

Supplementary Material 1 for the article:

**Priority-Lasso: a simple hierarchical approach to  
the prediction of clinical outcome using  
multi-omics data**

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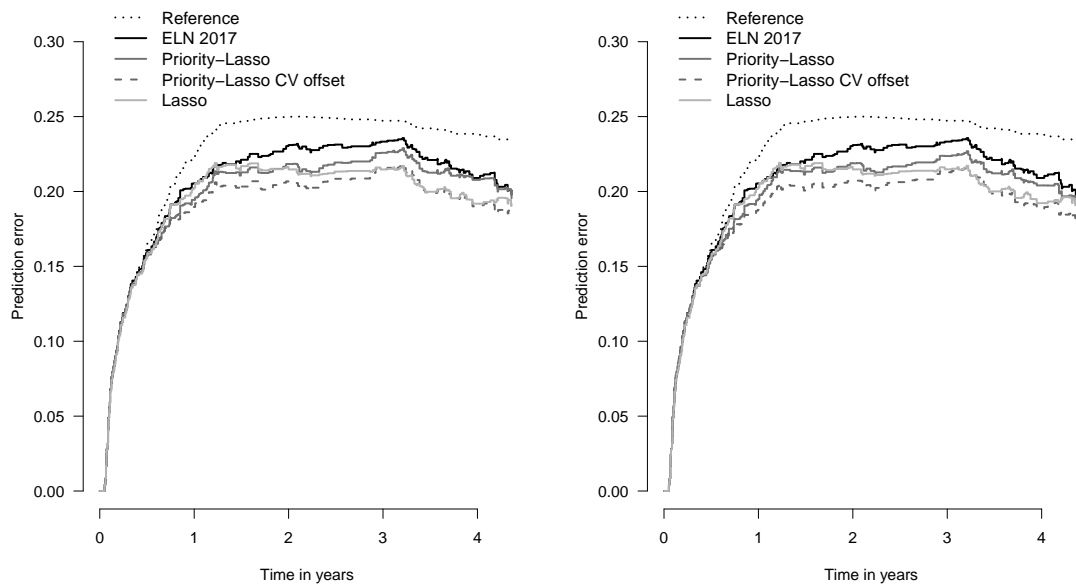
## Results from the analyses without restrictions to the number of selected variables

		Block 1	Block 2	Block 3	Block 4	Total
restricted	pl1A	2	6	0	0	8
	pl1B	2	6	0	10	18
	Lasso1	0	1	0	43	44
	pl2A	14	7	0	8	29
	pl2B	14	6	0	10	30
	Lasso2	0	1	0	52	53
not restricted	pl1A	2	6	0	0	8
	pl1B	2	6	0	35	43
	Lasso1	1	1	0	56	58
	pl2A	14	7	0	16	37
	pl2B	14	6	0	30	50
	Lasso2	0	1	0	57	58

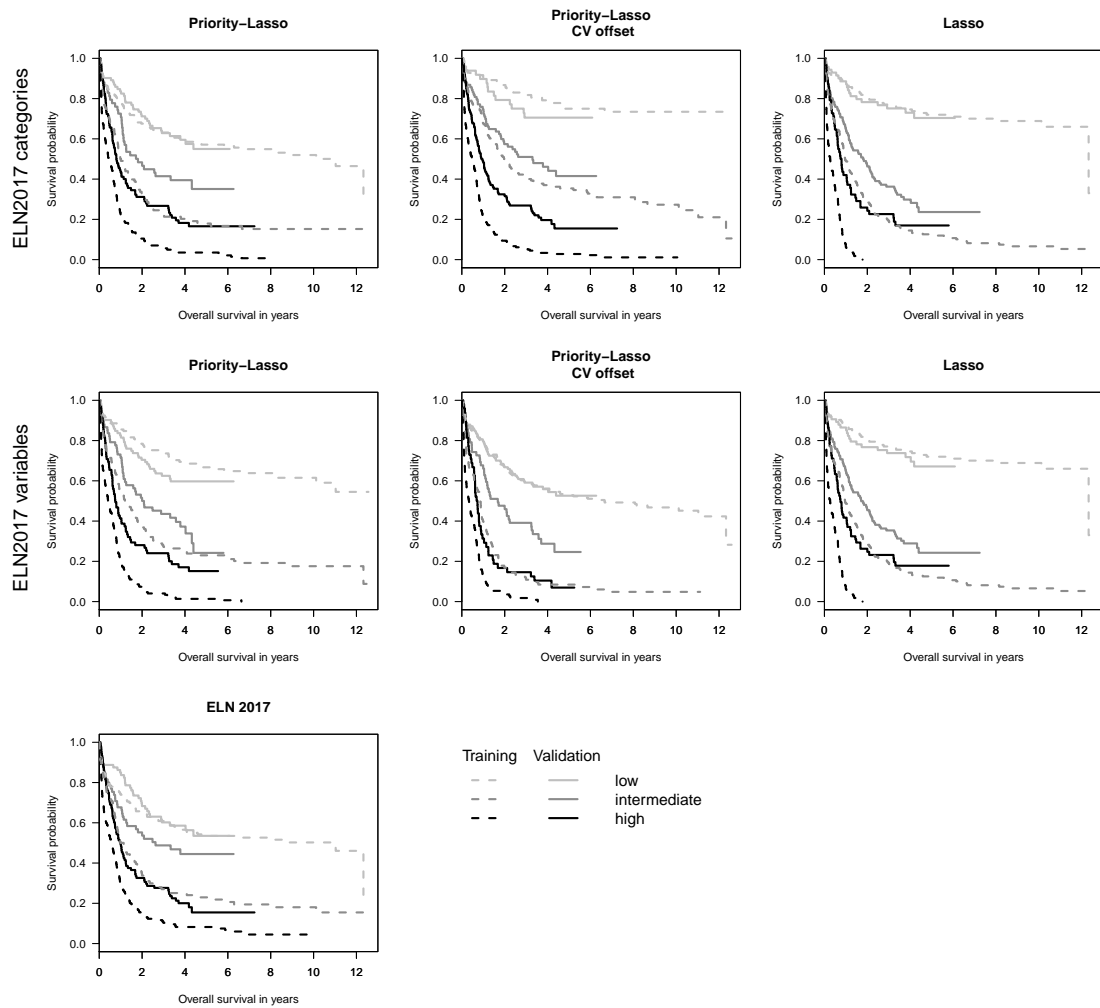
Supplementary Table 1: Number of variables selected for each model.

	pl1A	pl1B	Lasso1	pl2A	pl2B	Lasso2	ELN2017
TPR	0.672	0.655	0.669	0.640	0.666	0.666	0.556
TNR	0.667	0.650	0.672	0.647	0.672	0.678	0.723
AUC	0.711	0.744	0.734	0.716	0.741	0.722	0.663
$C_{Uno}$	0.653	0.671	0.667	0.659	0.669	0.656	0.619
IBS <sub>2</sub>	0.175	0.170	0.178	0.175	0.169	0.178	0.181
IBS <sub>4,4</sub>	0.197	0.188	0.193	0.196	0.187	0.193	0.204
Optimism	0.393	0.240	0.956	0.431	0.162	1.021	
$CI_{lower}^L$	0.339	0.238	0.166	0.316	0.335	0.190	0.418
$HR^L$	0.536	0.434	0.273	0.493	0.500	0.305	0.669
$CI_{upper}^L$	0.849	0.790	0.451	0.768	0.747	0.490	1.074
$CI_{lower}^H$	1.175	1.465	1.104	1.219	1.319	1.087	1.314
$HR^H$	1.751	2.103	1.529	1.800	2.018	1.538	1.954
$CI_{upper}^H$	2.612	3.020	2.231	2.657	3.088	2.176	2.907
p-value <sub>LR</sub>	1.11e-08	1.98e-10	2.60e-12	2.32e-09	5.51e-10	1.76e-11	1.36e-07

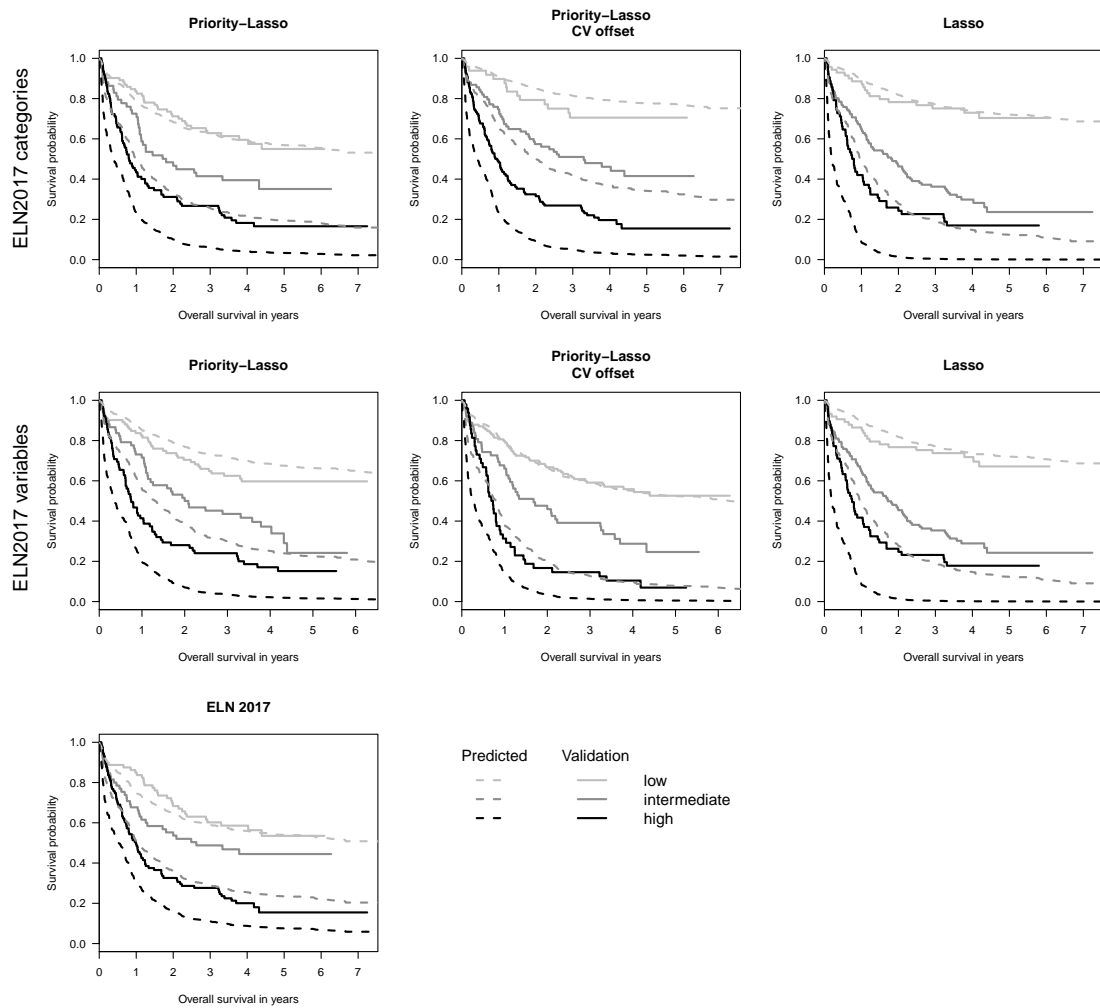
Supplementary Table 2: Validation results for the model scenarios without restrictions to the number of selected variables.  $L$  and  $H$  in the superscript indicate the low and the high risk groups, respectively.



Supplementary Figure 1: Prediction error curves for models without restrictions to the maximum number of coefficients. Left panel: Scenarios with ELN2017 as categories. Right panel: Scenarios with all ELN variables.



Supplementary Figure 2: Kaplan-Meier curves for training and validation data in three risk groups for models without restrictions to the maximum number of coefficients.



Supplementary Figure 3: Observed and predicted Kaplan-Meier curves for the validation data in three risk groups for models without restrictions to the maximum number of coefficients.