138.96	23.87	154.77	32.38	134.34	28.18
	Lasso	35.41	23.54	39.56	31.53	36.76	18.69	46.96	36.21	57.89	21.14	40.63	26.95	48.49	17.55
	E-net	44.50	29.99	45.86	33.20	41.16	19.31	55.23	39.39	62.92	22.16	49.11	28.88	52.55	17.53
	SCAD	11.87	2.86	11.83	3.01	11.76	4.85	12.02	3.26	23.02	17.75	12.46	6.68	14.02	9.41
	MCP	11.81	2.45	12.02	3.17	13.14	8.51	12.55	5.32	25.93	19.00	12.14	3.50	17.08	13.36
	XGBoost	117.95	37.64	101.44	28.63	79.55	18.57	109.00	30.53	81.55	18.59	98.03	23.80	77.15	20.33
	RF	135.80	34.62	112.34	27.49	81.23	15.94	119.64	31.55	87.90	20.24	112.97	29.21	79.94	20.82
	SVM	163.59	36.25	139.97	27.07	97.76	21.06	158.19	32.83	137.72	23.81	151.22	31.29	125.19	25.12
6	Ridge	657.41	147.23	602.03	130.67	391.11	93.49	635.49	129.34	555.83	95.49	619.07	129.52	537.36	112.74
	Lasso	141.66	94.14	158.24	126.14	147.04	74.76	191.58	142.86	231.54	84.58	162.51	107.79	193.95	70.18
	E-net	178.00	119.95	183.44	132.80	164.64	77.22	222.48	149.93	251.66	88.64	196.43	115.53	210.21	70.10
	SCAD	47.50	11.43	47.32	12.04	47.03	19.41	47.31	12.16	92.09	71.01	49.83	26.73	56.09	37.62
	MCP	47.24	9.79	48.09	12.66	52.55	34.03	52.76	45.99	103.71	76.00	68.85	13.43	48.56	14.01
	XGBoost	469.79	153.10	410.24	124.20	321.26	76.75	427.40	130.84	323.66	75.19	149.85	51.63	401.51	100.54
	RF	544.40	138.21	449.51	110.71	323.89	63.22	475.33	125.96	351.50	80.88	155.18	52.79	451.61	116.15
	SVM	655.31	147.70	562.14	109.84	390.52	84.30	631.61	128.77	551.01	97.28	448.94	97.82	604.68	124.27

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.9		0.2		0.9		0.2		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	18.26	4.09	16.45	3.62	3.24	0.83	17.70	3.71	12.86	2.74	17.19	3.53	5.26	1.64
	Lasso	3.93	2.62	4.29	3.55	2.56	0.74	5.04	3.76	2.68	0.74	5.38	3.74	2.40	0.57
	E-net	4.94	3.33	4.94	3.75	2.63	0.75	5.97	3.97	2.84	0.79	6.32	3.87	2.40	0.61
	SCAD	1.32	0.32	1.33	0.28	2.13	0.77	1.35	0.36	1.94	0.44	1.38	0.56	1.13	0.56
	MCP	1.31	0.27	1.33	0.29	2.01	0.73	1.49	1.42	1.94	0.42	1.41	0.56	2.22	0.50
	XGBoost	13.07	4.31	11.25	3.27	3.45	0.80	12.15	3.90	4.01	1.26	11.23	3.36	3.54	0.91
	RF	15.12	3.90	12.37	2.89	3.07	0.69	13.18	3.65	4.25	1.42	12.53	3.15	3.40	0.86
	SVM	18.21	4.09	15.34	3.07	4.04	1.54	17.59	3.69	12.28	2.62	16.72	3.48	7.52	1.74
3	Ridge	164.35	36.81	150.51	32.67	28.75	7.20	159.29	32.76	116.54	25.33	154.77	32.38	28.18	14.78
	Lasso	35.41	23.54	39.56	31.53	22.65	7.29	46.96	36.21	24.45	7.53	40.63	26.95	17.55	4.58
	E-net	44.50	29.99	45.86	33.20	23.33	7.02	55.23	39.39	25.84	7.87	49.11	28.88	17.53	4.62
	SCAD	11.87	2.86	11.83	3.01	18.98	7.47	12.02	3.26	17.31	3.32	12.46	6.68	9.41	4.86
	MCP	11.81	2.45	12.02	3.17	19.18	7.39	12.55	5.32	17.21	3.36	12.14	3.50	13.36	5.37
	XGBoost	117.95	37.64	101.44	28.63	30.29	7.55	109.00	30.53	37.71	12.68	98.03	23.80	20.33	7.92
	RF	135.80	34.62	112.34	27.49	27.61	6.93	119.64	31.55	38.83	13.27	112.97	29.21	20.82	7.88
	SVM	163.59	36.25	139.97	27.07	36.16	14.44	158.19	32.83	112.21	24.66	151.22	31.29	25.12	15.74
6	Ridge	657.41	147.23	602.03	130.67	114.98	28.81	635.49	129.34	466.18	101.34	619.07	129.52	112.74	59.14
	Lasso	141.66	94.14	158.24	126.14	90.58	29.17	191.58	142.86	97.80	30.12	162.51	107.79	70.18	18.30
	E-net	178.00	119.95	183.44	132.80	93.33	28.07	222.48	149.93	103.37	31.48	196.43	115.53	70.10	18.46
	SCAD	47.50	11.43	47.32	12.04	75.91	29.87	47.31	12.16	69.25	13.26	49.83	26.73	74.47	19.45
	MCP	47.24	9.79	48.09	12.66	76.73	29.56	52.76	45.99	68.85	13.43	48.56	14.01	53.44	21.48
	XGBoost	469.79	153.10	410.24	124.20	120.60	32.85	427.40	130.84	149.85	51.63	401.51	100.54	84.34	32.82
	RF	544.40	138.21	449.51	110.71	110.63	27.86	475.33	125.96	155.18	52.79	451.61	116.15	83.11	31.12
	SVM	655.31	147.70	562.14	109.84	144.29	57.22	631.61	128.77	448.94	97.82	604.68	124.27	101.37	62.96

Table SM13: Mean and standard deviation of the testing MSE for Model 1 when $n = 200$ and $p = 10$. See Figure SM13 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 SM14: Mean and standard deviation of the testing MSE for Model 1 when $n = 200$ and $p = 100$. See Figure SM14 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC F	1.50	0.23	1.49	0.21	1.47	0.22	1.51	0.23	1.42	0.20	1.46	0.21	1.47	0.20
	BIC F	1.11	0.14	1.11	0.14	1.10	0.14	1.11	0.13	1.10	0.12	1.10	0.13	1.08	0.12
	AIC SF	1.51	0.23	1.50	0.21	1.47	0.23	1.52	0.23	1.42	0.20	1.46	0.21	1.49	0.22
	BIC SF	1.11	0.13	1.11	0.14	1.10	0.14	1.11	0.13	1.10	0.12	1.10	0.13	1.08	0.12
	Ridge	2.23	0.38	2.27	0.35	2.25	0.35	2.29	0.37	2.32	0.33	2.27	0.36	2.24	0.32
	Lasso	1.21	0.16	1.18	0.12	1.18	0.15	1.21	0.17	1.23	0.15	1.20	0.14	1.18	0.15
	E-net	1.22	0.17	1.20	0.13	1.19	0.15	1.23	0.17	1.25	0.15	1.22	0.14	1.20	0.15
	SCAD	1.03	0.12	1.04	0.11	1.03	0.11	1.05	0.11	1.04	0.11	1.04	0.11	1.04	0.12
	MCP	1.03	0.12	1.04	0.11	1.04	0.12	1.04	0.11	1.04	0.11	1.03	0.11	1.04	0.12
	XGBoost	2.26	0.33	2.25	0.33	2.33	0.33	2.24	0.32	2.30	0.34	2.23	0.31	2.28	0.34
	RF	5.48	0.77	5.66	0.75	4.65	0.53	5.63	0.81	5.21	0.56	5.57	0.80	4.45	0.58
	SVM	8.39	0.84	7.54	0.82	5.18	0.64	8.19	0.99	7.05	0.64	7.76	0.90	6.09	0.69
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

	Type	Blockwise		
	Corr.	0.5		0.9
σ	Model	Mean	SD	Mean	SD
1	OLS	2.05	0.28	2.05	0.28
	AIC F	1.47	0.20	1.26	0.20
	BIC F	1.08	0.12	1.06	0.12
	AIC SF	1.49	0.22	1.27	0.23
	BIC SF	1.08	0.12	1.06	0.12
	Ridge	2.24	0.32	1.94	0.24
	Lasso	1.18	0.15	1.21	0.16
	E-net	1.20	0.15	1.22	0.16
	SCAD	1.04	0.12	1.06	0.11
	MCP	1.04	0.12	1.06	0.12
	XGBoost	2.28	0.34	2.08	0.28
	RF	4.45	0.58	2.09	0.23
	SVM	6.09	0.69	3.21	0.45
3	OLS	18.46	2.55	18.46	2.55
	AIC F	12.94	1.90	11.23	1.75
	BIC F	9.74	1.10	9.67	1.15
	AIC SF	13.00	1.93	11.20	1.69
	BIC SF	9.74	1.11	9.67	1.15
	Ridge	20.68	3.36	17.35	2.13
	Lasso	10.73	1.36	10.96	1.47
	E-net	10.84	1.40	11.08	1.48
	SCAD	9.35	1.03	9.49	1.08
	MCP	9.32	1.05	9.49	1.08
	XGBoost	20.58	3.12	18.56	2.46
	RF	41.09	5.37	18.97	2.13
	SVM	56.81	6.45	29.01	3.91
6	OLS	73.85	10.20	73.85	10.20
	AIC F	51.78	7.59	44.91	6.99
	BIC F	38.95	4.39	38.68	4.60
	AIC SF	51.99	7.73	44.80	6.75
	BIC SF	38.97	4.46	38.68	4.60
	Ridge	82.72	13.44	69.39	8.50
	Lasso	42.92	5.44	43.84	5.87
	E-net	43.37	5.61	44.33	5.91
	SCAD	37.38	4.10	37.95	4.32
	MCP	37.27	4.20	37.96	4.31
	XGBoost	82.41	12.54	74.43	10.21
	RF	164.34	21.50	75.85	8.45
	SVM	227.25	25.80	116.19	15.89

Table SM15: Mean and standard deviation of the testing MSE for Model 1 when $n = 200$ and $p = 2000$. See Figure SM15 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 SM16: Mean and standard deviation of the testing MSE for Model 1 when $n = 1000$ and $p = 10$. See Figure SM16 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 SM17: Mean and standard deviation of the testing MSE for Model 1 when $n = 1000$ and $p = 100$. See Figure SM17 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 SM18: Mean and standard deviation of the testing MSE for Model 1 when $n = 1000$ and $p = 2000$. See Figure SM18 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	15.24	0.73	13.09	0.67	13.72	0.64	9.35	0.44
	Lasso	1.08	0.05	1.09	0.05	1.08	0.05	1.08	0.05	1.09	0.05	1.09	0.06	1.08	0.05
	E-net	1.09	0.05	1.09	0.05	1.09	0.05	1.09	0.05	1.10	0.05	1.09	0.06	1.09	0.05
	SCAD	1.01	0.04	1.01	0.04	1.03	0.05	1.01	0.04	1.01	0.04	1.01	0.04	1.02	0.05
	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
	XGBoost	1.42	0.08	1.44	0.07	1.45	0.08	1.42	0.07	1.46	0.08	1.42	0.08	1.44	0.09
	RF	3.62	0.26	3.86	0.27	3.40	0.22	3.64	0.24	3.89	0.25	3.69	0.28	3.35	0.20
	SVM	14.80	0.66	12.24	0.60	7.98	0.39	13.98	0.61	11.79	0.57	12.59	0.58	8.82	0.40
3	Ridge	144.14	6.47	120.54	5.17	82.87	4.01	137.01	6.46	117.91	6.16	124.21	6.22	85.45	3.89
	Lasso	9.75	0.46	9.72	0.47	9.72	0.48	9.74	0.45	9.86	0.49	9.76	0.49	9.84	0.50
	E-net	9.81	0.46	9.78	0.47	9.77	0.48	9.82	0.47	9.95	0.50	9.82	0.50	9.91	0.51
	SCAD	9.07	0.37	9.08	0.40	9.24	0.44	9.08	0.39	9.11	0.38	9.09	0.39	9.24	0.45
	MCP	9.05	0.37	9.05	0.39	9.07	0.39	9.05	0.39	9.05	0.38	9.06	0.38	9.07	0.39
	XGBoost	12.77	0.68	12.82	0.68	13.06	0.73	12.78	0.54	13.19	0.72	15.22	0.88	12.87	0.71
	RF	32.62	2.32	33.79	2.41	30.43	1.97	32.76	2.23	35.04	2.26	17.35	0.88	33.63	2.42
	SVM	133.24	5.90	109.90	4.45	72.46	3.28	125.71	5.40	106.06	5.17	49.15	2.38	114.38	5.38
6	Ridge	576.56	25.87	482.14	20.69	331.47	16.05	548.28	25.71	471.63	24.65	243.21	12.05	496.84	24.88
	Lasso	38.98	1.82	38.89	1.88	38.87	1.91	39.00	1.81	39.44	1.95	42.06	2.23	39.03	1.96
	E-net	39.24	1.84	39.13	1.90	39.09	1.94	39.26	1.83	39.81	1.98	42.60	2.24	39.29	2.00
	SCAD	36.27	1.49	36.32	1.58	36.95	1.76	36.31	1.58	36.45	1.53	38.16	3.44	36.35	1.54
	MCP	36.19	1.49	36.19	1.55	36.30	1.56	36.21	1.55	36.19	1.51	37.69	1.53	36.23	1.51
	XGBoost	51.08	2.73	51.24	2.72	52.21	2.96	51.44	2.71	52.78	2.88	60.95	3.75	51.48	2.83
	RF	130.46	9.29	135.14	9.66	121.75	7.87	130.90	8.92	140.14	9.02	69.44	3.53	134.46	9.61
	SVM	532.95	23.61	439.60	17.79	289.85	13.10	502.81	21.47	424.26	20.66	196.59	9.51	457.51	21.50

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	Ridge	2.96	0.13	
	Lasso	1.10	0.05	
	E-net	1.11	0.06	
	SCAD	1.04	0.04	
	MCP	1.04	0.04	
	XGBoost	1.56	0.08	
	RF	1.79	0.08	
	SVM	3.71	0.18	
3	Ridge	26.35	1.29	
	Lasso	9.87	0.48	
	E-net	9.95	0.49	
	SCAD	9.39	0.82	
	MCP	9.32	0.39	
	XGBoost	13.86	0.67	
	RF	15.90	0.74	
	SVM	32.75	1.54	
6	Ridge	105.42	5.15	
	Lasso	39.48	1.93	
	E-net	39.80	1.95	
	SCAD	37.55	3.27	
	MCP	37.29	1.57	
	XGBoost	55.40	2.96	
	RF	63.58	2.97	
	SVM	131.03	6.13	

SM4.3. Tables for the β-sensitivity of the linear simulations.

Table SM19: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 50$ and $p = 10$. See Figure SM19 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 SM20: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 50$ and $p = 100$. See Figure SM20 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 SM21: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 50$ and $p = 2000$. See Figure SM21 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 SM22: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 200$ and $p = 10$. See Figure SM22 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 SM23: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 200$ and $p = 100$. See Figure SM23 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 SM24: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 200$ and $p = 2000$. See Figure SM24 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 SM25: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 1000$ and $p = 10$. See Figure SM25 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 SM26: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 1000$ and $p = 100$. See Figure SM26 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 SM27: Mean and standard deviation of the β-sensitivity for Model 1 when $n = 1000$ and $p = 2000$. See Figure SM27 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

SM4.4. Tables for the β-specificity of the linear simulations.

Table SM28: Mean and standard deviation of the β-specificity for Model 1 when $n = 50$ and $p = 10$. See Figure SM28 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 SM29: Mean and standard deviation of the β-specificity for Model 1 when $n = 50$ and $p = 100$. See Figure SM29 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 SM30: Mean and standard deviation of the β-specificity for Model 1 when $n = 50$ and $p = 2000$. See Figure SM30 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 SM31: Mean and standard deviation of the β-specificity for Model 1 when $n = 200$ and $p = 10$. See Figure SM31 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 SM32: Mean and standard deviation of the β-specificity for Model 1 when $n = 200$ and $p = 100$. See Figure SM32 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 SM33: Mean and standard deviation of the β-specificity for Model 1 when $n = 200$ and $p = 2000$. See Figure SM33 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 SM34: Mean and standard deviation of the β-specificity for Model 1 when $n = 1000$ and $p = 10$. See Figure SM34 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 SM35: Mean and standard deviation of the β-specificity for Model 1 when $n = 1000$ and $p = 100$. See Figure SM35 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC F	0.8329	0.0391	0.8362	0.0458	0.8345	0.0429	0.8299	0.0395	0.8538	0.0436	0.8422	0.0382	0.8484	0.0457
	BIC F	0.9905	0.0112	0.9928	0.0093	0.9929	0.0092	0.9907	0.0098	0.9927	0.0097	0.9896	0.0108	0.9930	0.0084
	AIC SF	0.8334	0.0389	0.8364	0.0459	0.8353	0.0424	0.8307	0.0390	0.8556	0.0421	0.8434	0.0372	0.8492	0.0452
	BIC SF	0.9905	0.0112	0.9928	0.0093	0.9929	0.0092	0.9907	0.0098	0.9929	0.0086	0.9896	0.0108	0.9930	0.0084
	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
	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	0.9941	0.0307
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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

Table SM36: Mean and standard deviation of the β-specificity for Model 1 when $n = 1000$ and $p = 2000$. See Figure SM36 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

SM5. Tables from the non-linear simulations.

SM5.1. Tables for the training MSE of the non-linear simulations.

Table SM37: Mean and standard deviation of the training MSE for Model 2 when $n = 50$ and $p = 10$. See Figure SM37 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 SM38: Mean and standard deviation of the training MSE for Model 2 when $n = 50$ and $p = 100$. See Figure SM38 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 SM39: Mean and standard deviation of the training MSE for Model 2 when $n = 50$ and $p = 2000$. See Figure SM39 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	22.93	4.38	26.01	5.28	33.54	12.39	23.09	7.24	14.32	9.15
	Lasso	12.85	4.72	9.54	4.18	7.39	3.38	11.61	4.68	12.20	4.64	8.82	3.52	10.78	4.06	8.93	3.58
	E-net	13.25	4.92	9.65	4.29	7.26	3.34	12.23	4.71	12.71	4.76	8.96	3.64	11.12	4.08	9.01	3.69
	SCAD	4.23	3.44	4.31	2.35	5.35	1.89	3.70	2.18	4.22	3.06	5.74	3.36	4.07	2.26	5.47	2.87
	MCP	6.39	3.33	5.92	3.14	6.25	2.67	5.88	2.57	6.38	3.07	6.98	3.09	5.76	2.16	6.57	2.89
	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
	RF	2.43	0.50	2.38	0.47	1.93	0.43	2.61	0.53	2.77	0.50	1.56	0.46	2.40	0.41	1.93	0.46
	SVM	5.68	4.16	0.89	1.26	0.91	2.00	5.96	4.61	5.22	4.91	3.60	4.94	2.07	3.20	0.76	0.99
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
	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
	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
	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
	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
	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
	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
	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
6	Ridge	2884.31	1399.73	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
	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
	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
	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
	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
	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
	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
	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

	Type	Blockwise	
	Corr.	0.5	
σ	Model	Mean	SD
1	Ridge	9.15	7.95
	Lasso	3.58	8.59
	E-net	3.69	8.64
	SCAD	2.87	7.68
	MCP	2.89	7.67
	XGBoost	0.00	0.00
	RF	0.46	0.91
	SVM	0.99	0.58
3	Ridge	128.52	261.19
	Lasso	134.69	235.35
	E-net	134.78	235.29
	SCAD	101.72	146.10
	MCP	115.86	148.86
	XGBoost	0.00	0.00
	RF	15.76	19.79
	SVM	54.67	35.92
6	Ridge	1629.71	3195.81
	Lasso	1611.36	3064.39
	E-net	1614.59	3070.39
	SCAD	1599.40	2417.30
	MCP	1581.03	2380.36
	XGBoost	0.00	0.00
	RF	228.67	273.18
	SVM	1111.37	850.84

Table SM40: Mean and standard deviation of the training MSE for Model 2 when $n = 200$ and $p = 10$. See Figure SM40 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 SM41: Mean and standard deviation of the training MSE for Model 2 when $n = 200$ and $p = 100$. See Figure SM41 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	3.37	0.58	3.34	0.51	3.28	0.55	3.36	0.54
	AIC F	4.31	0.74	4.37	0.71	4.50	0.74	4.46	0.86	4.54	0.72	4.37	0.83	4.55	0.84
	BIC F	5.98	0.89	6.13	0.84	6.38	0.84	6.08	0.95	6.11	0.79	6.02	0.92	6.41	0.93
	AIC SF	4.31	0.73	4.36	0.71	4.51	0.75	4.45	0.85	4.56	0.74	4.40	0.81	4.57	0.83
	BIC SF	5.99	0.89	6.13	0.84	6.39	0.83	6.09	0.95	6.11	0.79	6.01	0.92	6.41	0.93
	Ridge	6.83	2.00	7.19	1.70	7.93	1.96	6.96	1.95	6.65	1.50	6.92	1.71	7.52	1.77
	Lasso	7.80	1.25	7.67	1.14	7.50	1.13	7.82	1.33	7.52	1.01	7.53	1.26	7.58	1.23
	E-net	7.85	1.25	7.63	1.13	7.43	1.13	7.83	1.33	7.53	1.06	7.38	1.38	7.53	1.27
	SCAD	6.51	1.05	6.60	0.88	6.88	0.92	6.62	1.03	6.54	0.88	6.64	1.08	6.42	1.04
	MCP	6.66	1.05	6.68	0.90	7.01	0.89	6.72	1.05	6.62	0.92	6.63	1.15	6.54	0.98
	XGBoost	0.04	0.03	0.06	0.02	0.07	0.02	0.05	0.02	0.05	0.02	0.07	0.04	0.05	0.02
	RF	0.89	0.12	0.87	0.10	0.72	0.10	0.87	0.11	0.81	0.09	0.52	0.07	0.85	0.11
	SVM	0.37	0.15	0.36	0.10	0.44	0.20	0.35	0.14	0.34	0.12	0.51	0.29	0.37	0.16
3	OLS	86.73	26.20	84.90	20.84	83.01	21.46	82.49	22.31	81.85	19.99	83.01	21.62	86.54	24.61
	AIC F	115.33	35.65	113.92	28.96	110.83	27.70	108.96	30.13	113.81	29.45	133.91	36.88	116.01	33.42
	BIC F	160.09	47.64	157.88	39.86	156.09	37.74	150.91	37.50	152.68	36.16	159.79	41.76	157.77	38.09
	AIC SF	116.02	35.92	114.35	29.41	111.17	28.37	108.93	29.65	113.90	29.10	135.18	37.55	115.98	33.50
	BIC SF	160.28	47.80	157.92	39.84	156.21	37.86	150.95	37.50	152.74	36.09	160.07	41.69	157.70	38.14
	Ridge	236.39	71.11	245.92	63.77	234.33	61.97	233.19	61.55	228.80	67.01	210.68	62.71	240.48	70.19
	Lasso	219.31	67.40	215.23	57.57	207.41	58.68	212.52	59.28	208.33	53.31	203.37	58.90	217.55	61.69
	E-net	220.15	67.50	216.12	58.13	207.38	59.35	213.54	59.07	209.80	54.23	203.40	59.21	218.11	61.96
	SCAD	173.42	50.70	168.15	41.57	166.11	40.57	165.26	39.74	165.23	37.76	167.18	43.19	169.70	41.11
	MCP	177.09	53.88	170.15	42.07	167.56	42.45	167.40	39.93	166.84	38.09	167.22	43.58	172.20	41.83
	XGBoost	0.45	0.18	0.54	0.11	0.69	0.17	0.47	0.16	0.48	0.19	0.85	0.35	0.50	0.13
	RF	15.03	5.48	15.17	3.25	13.32	3.75	15.25	4.45	14.81	3.32	9.53	2.55	15.02	3.76
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

	Blockwise			
	0.9			
σ	Mean	SD		
1	3.30	0.58		
	5.21	0.99		
	6.41	1.06		
	5.24	1.01		
	6.41	1.06		
	7.40	1.53		
	7.37	1.41		
	7.38	1.38		
	6.64	1.08		
	6.63	1.15		
	0.07	0.04		
	0.52	0.07		
	0.51	0.29		
3	83.01	21.62		
	133.91	36.88		
	159.79	41.76		
	135.18	37.55		
	160.07	41.69		
	210.68	62.71		
	203.37	58.90		
	203.40	59.21		
	167.18	43.19		
	167.22	43.58		
	0.85	0.35		
	9.53	2.55		
	22.38	10.56		
6	1238.80	331.56		
	1999.44	562.14		
	2409.90	628.39		
	2008.43	567.89		
	2410.30	628.40		
	2969.20	697.69		
	2920.53	715.09		
	2923.93	715.39		
	2462.43	682.97		
	2475.79	673.71		
	3.18	2.15		
	92.36	40.23		
	460.41	188.54		

Table SM42: Mean and standard deviation of the training MSE for Model 2 when $n = 200$ and $p = 2000$. See Figure SM42 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 SM43: Mean and standard deviation of the training MSE for Model 2 when $n = 1000$ and $p = 10$. See Figure SM43 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 SM44: Mean and standard deviation of the training MSE for Model 2 when $n = 1000$ and $p = 100$. See Figure SM44 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 SM45: Mean and standard deviation of the training MSE for Model 2 when $n = 1000$ and $p = 2000$. See Figure SM45 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	15.39	1.37	15.49	1.09	13.84	0.90	12.36	0.67
	Lasso	7.30	0.44	7.13	0.47	7.24	0.45	7.15	0.41	7.15	0.39	7.24	0.37	7.34	0.52
	E-net	7.32	0.45	7.11	0.47	7.19	0.44	7.17	0.41	7.16	0.39	7.25	0.37	7.33	0.51
	SCAD	6.64	0.42	6.58	0.41	6.96	0.36	6.51	0.42	6.58	0.40	6.64	0.37	6.99	0.42
	MCP	6.68	0.38	6.61	0.42	6.95	0.36	6.57	0.37	6.64	0.37	6.69	0.35	6.94	0.44
	XGBoost	0.32	0.04	0.32	0.04	0.33	0.12	0.29	0.08	0.29	0.07	0.30	0.06	0.26	0.13
	RF	0.58	0.03	0.60	0.04	0.49	0.03	0.57	0.03	0.50	0.03	0.57	0.03	0.45	0.02
	SVM	0.52	0.08	0.43	0.07	0.44	0.09	0.52	0.08	0.49	0.08	0.41	0.07	0.40	0.04
3	Ridge	256.27	26.81	255.39	24.31	232.43	20.07	259.38	29.29	256.87	36.49	240.45	30.01	225.87	29.13
	Lasso	193.89	23.79	199.84	21.74	199.47	22.62	193.03	24.79	196.87	24.29	194.88	23.19	198.08	25.12
	E-net	194.32	23.77	200.05	21.71	198.79	22.78	193.46	24.78	197.15	24.27	195.19	23.12	198.03	25.21
	SCAD	172.59	20.62	174.31	17.66	176.53	17.97	170.53	20.21	173.56	19.32	172.40	19.23	175.75	21.18
	MCP	173.19	20.54	175.92	17.20	178.17	18.31	171.94	19.76	173.88	18.53	173.60	19.14	177.41	20.94
	XGBoost	2.66	0.14	2.73	0.16	3.22	0.15	2.62	0.14	2.60	0.14	2.64	0.15	2.92	0.16
	RF	7.56	0.94	7.88	0.90	7.05	0.90	7.75	0.86	7.67	1.05	7.54	0.92	6.63	0.85
	SVM	30.17	8.39	29.49	6.36	23.24	5.66	30.84	7.65	29.91	7.57	31.31	8.71	29.60	7.56
6	Ridge	2935.88	323.58	3066.65	289.79	3013.85	351.78	2961.98	323.42	3022.21	297.11	3090.26	391.00	2999.08	300.74
	Lasso	2861.26	340.19	2962.98	317.39	2996.57	347.61	2858.56	368.18	2915.35	339.43	2903.83	383.50	2890.96	333.06
	E-net	2863.13	339.40	2966.12	317.74	2997.39	347.46	2862.29	367.47	2918.39	338.17	2904.86	383.51	2893.62	332.66
	SCAD	2588.04	317.11	2639.78	271.75	2664.60	285.36	2564.30	298.11	2603.00	292.56	2604.09	323.76	2592.94	292.85
	MCP	2599.50	318.02	2660.02	278.07	2682.95	291.80	2585.33	304.47	2616.86	283.45	2612.86	319.47	2607.53	294.68
	XGBoost	11.80	0.67	12.26	0.79	13.89	2.13	11.77	0.62	11.70	0.62	13.27	2.84	11.92	0.71
	RF	60.05	14.99	63.35	13.11	60.51	13.10	61.20	12.00	60.77	14.99	41.73	13.07	59.66	12.76
	SVM	1226.72	627.93	729.20	317.42	464.41	100.51	1188.96	569.02	1057.58	495.47	775.02	354.52	1037.15	509.60

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.9		0.2		0.9		0.2		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	15.21	1.38	14.84	1.35	9.61	0.68	15.39	1.37	15.90	0.66	13.84	0.90	9.33	0.61
	Lasso	7.30	0.44	7.13	0.47	7.99	0.63	7.15	0.41	7.17	0.47	7.24	0.37	8.00	0.65
	E-net	7.32	0.45	7.11	0.47	7.91	0.62	7.17	0.41	7.18	0.47	7.25	0.37	7.96	0.64
	SCAD	6.64	0.42	6.58	0.41	7.84	0.49	6.51	0.42	6.95	0.42	6.64	0.37	7.75	0.50
	MCP	6.68	0.38	6.61	0.42	7.84	0.49	6.57	0.37	6.93	0.42	6.69	0.35	7.75	0.50
	XGBoost	0.32	0.04	0.32	0.04	0.03	0.11	0.29	0.08	0.18	0.16	0.30	0.06	0.00	0.04
	RF	0.58	0.03	0.60	0.04	0.29	0.02	0.57	0.03	0.32	0.02	0.57	0.03	0.26	0.02
	SVM	0.52	0.08	0.43	0.07	1.25	0.28	0.52	0.08	0.43	0.06	0.41	0.07	0.85	0.44
3	Ridge	256.27	26.81	255.39	24.31	196.77	19.80	259.38	29.29	214.54	26.86	240.45	30.01	199.38	23.11
	Lasso	193.89	23.79	199.84	21.74	193.90	24.32	193.03	24.79	193.19	24.27	194.88	23.19	192.99	22.86
	E-net	194.32	23.77	200.05	21.71	192.99	24.16	193.46	24.78	193.16	24.13	195.19	23.12	192.64	22.95
	SCAD	172.59	20.62	174.31	17.66	178.09	19.40	170.53	20.21	173.90	20.98	172.40	19.23	175.72	17.75
	MCP	173.19	20.54	175.92	17.20	177.89	19.46	171.94	19.76	174.39	20.63	173.60	19.14	175.58	17.95
	XGBoost	2.66	0.14	2.73	0.16	1.88	2.42	2.62	0.14	3.08	0.19	2.64	0.15	1.63	2.10
	RF	7.56	0.94	7.88	0.90	3.92	0.55	7.75	0.86	5.01	0.82	7.54	0.92	3.70	0.49
	SVM	30.17	8.39	29.49	6.36	15.72	5.37	30.84	7.65	31.31	8.71	29.60	7.56	12.67	2.83
6	Ridge	2935.88	323.58	3066.65	289.79	2764.47	376.25	2961.98	323.42	3090.26	391.00	2999.08	300.74	2937.92	355.21
	Lasso	2861.26	340.19	2962.98	317.39	2916.51	363.82	2858.56	368.18	2903.83	383.50	2890.96	333.06	2894.24	357.52
	E-net	2863.13	339.40	2966.12	317.74	2918.20	364.22	2862.29	367.47	2904.86	383.51	2893.62	332.66	2895.11	357.97
	SCAD	2588.04	317.11	2639.78	271.75	2620.83	295.03	2564.30	298.11	2603.00	292.56	2604.09	323.76	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
	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
	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
	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

SM5.2. Tables for the testing MSE of the non-linear simulations.

Table SM46: Mean and standard deviation of the testing MSE for Model 2 when $n = 50$ and $p = 10$. See Figure SM46 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 SM47: Mean and standard deviation of the testing MSE for Model 2 when $n = 50$ and $p = 100$. See Figure SM47 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	24.14	4.26	24.94	4.11	24.39	5.31	20.61	4.02
	Lasso	11.13	3.28	10.88	3.31	10.94	3.61	11.29	3.28	10.71	2.79	10.59	2.90	10.62	2.56
	E-net	11.46	3.40	11.02	3.32	11.15	3.63	11.63	3.44	10.95	2.84	10.80	2.96	10.72	2.55
	SCAD	8.45	1.99	8.67	2.23	9.18	3.17	8.46	2.01	8.32	1.85	8.22	1.91	9.41	2.77
	MCP	8.46	2.01	8.61	2.14	9.82	4.39	8.41	2.00	8.25	1.89	8.22	1.84	9.43	2.81
	XGBoost	7.95	2.54	7.82	2.66	7.16	2.40	8.16	2.78	8.09	3.13	7.54	2.53	7.22	4.49
	RF	11.64	2.99	11.12	3.26	9.64	2.62	12.73	3.52	12.63	3.77	11.33	3.34	9.05	2.33
	SVM	19.53	3.99	18.14	3.88	15.07	3.58	20.97	3.88	20.49	3.54	19.97	3.97	17.31	3.66
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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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	1345.13
	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
	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
	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

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	Ridge	15.06	3.06	
	Lasso	10.77	3.11	
	E-net	10.78	3.03	
	SCAD	10.65	3.26	
	MCP	10.95	3.51	
	XGBoost	4.46	1.76	
	RF	4.76	1.87	
	SVM	12.68	4.33	
3	Ridge	307.68	135.90	
	Lasso	289.46	136.46	
	E-net	288.22	135.85	
	SCAD	248.19	132.88	
	MCP	250.31	138.03	
	XGBoost	90.12	66.53	
	RF	106.44	75.65	
	SVM	158.97	102.19	
6	Ridge	3499.60	1672.78	
	Lasso	3496.55	1690.54	
	E-net	3495.08	1690.96	
	SCAD	3520.36	1811.26	
	MCP	3560.48	1841.78	
	XGBoost	1043.00	1018.88	
	RF	1330.42	1049.45	
	SVM	1875.05	1217.84	

Table SM48: Mean and standard deviation of the testing MSE for Model 2 when $n = 50$ and $p = 2000$. See Figure SM48 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 SM49: Mean and standard deviation of the testing MSE for Model 2 when $n = 200$ and $p = 10$. See Figure SM49 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	6.99	0.82	7.07	0.85	6.93	0.83	6.99	0.92
	AIC B	7.08	0.94	7.11	0.81	7.34	1.05	6.99	0.83	7.10	0.86	6.95	0.82	6.99	0.91
	BIC B	7.12	0.92	7.17	0.81	7.43	1.03	7.04	0.83	7.17	0.85	7.05	0.78	7.03	0.91
	AIC SB	7.08	0.94	7.11	0.81	7.34	1.05	6.99	0.83	7.09	0.86	6.95	0.82	6.99	0.91
	BIC SB	7.12	0.92	7.17	0.81	7.43	1.03	7.04	0.83	7.17	0.86	7.05	0.78	7.03	0.91
	AIC F	7.09	0.94	7.11	0.81	7.33	1.05	6.98	0.83	7.09	0.86	6.95	0.82	6.99	0.91
	BIC F	7.12	0.92	7.18	0.81	7.43	1.03	7.04	0.83	7.17	0.85	7.04	0.78	7.04	0.90
	AIC SF	7.09	0.94	7.11	0.81	7.33	1.05	6.98	0.83	7.09	0.86	7.19	1.06	6.96	0.81
	BIC SF	7.12	0.92	7.18	0.81	7.43	1.03	7.04	0.83	7.17	0.85	7.18	1.06	7.04	0.78
	Ridge	7.78	1.01	7.94	0.99	8.00	1.05	7.70	1.00	7.90	1.00	8.18	1.32	7.80	1.10
	Lasso	7.65	1.00	7.74	0.95	7.83	1.03	7.60	1.01	7.75	1.05	7.97	1.23	7.67	1.01
	E-net	7.65	0.99	7.74	0.94	7.81	1.02	7.60	1.01	7.75	1.05	8.00	1.28	7.67	1.01
	SCAD	7.10	0.92	7.15	0.80	7.38	1.04	7.01	0.82	7.13	0.85	7.20	1.03	7.01	0.78
	MCP	7.10	0.92	7.16	0.80	7.38	1.05	7.02	0.83	7.15	0.85	7.23	1.07	7.02	0.78
	XGBoost	2.32	0.44	2.28	0.40	2.30	0.49	2.24	0.38	2.25	0.34	2.15	0.42	2.25	0.32
	RF	3.99	0.72	3.94	0.71	3.29	0.60	3.92	0.76	3.73	0.72	2.59	0.49	3.91	0.61
	SVM	6.97	0.89	6.99	0.94	6.20	1.18	7.01	0.91	6.70	1.00	4.74	1.18	6.89	0.81
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

	Blockwise			
	0.9		0.9	
σ	Mean	SD	Mean	SD
1	7.26	1.06	7.05	1.12
	7.21	1.06	6.99	1.12
	7.17	1.05	6.99	1.10
	7.21	1.05	7.02	1.12
	7.17	1.05	6.99	1.10
	7.19	1.06	7.01	1.13
	7.18	1.06	6.98	1.10
	7.19	1.06	7.01	1.12
	7.18	1.06	6.98	1.10
	8.18	1.32	8.01	1.26
	7.97	1.23	7.80	1.19
	8.00	1.28	7.79	1.19
	7.20	1.03	7.01	1.12
	7.23	1.07	7.01	1.13
	2.15	0.42	2.08	0.33
	2.59	0.49	3.00	0.55
	4.74	1.18	4.10	0.67
3	187.32	48.15	181.74	45.58
	185.88	49.27	179.25	44.80
	184.71	49.44	177.51	43.72
	185.88	49.27	179.25	44.80
	184.58	49.42	177.51	43.72
	184.54	49.44	178.54	44.71
	183.49	48.48	177.65	43.94
	184.56	49.57	178.54	44.71
	183.46	48.50	177.62	43.97
	222.01	61.44	215.48	57.48
	215.59	60.20	210.28	59.13
	216.11	60.55	211.06	59.45
	184.72	49.08	179.24	44.33
	184.97	49.94	179.27	44.45
	27.61	10.74	27.80	11.71
	42.63	17.45	24.66	48.05
	43.02	25.66	38.73	15.91
6	2811.58	752.39	2748.06	722.34
	2775.52	755.02	2714.70	721.42
	2756.36	760.71	2677.76	707.14
	2775.52	755.02	2714.70	721.42
	2756.36	760.71	2677.76	707.14
	2753.01	751.17	2700.88	721.60
	2731.89	768.30	2671.09	709.06
	2751.38	751.00	2702.28	722.86
	2731.89	768.30	2671.09	709.06
	3049.81	792.40	2916.64	737.94
	3035.75	800.25	2905.24	743.55
	3036.18	800.92	2905.94	743.35
	2749.46	758.05	2692.26	707.46
	2740.88	765.51	2681.04	697.26
	234.98	157.48	247.03	182.52
	379.97	233.35	380.92	188.49
	459.40	343.12	422.84	256.70

Table SM50: Mean and standard deviation of the testing MSE for Model 2 when $n = 200$ and $p = 100$. See Figure SM50 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 SM51: Mean and standard deviation of the testing MSE for Model 2 when $n = 200$ and $p = 2000$. See Figure SM51 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	23.15	2.16	26.18	2.55	22.80	2.23	17.33	1.80
	Lasso	8.83	1.20	8.66	1.13	8.83	1.20	8.71	1.13	8.63	1.20	8.64	1.10	8.62	1.31
	E-net	9.00	1.24	8.78	1.15	8.93	1.19	8.88	1.16	8.75	1.23	8.76	1.13	8.69	1.32
	SCAD	7.46	0.91	7.42	0.94	7.50	0.81	7.34	0.88	7.55	0.90	7.53	0.84	7.68	1.15
	MCP	7.47	0.93	7.46	0.95	7.57	0.82	7.33	0.87	7.53	0.89	7.57	0.89	7.70	1.20
	XGBoost	3.99	0.81	3.98	0.82	3.96	0.75	3.77	0.64	3.62	0.63	3.68	0.77	3.50	0.75
	RF	6.87	0.99	6.74	1.10	5.99	1.02	7.03	1.03	7.01	1.20	6.91	1.11	5.45	0.90
	SVM	21.44	1.85	18.94	1.69	14.28	1.54	22.42	2.09	25.07	2.37	22.67	1.96	18.55	1.69
3	Ridge	264.65	49.76	277.61	55.95	238.86	54.98	269.78	46.64	290.98	50.37	286.34	48.06	284.19	64.91
	Lasso	226.78	49.23	231.17	52.21	228.25	62.41	232.68	50.76	230.02	51.30	228.57	51.93	230.16	59.14
	E-net	228.51	49.35	232.95	52.45	229.53	62.87	233.97	50.62	231.89	51.32	230.51	52.17	231.97	59.23
	SCAD	188.46	44.11	191.52	47.54	183.35	45.61	187.53	41.85	189.40	44.09	191.68	45.29	194.93	52.10
	MCP	187.53	44.11	191.81	47.35	185.29	46.61	185.95	41.10	188.94	43.52	190.86	44.64	195.24	52.51
	XGBoost	49.38	20.14	52.66	21.06	52.80	20.08	48.15	19.94	50.34	22.23	51.03	23.54	51.18	27.73
	RF	120.50	33.31	131.89	38.30	110.43	30.34	120.12	31.62	130.23	35.57	127.42	37.25	105.79	38.66
	SVM	262.24	50.48	249.18	49.91	188.26	40.89	266.25	47.08	284.46	50.94	267.24	47.41	246.31	59.10
6	Ridge	2969.87	716.41	3092.28	753.30	3044.21	788.25	3049.50	727.16	3111.77	713.23	3259.78	777.73	3085.27	711.92
	Lasso	2959.77	720.44	3076.83	755.18	3043.90	777.63	3039.29	731.23	3086.85	713.38	3194.77	815.04	3068.63	714.58
	E-net	2960.61	720.02	3078.60	756.22	3043.09	778.56	3040.40	730.88	3089.98	714.03	3196.62	813.87	3069.46	714.68
	SCAD	2821.62	702.21	2895.28	749.72	2778.52	691.05	2887.97	702.88	2876.96	704.22	2928.42	736.85	2859.75	720.21
	MCP	2799.40	706.73	2887.96	753.82	2787.77	714.04	2850.15	709.51	2839.83	706.98	2914.90	740.99	2821.11	719.29
	XGBoost	406.09	271.79	420.99	307.56	364.75	245.11	406.84	274.39	404.35	287.00	398.90	260.85	437.19	304.72
	RF	1034.77	422.05	1096.10	458.02	931.69	378.13	1066.04	434.42	1119.44	462.41	748.68	383.72	1095.63	470.63
	SVM	2969.59	725.72	2927.46	731.24	2285.71	588.44	3042.26	735.78	3106.35	719.42	3191.85	784.46	3045.24	713.01

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.9		0.2		0.9		0.2		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	22.02	1.86	19.87	1.99	10.23	1.37	23.15	2.16	28.77	3.14	22.80	2.23	11.58	1.37
	Lasso	8.83	1.20	8.66	1.13	9.41	1.41	8.71	1.13	8.27	1.31	8.64	1.10	9.26	1.19
	E-net	9.00	1.24	8.78	1.15	9.47	1.43	8.88	1.16	8.34	1.33	8.76	1.13	9.33	1.18
	SCAD	7.46	0.91	7.42	0.94	8.79	1.51	7.34	0.88	7.36	1.10	7.53	0.84	8.68	1.43
	MCP	7.47	0.93	7.46	0.95	8.70	1.52	7.33	0.87	7.53	1.25	7.57	0.89	8.62	1.38
	XGBoost	3.99	0.81	3.98	0.82	2.89	0.51	3.77	0.64	3.15	0.63	3.68	0.77	2.67	0.51
	RF	6.87	0.99	6.74	1.10	3.18	0.55	7.03	1.03	4.18	0.93	6.91	1.11	2.86	0.53
	SVM	21.44	1.85	18.94	1.69	5.96	1.34	22.42	2.09	31.43	3.24	22.67	1.96	13.20	1.35
3	Ridge	264.65	49.76	277.61	55.95	207.60	56.09	269.78	46.64	329.44	67.21	286.34	48.06	252.66	68.12
	Lasso	226.78	49.23	231.17	52.21	228.49	63.28	232.68	50.76	230.36	59.22	228.57	51.93	228.71	65.49
	E-net	228.51	49.35	232.95	52.45	228.49	63.23	233.97	50.62	231.61	60.01	230.51	52.17	229.19	65.36
	SCAD	188.46	44.11	191.52	47.54	203.16	52.10	187.53	41.85	193.42	45.37	191.68	45.29	190.05	45.17
	MCP	187.53	44.11	191.81	47.35	202.55	52.13	185.95	41.10	193.67	45.63	190.86	44.64	189.40	44.01
	XGBoost	49.38	20.14	52.66	21.06	44.58	20.34	48.15	19.94	50.11	20.98	51.03	23.54	37.42	15.00
	RF	120.50	33.31	131.89	38.30	57.06	23.27	120.12	31.62	130.23	35.57	81.58	28.55	50.84	20.46
	SVM	262.24	50.48	249.18	49.91	71.91	36.45	266.25	47.08	284.46	50.94	302.19	58.79	175.19	39.40
6	Ridge	2969.87	716.41	3092.28	753.30	3067.23	857.22	3049.50	727.16	3111.77	713.23	3259.78	777.73	3144.13	757.93
	Lasso	2959.77	720.44	3076.83	755.18	3133.14	841.43	3039.29	731.23	3086.85	713.38	3194.77	815.04	3108.78	759.92
	E-net	2960.61	720.02	3078.60	756.22	3131.90	841.42	3040.40	730.88	3089.98	714.03	3196.62	813.87	3107.50	757.24
	SCAD	2821.62	702.21	2895.28	749.72	2889.99	795.63	2887.97	702.88	2876.96	704.22	2928.42	736.85	2826.62	685.76
	MCP	2799.40	706.73	2887.96	753.82	2929.79	814.19	2850.15	709.51	2839.83	706.98	2914.90	740.99	2846.78	699.95
	XGBoost	406.09	271.79	420.99	307.56	344.49	298.76	406.84	274.39	404.35	287.00	398.90	260.85	437.19	304.72
	RF	1034.77	422.05	1096.10	458.02	584.70	343.09	1066.04	434.42	1119.44	462.41	748.68	383.72	1095.63	470.63
	SVM	2969.59	725.72	2927.46	731.24	853.28	467.23	3042.26	735.78	3106.35	719.42	3191.85	784.46	3045.24	713.01

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	23.15	2.16	26.18	2.55	22.80	2.23	17.33	1.80
	Lasso	8.83	1.20	8.66	1.13	8.83	1.20	8.71	1.13	8.63	1.20	8.64	1.10	8.62	1.31
	E-net	9.00	1.24	8.78	1.15	8.93	1.19	8.88	1.16	8.75	1.23	8.76	1.13	8.69	1.32
	SCAD	7.46	0.91	7.42	0.94	7.50	0.81	7.34	0.88	7.55	0.90	7.53	0.84	7.68	1.15
	MCP	7.47	0.93	7.46	0.95	7.57	0.82	7.33	0.87	7.53	0.89	7.57	0.89	7.70	1.20
	XGBoost	3.99	0.81	3.98	0.82	3.96	0.75	3.77	0.64	3.62	0.63	3.68	0.77	3.50	0.75
	RF	6.87	0.99	6.74	1.10	5.99	1.02	7.03	1.03	7.01	1.20	6.91	1.11	5.45	0.90
	SVM	21.44	1.85	18.94	1.69	14.28	1.54	22.42	2.09	25.07	2.37	22.67	1.96	18.55	1.69
3	Ridge	264.65	49.76	277.61	55.95	238.86	54.98	269.78	46.64	290.98	50.37	286.34	48.06	284.19	64.91
	Lasso	226.78	49.23	231.17	52.21	228.25	62.41	232.68	50.76	230.02	51.30	228.57	51.93	230.16	59.14
	E-net	228.51	49.35	232.95	52.45	229.53	62.87	233.97	50.62	231.89	51.32	230.51	52.17	231.97	59.23
	SCAD	188.46	44.11	191.52	47.54	183.35	45.61	187.53	41.85	189.40	44.09	191.68	45.29	194.93	52.10
	MCP	187.53	44.11	191.81	47.35	185.29	46.61	185.95	41.10	188.94	43.52	190.86	44.64	195.24	52.51
	XGBoost	49.38	20.14	52.66	21.06	52.80	20.08	48.15	19.94	50.34	22.23	51.03	23.54	51.18	27.73
	RF	120.50	33.31	131.89	38.30	110.43	30.34	120.12	31.62	130.23	35.57	127.42	37.25	105.79	38.66
	SVM	262.24	50.48	249.18	49.91	188.26	40.89	266.25	47.08	284.46	50.94	267.24	47.41	246.31	59.10
6	Ridge	2969.87	716.41	3092.28	753.30	3044.21	788.25	3049.50	727.16	3111.77	713.23	3259.78	777.73	3085.27	711.92
	Lasso	2959.77	720.44	3076.83	755.18	3043.90	777.63	3039.29	731.23	3086.85	713.38	3194.77	815.04	3068.63	714.58
	E-net	2960.61	720.02	3078.60	756.22	3043.09	778.56	3040.40	730.88	3089.98	714.03	3196.62	813.87	3069.46	714.68
	SCAD	2821.62	702.21	2895.28	749.72	2778.52	691.05	2887.97	702.88	2876.96	704.22	2928.42	736.85	2859.75	720.21
	MCP	2799.40	706.73	2887.96	753.82	2787.77	714.04	2850.15	709.51	2839.83	706.98	2914.90	740.99	2821.11	719.29
	XGBoost	406.09	271.79	420.99	307.56	364.75	245.11	406.84	274.39	404.35	287.00	398.90	260.85	437.19	304.72
	RF	1034.77	422.05	1096.10	458.02	931.69	378.13	1066.04	434.42	1119.44	462.41	748.68	383.72	1095.63	470.63
	SVM	2969.59	725.72	2927.46	731.24	2285.71	588.44	3042.26	735.78	3106.35	719.42	3191.85	784.46	3045.24	713.01

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.9		0.2		0.9		0.2		0.9	
σ	Model	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Ridge	22.02	1.86	19.87	1.99	10.23	1.37	23.15	2.16	28.77	3.14	22.80	2.23	11.58	1.37
	Lasso	8.83	1.20	8.66	1.13	9.41	1.41	8.71	1.13	8.27	1.31	8.64	1.10	9.26	1.19
	E-net	9.00	1.24	8.78	1.15	9.47	1.43	8.88	1.16	8.34	1.33	8.76	1.13	9.33	1.18
	SCAD	7.46	0.91	7.42	0.94	8.79	1.51	7.34	0.88	7.36	1.10	7.53	0.84	8.68	1.43
	MCP	7.47	0.93	7.46	0.95	8.70	1.52	7.33	0.87	7.53	1.25	7.57	0.89	8.62	1.38
	XGBoost	3.99	0.81	3.98	0.82	2.89	0.51	3.77	0.64	3.15	0.63	3.68	0.77	2.67	0.51
	RF	6.87	0.99	6.74	1.10	3.18	0.55	7.03	1.03	4.18	0.93	6.91	1.11	2.86	0.53
	SVM	21.44	1.85	18.94	1.69	5.96	1.34	22.42	2.09	31.43	3.24	22.67	1.96	13.20	1.35
3	Ridge	264.65	49.76	277.61	55.95	207.60	56.09	269.78	46.64	329.44	67.21	286.34	48.06	252.66	68.12
	Lasso	226.78	49.23	231.17	52.21	228.49	63.28	232.68	50.76	230.36	59.22	228.57	51.93	228.71	65.49
	E-net	228.51	49.35	232.95	52.45	228.49	63.23	233.97	50.62	231.61	60.01	230.51	52.17	229.19	65.36
	SCAD	188.46	44.11	191.52	47.54	203.16	52.10	187.53	41.85	193.42	45.37	191.68	45.29	190.05	45.17
	MCP	187.53	44.11	191.81	47.35	202.55	52.13	185.95	41.10	193.67	45.63	190.86	44.64	189.40	44.01
	XGBoost	49.38	20.14	52.66	21.06	44.58	20.34	48.15	19.94	50.11	20.98	51.03	23.54	37.42	15.00
	RF	120.50	33.31	131.89	38.30	57.06	23.27	120.12	31.62	130.23	35.57	81.58	28.55	50.84	20.46
	SVM	262.24	50.48	249.18	49.91	71.91	36.45	266.25	47.08	284.46	50.94	302.19	58.79	175.19	39.40
6	Ridge	2969.87	716.41	3092.28	753.30	3067.23	857.22	3049.50	727.16	3111.77	713.23	3259.78	777.73	3144.13	757.93
	Lasso	2959.77	720.44	3076.83	755.18	3133.14	841.43	3039.29	731.23	3086.85	713.38	3194.77	815.04	3108.78	759.92
	E-net	2960.61	720.02	3078.60	756.22	3131.90	841.42	3040.40	730.88	3089.98	714.03	3196.62	813.87	3107.50	757.24
	SCAD	2821.62	702.21	2895.28	749.72	2889.99	795.63	2887.97	702.88	2876.96	704.22	2928.42	736.85	2826.62	685.76
	MCP	2799.40	706.73	2887.96	753.82	2929.79	814.19	2850.15	709.51	2839.83	706.98	2914.90	740.99	2846.78	699.95
	XGBoost	406.09	271.79	420.99	307.56	344.49	298.76	406.84	274.39	404.35	287.00	398.90	260.85	437.19	304.72
	RF	1034.77	422.05	1096.10	458.02	584.70	343.09	1066.04	434.42	1119.44	462.41	748.68	383.72	1095.63	470.63
	SVM	2969.59	725.72	2927.46	731.24	853.28	467.23	3042.26	735.78	3106.35	719.42	3191.85	784.46	3045.24	713.01

Table SM52: Mean and standard deviation of the testing MSE for Model 2 when $n = 1000$ and $p = 10$. See Figure SM52 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 SM53: Mean and standard deviation of the testing MSE for Model 2 when $n = 1000$ and $p = 100$. See Figure SM53 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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	7.43	0.40	7.43	0.41	7.49	0.40	7.74	0.45
	AIC F	7.17	0.33	7.23	0.40	7.41	0.45	7.11	0.40	7.09	0.38	7.18	0.39	7.39	0.44
	BIC F	6.84	0.31	6.89	0.37	7.08	0.43	6.78	0.35	6.77	0.34	6.83	0.37	7.08	0.40
	AIC SF	7.17	0.33	7.23	0.40	7.41	0.44	7.12	0.40	7.08	0.38	7.18	0.39	7.39	0.44
	BIC SF	6.84	0.31	6.89	0.37	7.08	0.43	6.78	0.35	6.77	0.34	6.83	0.37	7.08	0.40
	Ridge	7.80	0.39	7.87	0.43	8.06	0.50	7.74	0.43	7.70	0.40	7.81	0.44	8.11	0.48
	Lasso	7.22	0.37	7.22	0.38	7.39	0.46	7.12	0.38	7.07	0.36	7.18	0.40	7.38	0.39
	E-net	7.23	0.37	7.23	0.38	7.40	0.45	7.13	0.39	7.07	0.35	7.18	0.40	7.39	0.40
	SCAD	6.84	0.32	6.89	0.37	7.07	0.41	6.78	0.35	6.79	0.34	6.84	0.37	7.09	0.39
	MCP	6.84	0.32	6.89	0.37	7.07	0.42	6.77	0.35	6.78	0.34	6.83	0.37	7.08	0.39
	XGBoost	1.65	0.10	1.65	0.10	1.64	0.13	1.66	0.10	1.60	0.10	1.65	0.10	1.62	0.10
	RF	3.09	0.23	3.14	0.26	2.58	0.21	3.06	0.27	2.68	0.24	3.00	0.27	2.44	0.17
	SVM	7.96	0.35	7.63	0.40	6.18	0.33	7.97	0.41	7.95	0.36	7.96	0.39	7.30	0.42
3	OLS	198.84	20.51	194.18	17.64	196.61	18.99	192.88	20.04	194.18	21.06	194.48	18.21	197.29	21.14
	AIC F	190.68	20.09	186.28	17.57	188.16	18.92	184.34	20.05	185.23	20.54	186.48	17.77	188.00	20.78
	BIC F	181.93	19.98	178.03	18.19	179.52	19.25	175.60	20.12	178.02	20.72	177.96	18.17	179.54	20.65
	AIC SF	190.68	20.08	186.27	17.57	188.19	18.90	184.36	20.02	185.24	20.52	186.46	17.78	188.01	20.81
	BIC SF	181.93	19.98	178.03	18.19	179.56	19.30	175.60	20.12	178.02	20.72	177.96	18.17	179.54	20.65
	Ridge	213.07	22.18	209.45	21.25	209.58	21.46	207.25	22.26	208.19	23.89	208.38	21.07	210.38	22.20
	Lasso	197.97	21.81	193.68	20.48	195.44	21.44	191.33	21.59	194.22	22.64	193.83	20.93	196.42	22.21
	E-net	198.26	22.03	193.70	20.60	195.55	21.51	191.64	21.62	194.20	22.50	193.34	21.04	193.85	20.88
	SCAD	181.27	20.01	177.24	18.22	178.84	18.71	174.89	20.32	177.65	20.59	177.89	19.26	177.52	18.13
	MCP	181.32	20.18	177.14	18.25	179.04	18.79	174.84	20.38	177.51	20.54	177.73	19.24	177.47	18.17
	XGBoost	14.91	3.43	14.80	2.64	15.31	4.54	14.72	3.97	14.22	1.86	15.28	2.28	14.67	2.27
	RF	38.88	8.14	39.06	6.42	33.83	5.89	38.60	8.69	38.04	7.40	25.28	4.06	38.20	6.91
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	OLS	8.59	0.49	
	AIC F	8.02	0.46	
	BIC F	7.83	0.44	
	AIC SF	8.02	0.46	
	BIC SF	7.83	0.44	
	Ridge	8.81	0.49	
	Lasso	8.21	0.45	
	E-net	8.21	0.45	
	SCAD	7.85	0.43	
	MCP	7.85	0.43	
	XGBoost	1.50	0.10	
	RF	1.57	0.12	
	SVM	5.08	0.31	
3	OLS	200.29	19.38	
	AIC F	187.16	18.75	
	BIC F	182.36	18.61	
	AIC SF	187.18	18.78	
	BIC SF	182.36	18.61	
	Ridge	205.66	23.11	
	Lasso	199.16	23.05	
	E-net	199.44	22.53	
	SCAD	182.82	18.76	
	MCP	182.82	18.78	
	XGBoost	15.50	3.07	
	RF	20.60	4.03	
	SVM	48.72	9.10	
6	OLS	2985.81	306.22	
	AIC F	2781.75	294.07	
	BIC F	2706.40	294.35	
	AIC SF	2781.93	294.26	
	BIC SF	2706.51	294.35	
	Ridge	3029.35	369.20	
	Lasso	2980.34	367.59	
	E-net	2981.52	366.49	
	SCAD	2706.97	299.01	
	MCP	2705.90	293.68	
	XGBoost	89.46	37.10	
	RF	165.87	55.72	
	SVM	560.56	119.93	

Table SM54: Mean and standard deviation of the testing MSE for Model 2 when $n = 1000$ and $p = 2000$. See Figure SM54 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

SM5.3. Tables for the β-sensitivity of the non-linear simulations.

Table SM55: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 50$ and $p = 10$. See Figure SM55 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 SM56: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 50$ and $p = 100$. See Figure SM56 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 SM57: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 50$ and $p = 2000$. See Figure SM57 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 SM58: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 200$ and $p = 10$. See Figure SM58 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC B	0.5467	0.1537	0.5333	0.1641	0.4833	0.1489	0.5317	0.1530	0.4683	0.1291	0.5083	0.1284	0.4883	0.1407
	BIC B	0.3400	0.1296	0.3600	0.1247	0.3300	0.1319	0.3583	0.1217	0.3200	0.0908	0.3550	0.1223	0.3383	0.1097
	AIC SB	0.5467	0.1537	0.5333	0.1641	0.4833	0.1489	0.5333	0.1517	0.4700	0.1284	0.5083	0.1284	0.4883	0.1407
	BIC SB	0.3400	0.1296	0.3600	0.1247	0.3300	0.1319	0.3583	0.1217	0.3217	0.0894	0.3550	0.1223	0.3383	0.1097
	AIC F	0.5433	0.1582	0.5317	0.1619	0.4783	0.1492	0.5233	0.1517	0.4583	0.1284	0.5050	0.1307	0.4750	0.1284
	BIC F	0.3400	0.1296	0.3567	0.1208	0.3250	0.1284	0.3567	0.1185	0.3183	0.0920	0.3483	0.1187	0.3317	0.1124
	AIC SF	0.5433	0.1582	0.5317	0.1619	0.4783	0.1492	0.5233	0.1517	0.4567	0.1267	0.5000	0.1276	0.4767	0.1319
	BIC SF	0.3400	0.1296	0.3567	0.1208	0.3250	0.1284	0.3550	0.1176	0.3167	0.0870	0.3483	0.1187	0.3300	0.1085
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	OLS	1.0000	0.0000	
	AIC B	0.3733	0.1519	
	BIC B	0.2383	0.0925	
	AIC SB	0.3733	0.1519	
	BIC SB	0.2383	0.0925	
	AIC F	0.3617	0.1536	
	BIC F	0.2350	0.0889	
	AIC SF	0.3633	0.1542	
	BIC SF	0.2333	0.0886	
	Ridge	1.0000	0.0000	
	Lasso	0.4833	0.1796	
	E-net	0.6417	0.1747	
	SCAD	0.3283	0.2339	
	MCP	0.3150	0.2308	
3	OLS	1.0000	0.0000	
	AIC B	0.3683	0.1646	
	BIC B	0.2250	0.0866	
	AIC SB	0.3683	0.1646	
	BIC SB	0.2250	0.0866	
	AIC F	0.3333	0.1517	
	BIC F	0.2167	0.0803	
	AIC SF	0.3333	0.1517	
	BIC SF	0.2150	0.0796	
	Ridge	1.0000	0.0000	
	Lasso	0.2683	0.1673	
	E-net	0.3500	0.2017	
	SCAD	0.3183	0.2273	
	MCP	0.2900	0.2046	
6	OLS	1.0000	0.0000	
	AIC B	0.3433	0.1754	
	BIC B	0.2183	0.1051	
	AIC SB	0.3433	0.1754	
	BIC SB	0.2183	0.1051	
	AIC F	0.2933	0.1482	
	BIC F	0.2067	0.1008	
	AIC SF	0.2917	0.1448	
	BIC SF	0.2067	0.1008	
	Ridge	1.0000	0.0000	
	Lasso	0.0500	0.1019	
	E-net	0.0583	0.1170	
	SCAD	0.3033	0.2084	
	MCP	0.2650	0.2025	

Table SM59: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 200$ and $p = 100$. See Figure SM59 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 SM60: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 200$ and $p = 2000$. See Figure SM60 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 SM61: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 1000$ and $p = 10$. See Figure SM61 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC B	0.6183	0.1143	0.6217	0.1250	0.6100	0.1258	0.5933	0.1144	0.6183	0.1304	0.6017	0.1158	0.5800	0.1148
	BIC B	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.5017	0.0374	0.4800	0.0863	0.5050	0.0500	0.4800	0.0830
	AIC SB	0.6183	0.1143	0.6217	0.1250	0.6100	0.1258	0.5933	0.1144	0.6183	0.1304	0.6017	0.1158	0.5800	0.1148
	BIC SB	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.5017	0.0374	0.4800	0.0863	0.5050	0.0500	0.4800	0.0830
	AIC F	0.6183	0.1143	0.6217	0.1250	0.6067	0.1197	0.5917	0.1145	0.6067	0.1265	0.5983	0.1138	0.5700	0.1064
	BIC F	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.5017	0.0374	0.4817	0.0883	0.5050	0.0500	0.4767	0.0750
	AIC SF	0.6183	0.1143	0.6217	0.1250	0.6067	0.1197	0.5917	0.1145	0.6067	0.1265	0.5983	0.1138	0.5700	0.1064
	BIC SF	0.5100	0.0520	0.5100	0.0619	0.4700	0.0834	0.5017	0.0374	0.4800	0.0863	0.5050	0.0500	0.4767	0.0750
	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
	Lasso	0.4867	0.0967	0.5267	0.0739	0.5833	0.1219	0.4900	0.0463	0.5217	0.0907	0.5350	0.1522	0.4933	0.0525
	E-net	0.5017	0.0837	0.5467	0.0920	0.6183	0.1238	0.4983	0.0374	0.5267	0.0939	0.6383	0.1480	0.5000	0.0474
	SCAD	0.6783	0.1484	0.6617	0.1732	0.6667	0.1880	0.6717	0.1507	0.6583	0.1747	0.5417	0.2577	0.6567	0.1722
	MCP	0.6283	0.1457	0.6450	0.1703	0.6433	0.2024	0.6150	0.1548	0.6233	0.1767	0.5333	0.2462	0.6067	0.1684
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
	AIC B	0.4233	0.1449	0.4333	0.1692	0.4100	0.1648	0.4500	0.1562	0.4133	0.1598	0.3633	0.1560	0.3900	0.1539
	BIC B	0.2200	0.0816	0.2233	0.0954	0.2150	0.0896	0.2367	0.0860	0.2217	0.0919	0.2017	0.0760	0.2117	0.0882
	AIC SB	0.4233	0.1449	0.4333	0.1692	0.4100	0.1648	0.4500	0.1562	0.4133	0.1598	0.3633	0.1560	0.3900	0.1539
	BIC SB	0.2200	0.0816	0.2233	0.0954	0.2150	0.0896	0.2367	0.0860	0.2250	0.0929	0.2017	0.0760	0.2117	0.0882
	AIC F	0.4233	0.1449	0.4217	0.1732	0.4017	0.1626	0.4483	0.1548	0.3900	0.1557	0.3217	0.1386	0.3900	0.1575
	BIC F	0.2200	0.0816	0.2233	0.0954	0.2100	0.0842	0.2367	0.0860	0.2217	0.0888	0.2050	0.0744	0.2083	0.0763
	AIC SF	0.4233	0.1449	0.4217	0.1732	0.4017	0.1626	0.4483	0.1548	0.3900	0.1557	0.3167	0.1350	0.3883	0.1536
	BIC SF	0.2200	0.0816	0.2233	0.0954	0.2100	0.0842	0.2367	0.0860	0.2217	0.0888	0.2050	0.0744	0.2083	0.0763
	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
	Lasso	0.1683	0.0167	0.1817	0.0479	0.2133	0.1035	0.1717	0.0286	0.1850	0.0575	0.2783	0.1232	0.1700	0.0235
	E-net	0.1700	0.0235	0.1833	0.0503	0.2400	0.1192	0.1733	0.0405	0.1867	0.0594	0.4133	0.1632	0.1733	0.0328
	SCAD	0.4700	0.2455	0.4933	0.2710	0.4517	0.2725	0.5567	0.2418	0.4733	0.2790	0.3017	0.2206	0.4367	0.2538
	MCP	0.3983	0.2495	0.3967	0.2730	0.4267	0.2933	0.4933	0.2710	0.4117	0.2886	0.2667	0.2197	0.3817	0.2544
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
	AIC B	0.3667	0.1401	0.3633	0.1681	0.3867	0.1739	0.4017	0.1423	0.3767	0.1617	0.3500	0.1633	0.3583	0.1648
	BIC B	0.2183	0.0844	0.2200	0.0850	0.2233	0.0861	0.2183	0.0908	0.2150	0.0760	0.2067	0.0825	0.2067	0.0715
	AIC SB	0.3667	0.1401	0.3633	0.1681	0.3867	0.1739	0.4017	0.1423	0.3767	0.1617	0.3500	0.1633	0.3583	0.1648
	BIC SB	0.2183	0.0844	0.2200	0.0850	0.2233	0.0861	0.2183	0.0908	0.2150	0.0760	0.2067	0.0825	0.2067	0.0715
	AIC F	0.3650	0.1375	0.3533	0.1576	0.3550	0.1565	0.3933	0.1372	0.3500	0.1615	0.2967	0.1373	0.3483	0.1626
	BIC F	0.2167	0.0838	0.2200	0.0850	0.2217	0.0856	0.2133	0.0789	0.2133	0.0752	0.2050	0.0816	0.2067	0.0715
	AIC SF	0.3650	0.1375	0.3533	0.1576	0.3550	0.1565	0.3933	0.1372	0.3500	0.1615	0.2967	0.1373	0.3483	0.1626
	BIC SF	0.2167	0.0838	0.2200	0.0850	0.2217	0.0856	0.2133	0.0789	0.2133	0.0752	0.2050	0.0816	0.2067	0.0715
	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
	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
	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
	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
	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

	Type	Blockwise		
	Corr.	0.9		
σ	Model	Mean	SD	
1	OLS	1.0000	0.0000	
	AIC B	0.6017	0.1158	
	BIC B	0.5050	0.0500	
	AIC SB	0.6017	0.1158	
	BIC SB	0.5050	0.0500	
	AIC F	0.5983	0.1138	
	BIC F	0.5050	0.0500	
	AIC SF	0.5983	0.1138	
	BIC SF	0.5050	0.0500	
	Ridge	1.0000	0.0000	
	Lasso	0.4933	0.0525	
	E-net	0.5000	0.0474	
	SCAD	0.6567	0.1722	
	MCP	0.6067	0.1684	
3	OLS	1.0000	0.0000	
	AIC B	0.3900	0.1539	
	BIC B	0.2117	0.0882	
	AIC SB	0.3900	0.1539	
	BIC SB	0.2117	0.0882	
	AIC F	0.3900	0.1575	
	BIC F	0.2083	0.0763	
	AIC SF	0.3883	0.1536	
	BIC SF	0.2083	0.0763	
	Ridge	1.0000	0.0000	
	Lasso	0.1700	0.0235	
	E-net	0.1733	0.0328	
	SCAD	0.4367	0.2538	
	MCP	0.3817	0.2544	
6	OLS	1.0000	0.0000	
	AIC B	0.3583	0.1648	
	BIC B	0.2067	0.0715	
	AIC SB	0.3583	0.1648	
	BIC SB	0.2067	0.0715	
	AIC F	0.3483	0.1626	
	BIC F	0.2067	0.0715	
	AIC SF	0.3483	0.1626	
	BIC SF	0.2067	0.0715	
	Ridge	1.0000	0.0000	
	Lasso	0.0983	0.0824	
	E-net	0.0983	0.0824	
	SCAD	0.2850	0.2123	
	MCP	0.2567	0.1988	

Table SM62: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 1000$ and $p = 100$. See Figure SM62 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 SM63: Mean and standard deviation of the β-sensitivity for Model 2 when $n = 1000$ and $p = 2000$. See Figure SM63 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

SM5.4. Tables for the β-specificity of the non-linear simulations.

Table SM64: Mean and standard deviation of the β-specificity for Model 2 when $n = 50$ and $p = 10$. See Figure SM64 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 SM65: Mean and standard deviation of the β-specificity for Model 2 when $n = 50$ and $p = 100$. See Figure SM65 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 SM66: Mean and standard deviation of the β-specificity for Model 2 when $n = 50$ and $p = 2000$. See Figure SM66 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 SM67: Mean and standard deviation of the β-specificity for Model 2 when $n = 200$ and $p = 10$. See Figure SM67 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive						Blockwise					
	Corr.	0		0.2		0.5		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
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
	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 SM68: Mean and standard deviation of the β-specificity for Model 2 when $n = 200$ and $p = 100$. See Figure SM68 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 SM69: Mean and standard deviation of the β-specificity for Model 2 when $n = 200$ and $p = 2000$. See Figure SM69 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 SM70: Mean and standard deviation of the β-specificity for Model 2 when $n = 1000$ and $p = 10$. See Figure SM70 for the corresponding visualization.

	Type	Independent		Symmetric				Autoregressive				Blockwise			
	Corr.	0		0.2		0.5		0.2		0.5		0.2		0.5	
σ	Model	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
	AIC B	0.326	0.1125	0.336	0.0980	0.338	0.1206	0.316	0.1143	0.338	0.1052	0.340	0.0964	0.336	0.1059
	BIC B	0.400	0.0284	0.392	0.0394	0.402	0.1044	0.400	0.0284	0.396	0.0281	0.392	0.0394	0.394	0.0343
	AIC SB	0.326	0.1125	0.336	0.0980	0.338	0.1206	0.316	0.1143	0.338	0.1052	0.340	0.0964	0.336	0.1059
	BIC SB	0.400	0.0284	0.392	0.0394	0.402	0.1044	0.400	0.0284	0.396	0.0281	0.392	0.0394	0.394	0.0343
	AIC F	0.326	0.1125	0.336	0.0980	0.338	0.1210	0.318	0.1140	0.344	0.1028	0.342	0.0997	0.340	0.1005
	BIC F	0.400	0.0284	0.392	0.0394	0.402	0.1043	0.400	0.0284	0.396	0.0281	0.392	0.0394	0.394	0.0343
	AIC SF	0.326	0.1125	0.336	0.0980	0.338	0.1210	0.318	0.1140	0.344	0.1028	0.344	0.0946	0.340	0.1005
	BIC SF	0.400	0.0284	0.392	0.0394	0.402	0.1043	0.400	0.0284	0.396	0.0281	0.392	0.0394	0.394	0.0343
	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
	Lasso	0.400	0.0402	0.382	0.0642	0.340	0.1281	0.402	0.0348	0.394	0.0343	0.392	0.0394	0.354	0.0937
	E-net	0.396	0.0400	0.368	0.0790	0.308	0.1311	0.400	0.0284	0.392	0.0394	0.388	0.0477	0.342	0.0997
	SCAD	0.264	0.1501	0.280	0.1421	0.278	0.1654	0.280	0.1363	0.276	0.1471	0.276	0.1386	0.286	0.1511
	MCP	0.308	0.1376	0.316	0.1369	0.292	0.1660	0.318	0.1336	0.302	0.1378	0.312	0.1373	0.316	0.1339
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
	AIC B	0.338	0.1013	0.326	0.1050	0.354	0.1435	0.324	0.1093	0.338	0.1052	0.328	0.1083	0.350	0.1040
	BIC B	0.430	0.0718	0.436	0.0823	0.468	0.0926	0.448	0.0858	0.454	0.1058	0.422	0.0799	0.452	0.0882
	AIC SB	0.338	0.1013	0.326	0.1050	0.354	0.1435	0.324	0.1093	0.338	0.1052	0.328	0.1083	0.350	0.1040
	BIC SB	0.430	0.0718	0.436	0.0823	0.468	0.0926	0.448	0.0858	0.454	0.1058	0.422	0.0799	0.452	0.0882
	AIC F	0.338	0.1013	0.328	0.1045	0.356	0.1421	0.326	0.1088	0.344	0.1028	0.330	0.1078	0.354	0.1058
	BIC F	0.430	0.0718	0.436	0.0959	0.470	0.0903	0.448	0.0858	0.458	0.1037	0.422	0.0799	0.456	0.0903
	AIC SF	0.338	0.1013	0.328	0.1045	0.356	0.1421	0.326	0.1088	0.344	0.1028	0.330	0.1078	0.354	0.1058
	BIC SF	0.430	0.0718	0.436	0.0823	0.470	0.0903	0.448	0.0858	0.458	0.1037	0.422	0.0799	0.456	0.0903
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

Table SM71: Mean and standard deviation of the β-specificity for Model 2 when $n = 1000$ and $p = 100$. See Figure SM71 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 SM72: Mean and standard deviation of the β-specificity for Model 2 when $n = 1000$ and $p = 2000$. See Figure SM72 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