

# A comparative study of survival models for breast cancer prognostication based on microarray data

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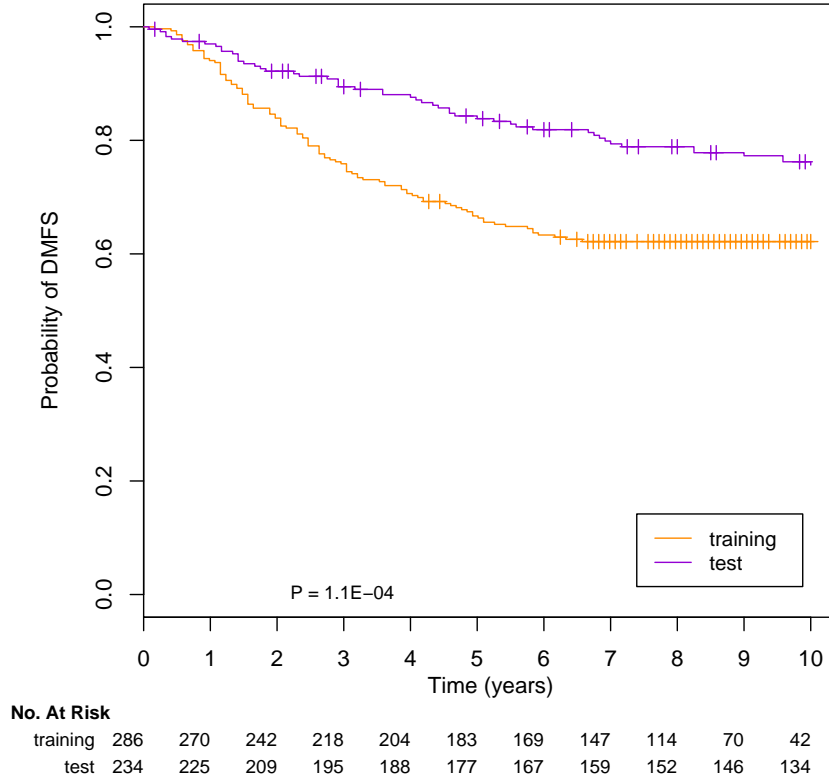
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TRAINING set = VDX and TEST set = TBG.

## 1 From TRAINING to TEST

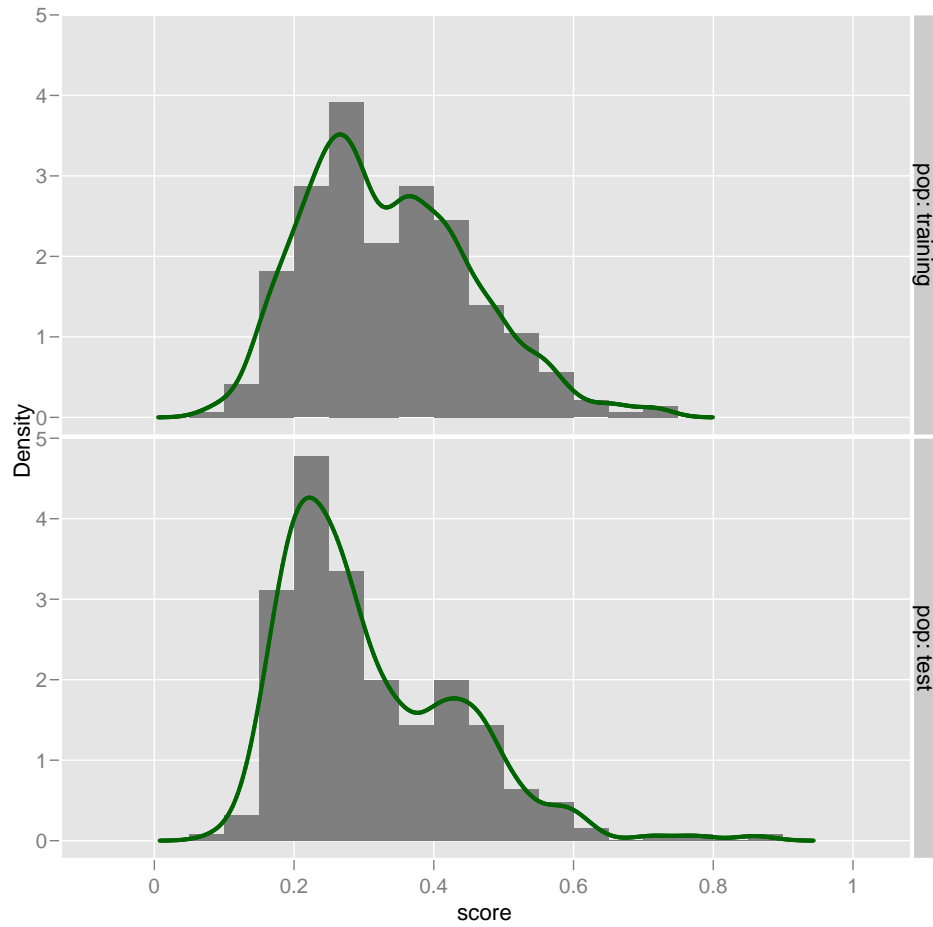
### 1.1 Survival Curves for TRAINING and TEST Sets



As we can see, there is a significant difference between the two datasets. So we expect a bias in the prediction of survival probabilities from the TRAINING and the TEST sets. This bias will results in large prediction errors as defined by the Brier score. However, this should not have a large impact on the concordance index, the time-dependent ROC curve and the hazard ratio estimates.

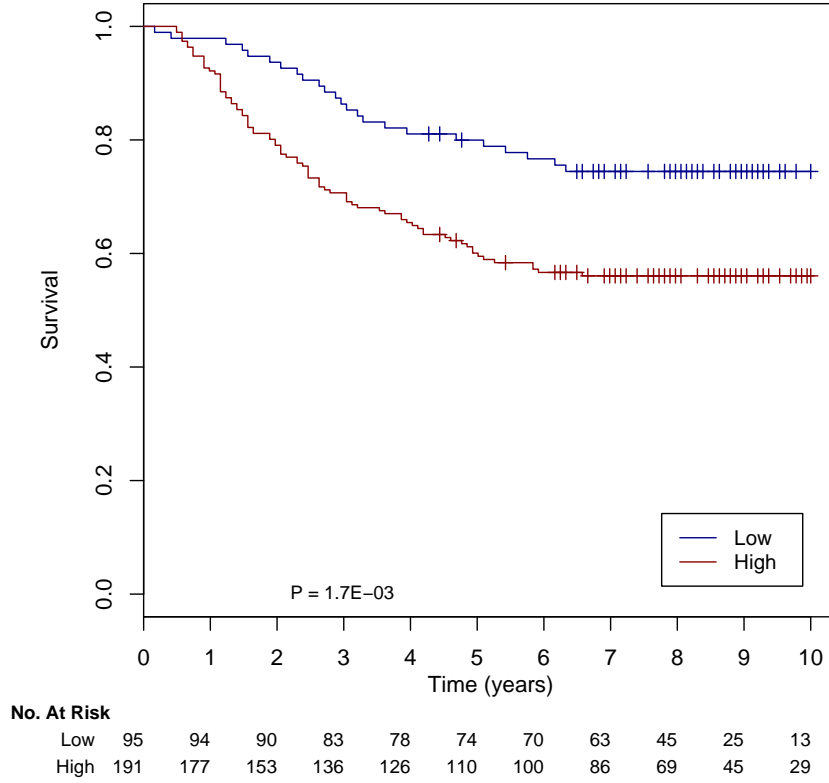
### 1.2 AURKA Alone

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.05E-05, a concordance index of 0.636 95CI[0.583,0.69] (p-value of 3.03E-07) and an integrated Brier score of 0.178.

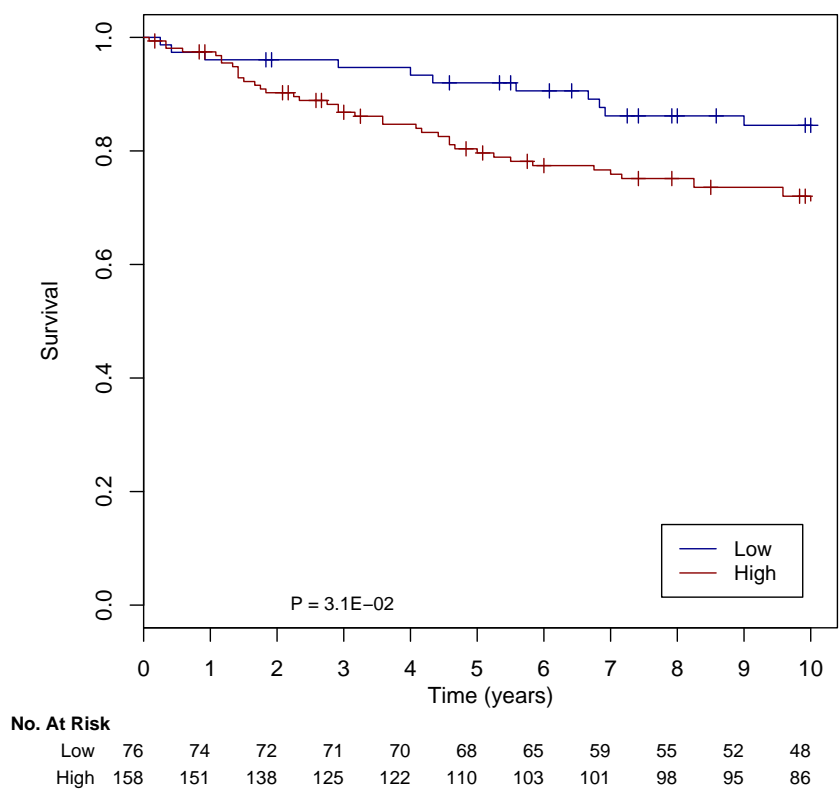
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 1.10E-03, a concordance index of 0.685 95CI[0.587,0.783] (p-value of 1.13E-04) and an integrated Brier score of 0.182. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.85	[0.78,0.93]	0.79	[0.71,0.88]	0.74	[0.66,0.84]
High	0.69	[0.63,0.76]	0.60	[0.53,0.67]	0.56	[0.49,0.64]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.09E-02, a concordance index of 0.637 95CI[0.565,0.709] (p-value of 9.78E-05) and an integrated Brier score of 0.146.

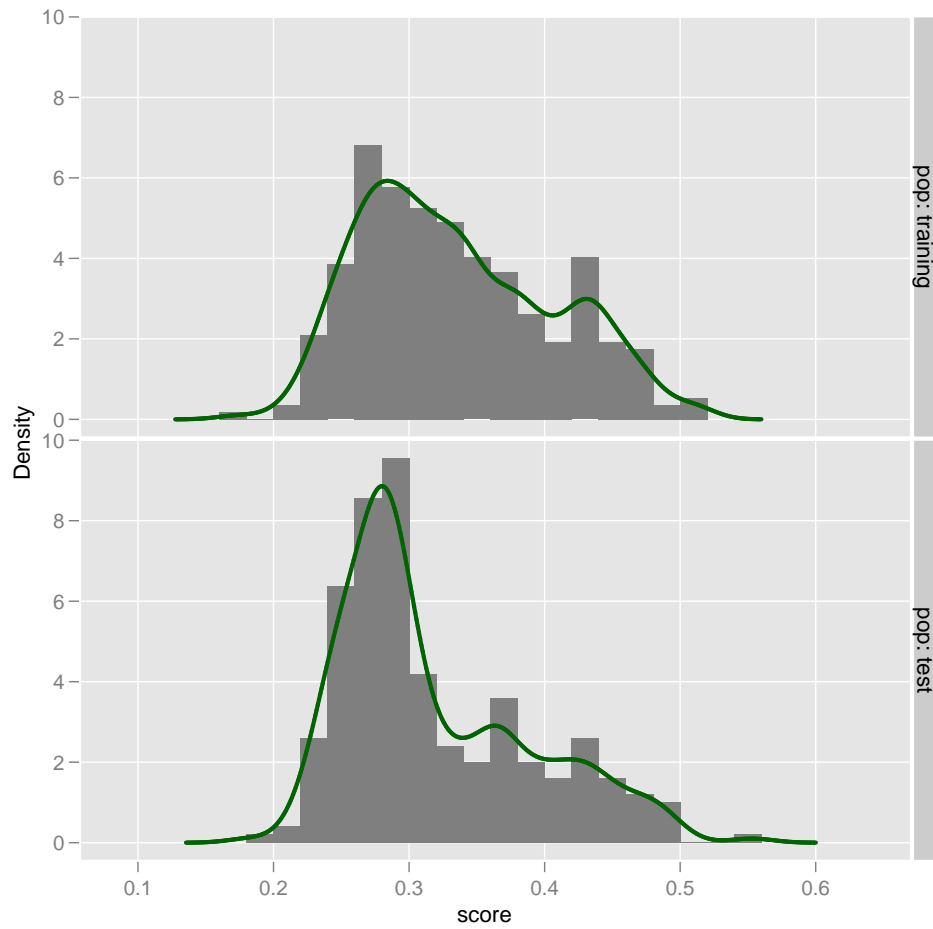
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 6.00E-02, a concordance index of 0.673 95CI[0.526,0.821] (p-value of 1.07E-02) and an integrated Brier score of 0.147. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.93	[0.88,0.99]	0.92	[0.86,0.98]	0.85	[0.76,0.93]
High	0.87	[0.82,0.92]	0.80	[0.73,0.86]	0.71	[0.64,0.79]

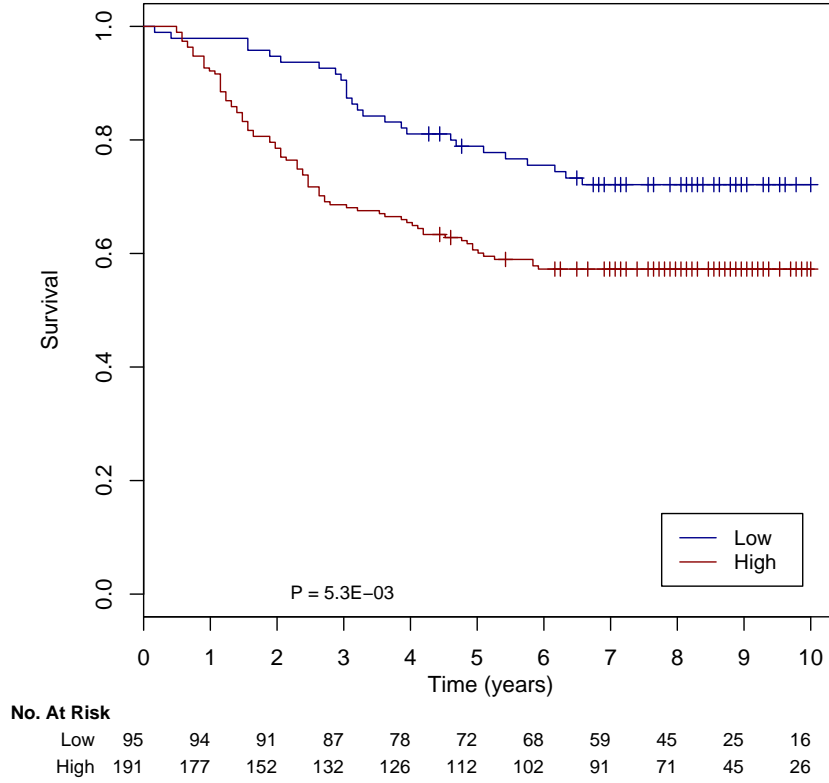
### 1.3 BD.COMBUNIV.WILCOXON.HG

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.16E-02, a concordance index of 0.606 95CI[0.552,0.659] (p-value of 5.55E-05) and an integrated Brier score of 0.185.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 3.99E-03, a concordance index of 0.675 95CI[0.579,0.772] (p-value of 1.86E-04) and an integrated Brier score of 0.184. The following figure shows the Kaplan-Meier survival curves for the two groups :

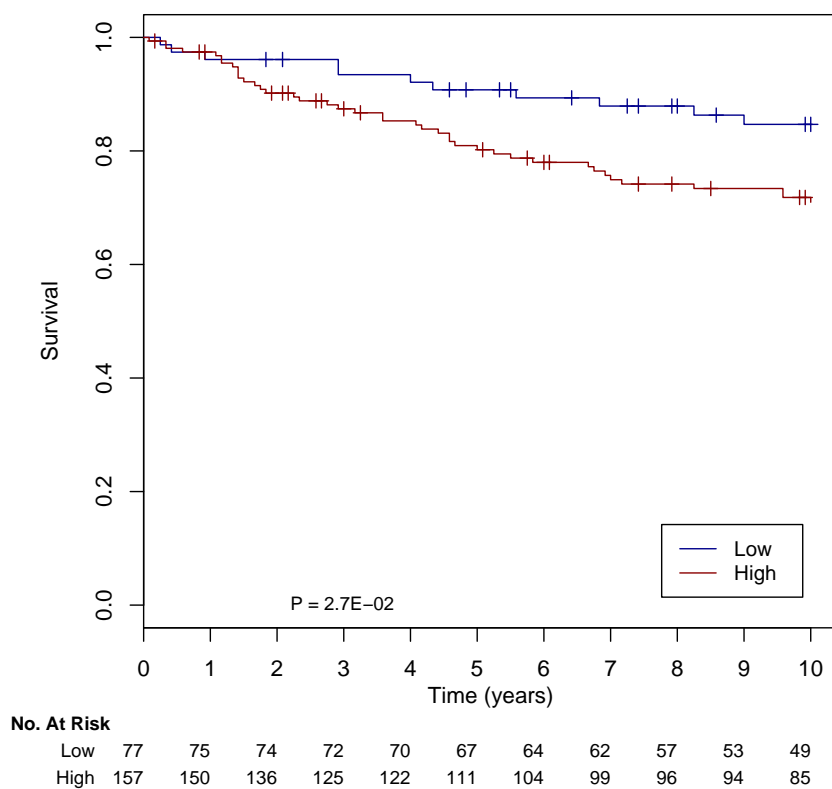


	3.years		5.years		10.years	
Low	0.87	[0.81,0.94]	0.78	[0.70,0.87]	0.72	[0.64,0.82]
High	0.68	[0.62,0.75]	0.60	[0.53,0.67]	0.57	[0.51,0.65]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 9.05E-03, a concordance index of 0.629 95CI[0.556,0.701] (p-value of 2.50E-04) and an integrated Brier score of 0.146.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 4.84E-02, a concordance index of 0.673 95CI[0.525,0.821] (p-value of 1.10E-02) and an integrated Brier score of 0.147. The following figure shows the Kaplan-Meier survival curves for the two groups :

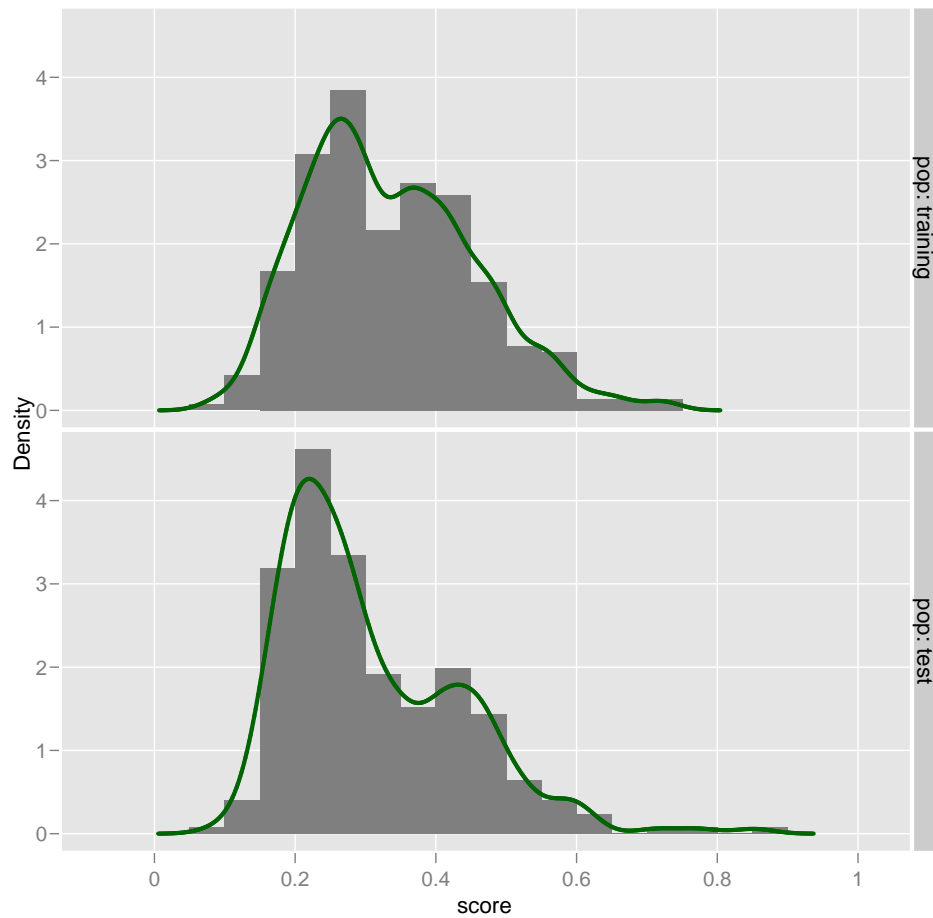




	3.years		5.years		10.years	
Low	0.92	[0.86,0.98]	0.91	[0.84,0.98]	0.85	[0.77,0.93]
High	0.87	[0.82,0.93]	0.80	[0.74,0.87]	0.71	[0.64,0.79]

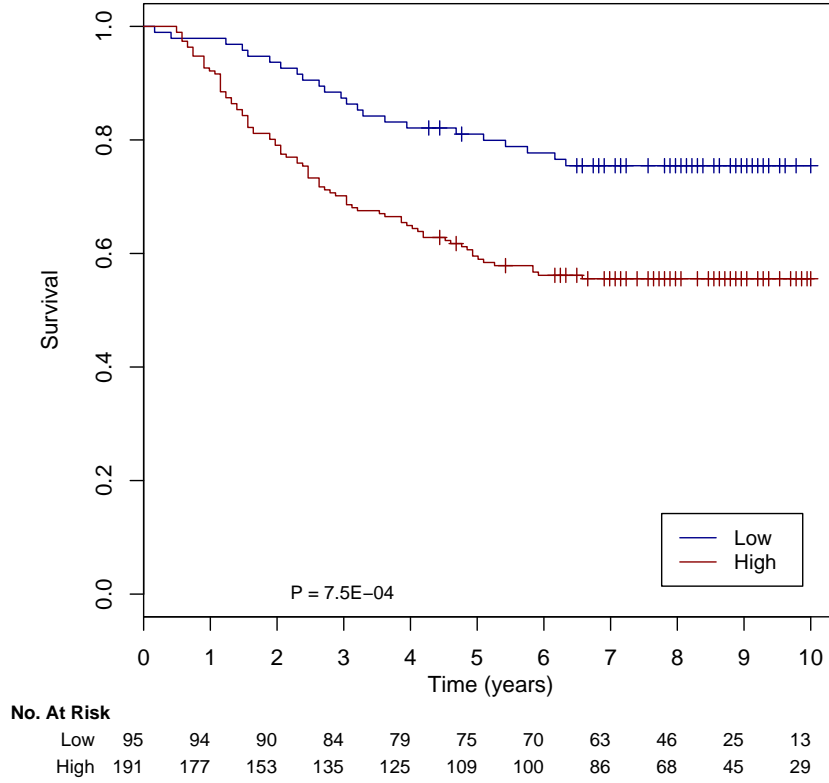
#### 1.4 BD.COMBUNIV.COX.SURV

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.01E-05, a concordance index of 0.638 95CI[0.584,0.691] (p-value of 2.30E-07) and an integrated Brier score of 0.178.

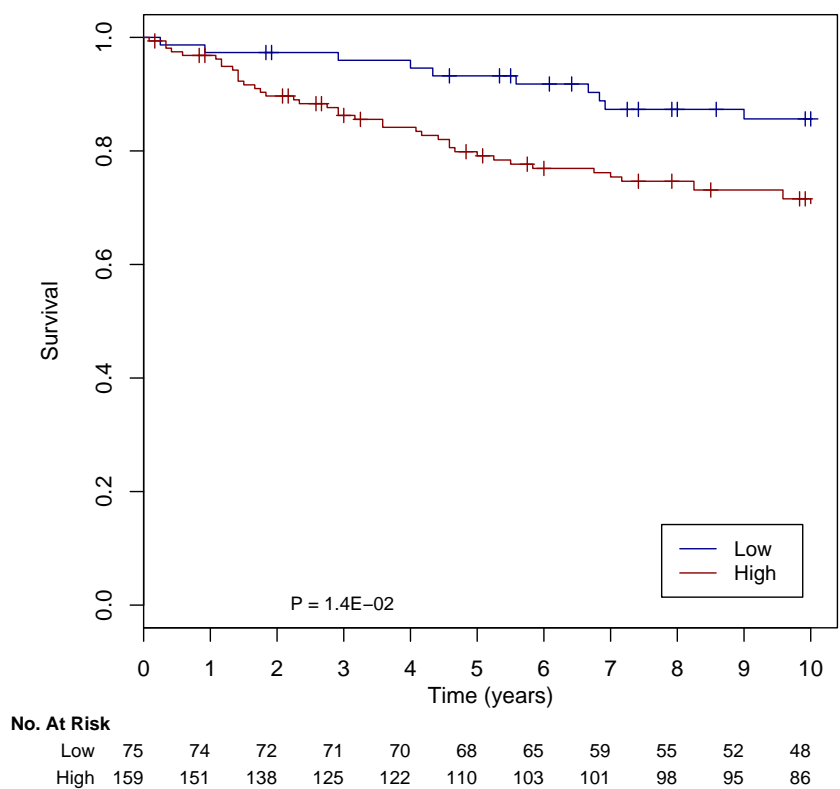
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 4.40E-04, a concordance index of 0.698 95CI[0.6,0.795] (p-value of 3.65E-05) and an integrated Brier score of 0.181. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.86	[0.80,0.94]	0.80	[0.72,0.88]	0.75	[0.67,0.85]
High	0.69	[0.62,0.75]	0.59	[0.52,0.66]	0.56	[0.49,0.63]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.03E-02, a concordance index of 0.638 95CI[0.566,0.711] (p-value of 8.84E-05) and an integrated Brier score of 0.146.

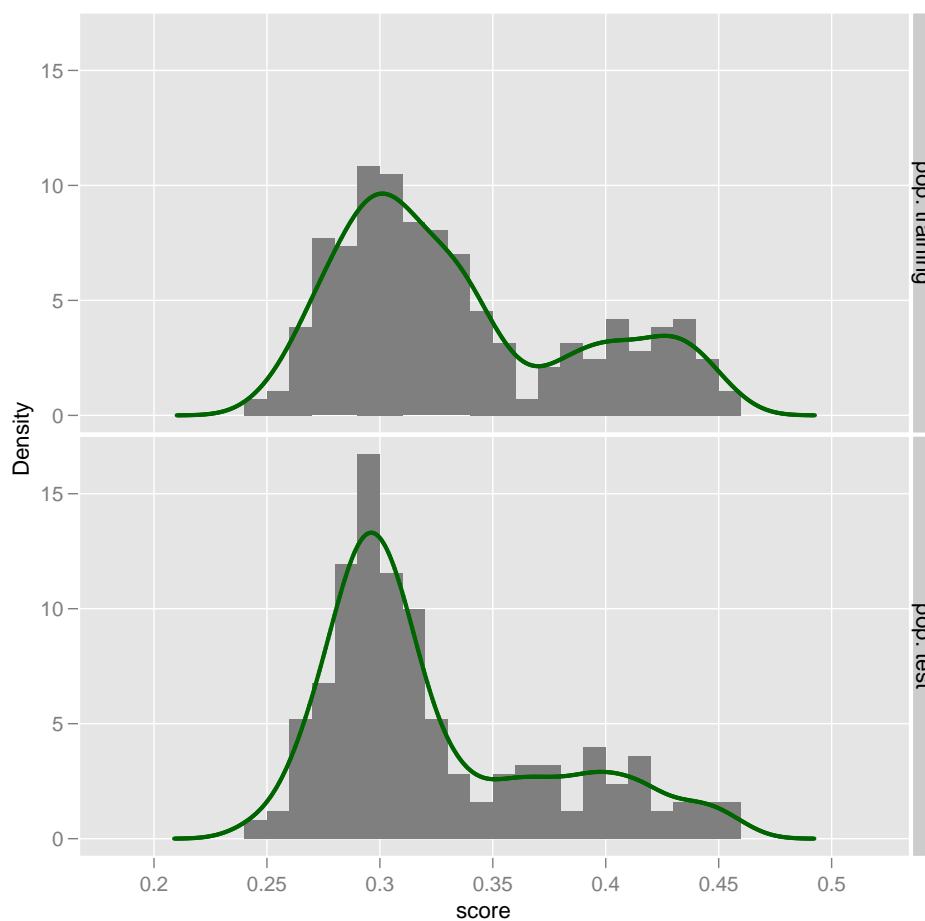
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 2.40E-02, a concordance index of 0.705 95CI[0.561,0.849] (p-value of 2.65E-03) and an integrated Brier score of 0.146. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.95	[0.90,1.00]	0.93	[0.88,0.99]	0.86	[0.78,0.94]
High	0.86	[0.81,0.92]	0.79	[0.73,0.86]	0.71	[0.64,0.79]

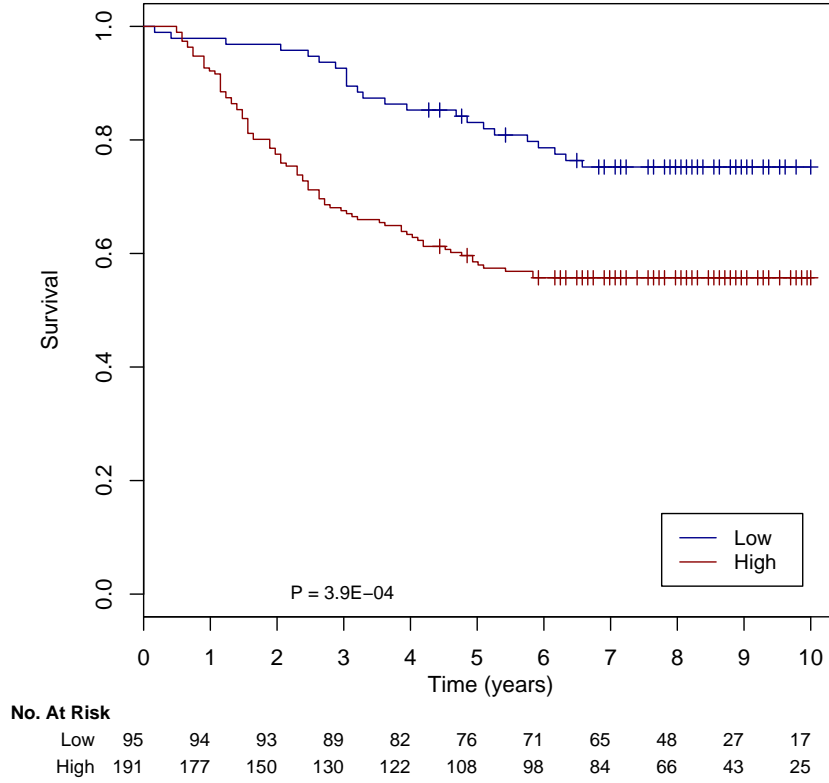
## 1.5 BD.MULTIV.LM.TOE

The following figure shows the distribution of the ggi in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 5.80E-02, a concordance index of 0.601 95CI[0.55,0.653] (p-value of 5.95E-05) and an integrated Brier score of 0.186.

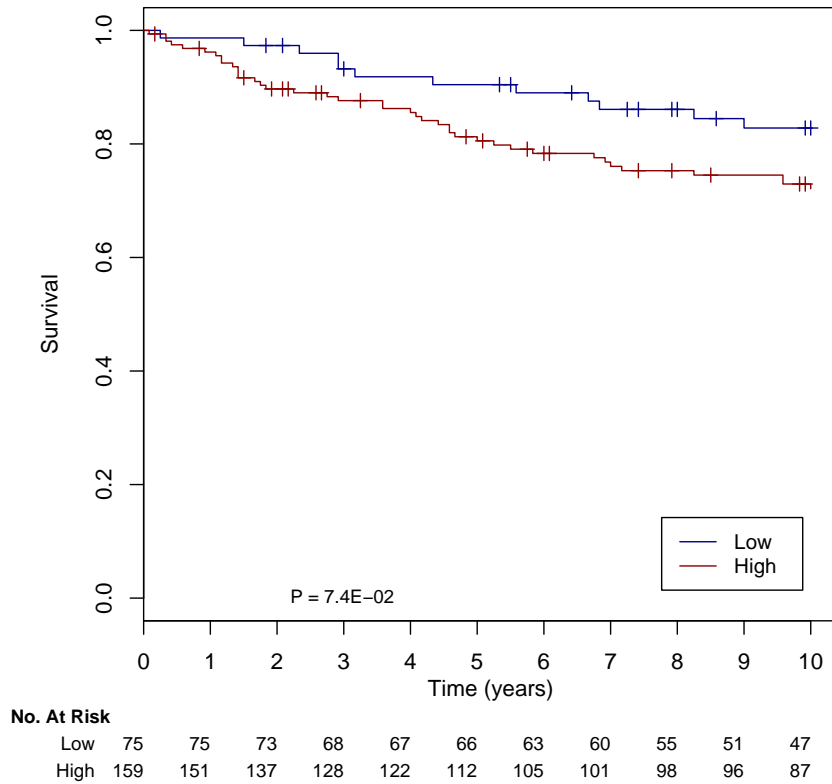
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 2.15E-04, a concordance index of 0.721 95CI[0.628,0.814] (p-value of 1.68E-06) and an integrated Brier score of 0.18. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years	5.years	10.years
Low	0.89 [0.84,0.96]	0.82 [0.75,0.90]	0.75 [0.67,0.85]
High	0.67 [0.61,0.74]	0.58 [0.51,0.65]	0.56 [0.49,0.63]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 5.06E-03, a concordance index of 0.622 95CI[0.547,0.698] (p-value of 7.34E-04) and an integrated Brier score of 0.147.

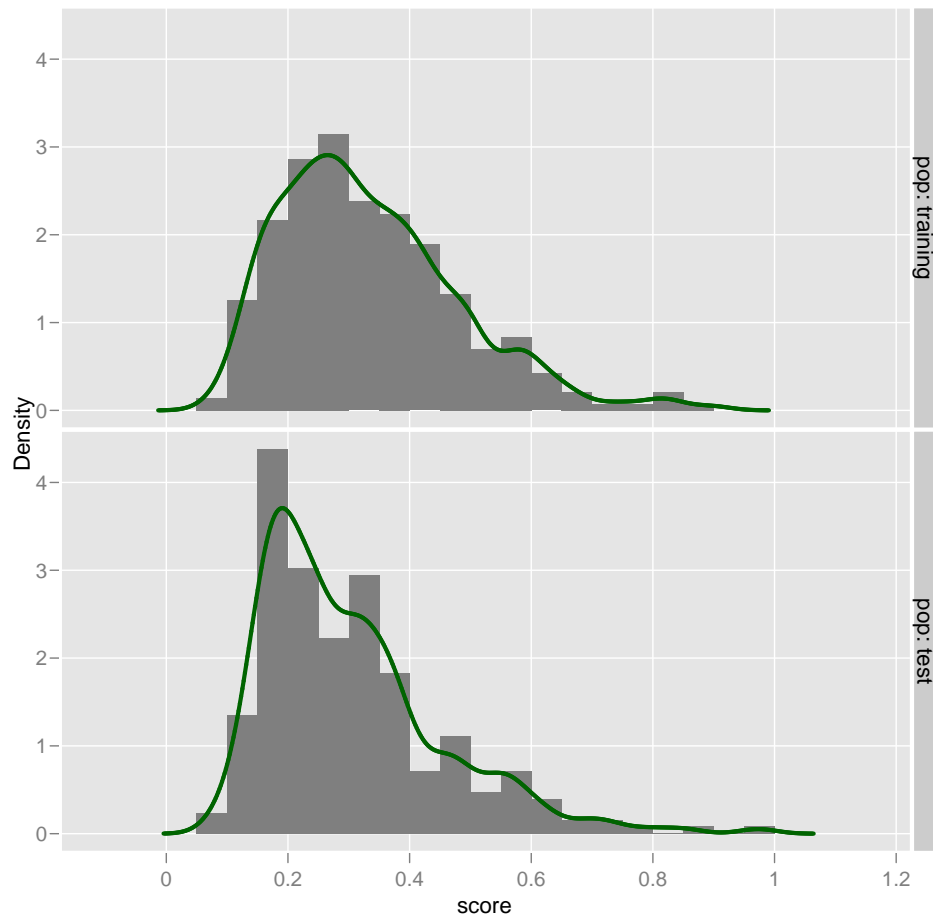
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 6.84E-02, a concordance index of 0.647 95CI[0.499,0.794] (p-value of 2.55E-02) and an integrated Brier score of 0.149. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.93	[0.88,0.99]	0.90	[0.84,0.97]	0.83	[0.74,0.92]
High	0.88	[0.83,0.93]	0.81	[0.74,0.87]	0.72	[0.65,0.80]

## 1.6 BD.MULTIV.COX.SURV

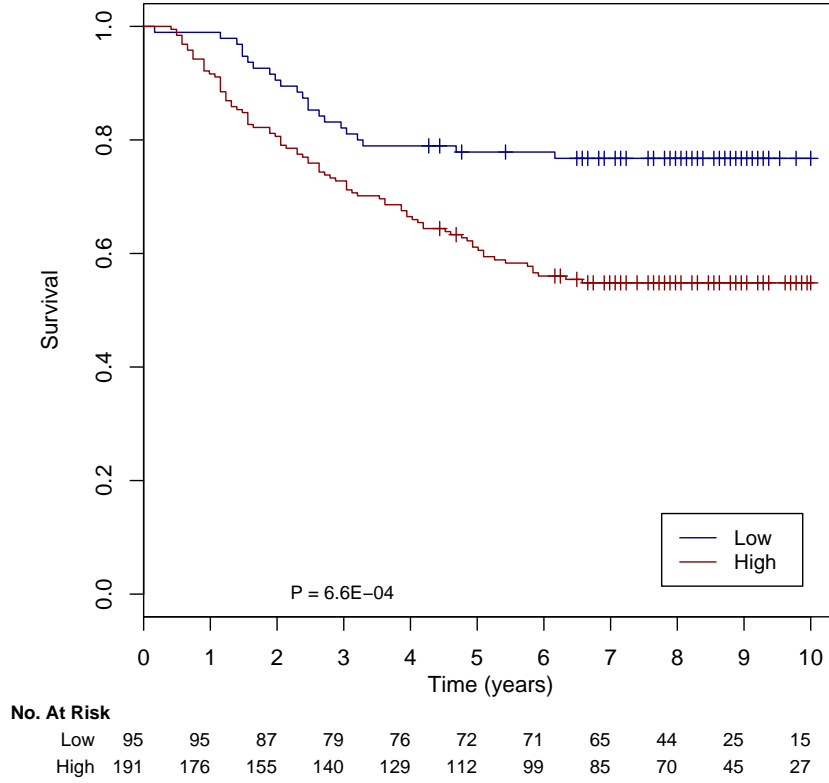
The following figure shows the distribution of the ggi in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 3.30E-08, a concordance index of 0.649 95CI[0.594,0.704] (p-value of 5.59E-08) and an integrated Brier score of 0.172.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 3.72E-04, a concordance index of 0.685 95CI[0.583,0.787] (p-value of 1.82E-04) and an integrated Brier score of 0.182. The following figure shows the Kaplan-Meier survival curves for the two groups :

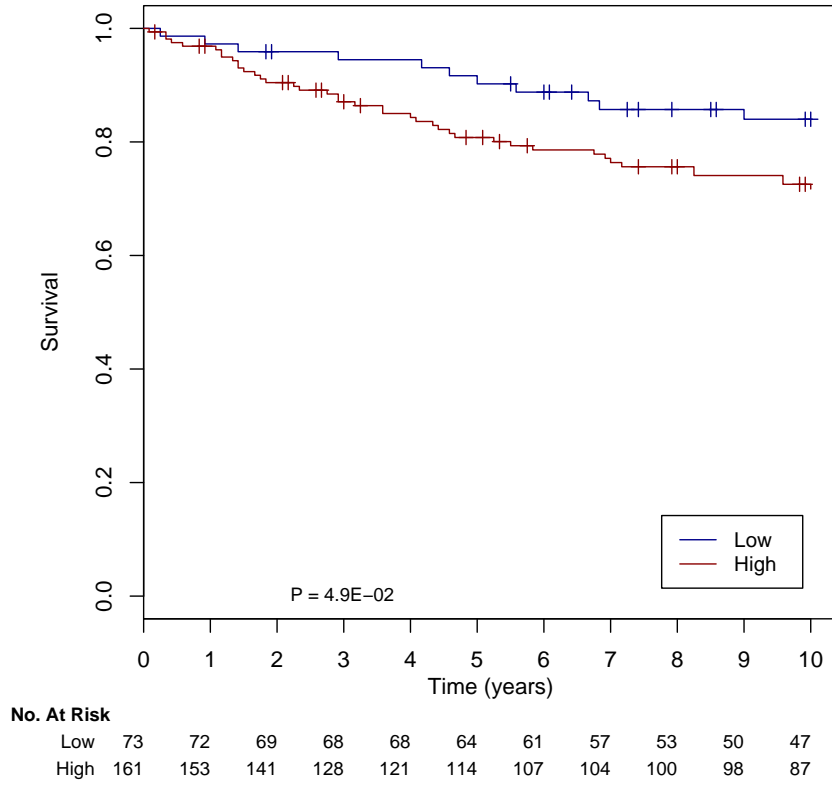




	3.years		5.years		10.years	
Low	0.81	[0.74,0.89]	0.78	[0.70,0.87]	0.77	[0.69,0.86]
High	0.71	[0.65,0.78]	0.61	[0.54,0.68]	0.55	[0.48,0.62]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 5.48E-02, a concordance index of 0.598 95CI[0.518,0.677] (p-value of 8.35E-03) and an integrated Brier score of 0.149.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 5.75E-02, a concordance index of 0.66 95CI[0.509,0.81] (p-value of 1.86E-02) and an integrated Brier score of 0.148. The following figure shows the Kaplan-Meier survival curves for the two groups :



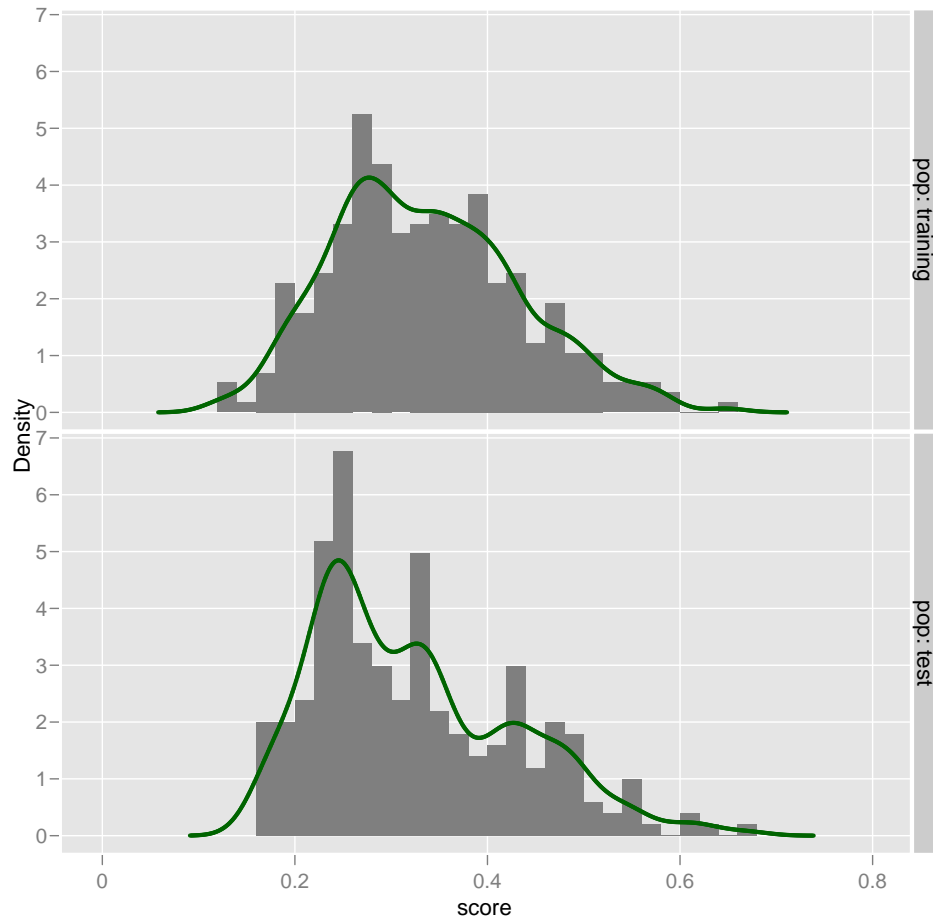
	3.years		5.years		10.years	
Low	0.93	[0.87,0.99]	0.90	[0.84,0.97]	0.84	[0.76,0.93]
High	0.87	[0.82,0.93]	0.81	[0.75,0.87]	0.72	[0.65,0.80]

## 1.7 GW.RANK.COMBUNIV.WILCOXON.HG

The following table shows the selected features :

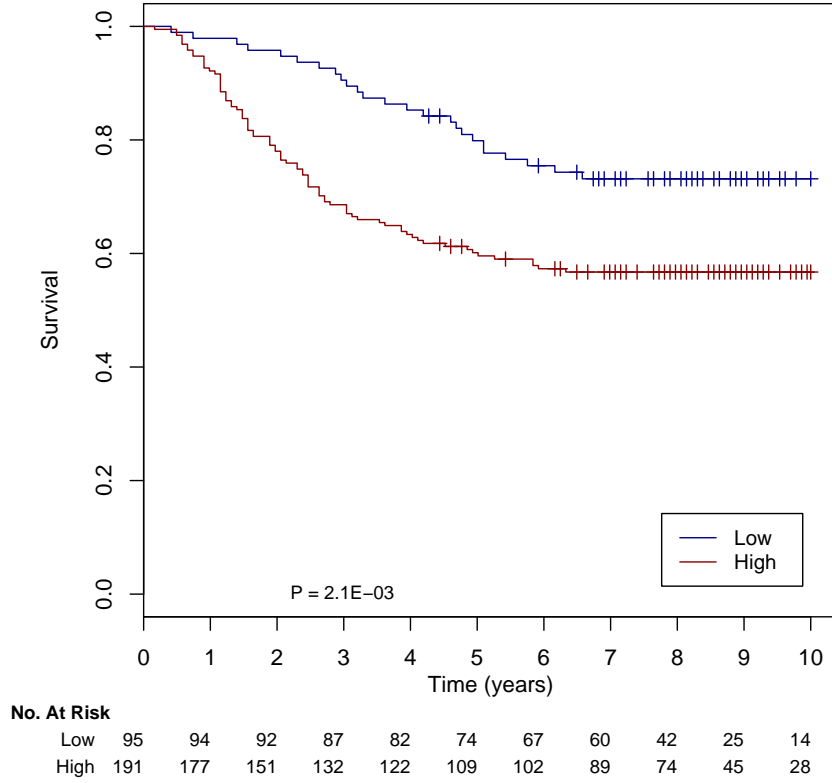
	diff	p.value	c.index	p.value	NCBI.gene.symbol	EntrezGene.ID
206887.at	-1.000	7.2E-05	0.473	1.6E-01	CCBP2	1238
222077.s.at	1.000	8.7E-05	0.643	8.1E-09	RACGAP1	29127
218728.s.at	1.000	9.3E-05	0.564	1.1E-02	CNIH4	29097
212250.at	1.000	1.0E-04	0.575	3.7E-03	MTDH	92140
201897.s.at	1.000	1.0E-04	0.563	1.5E-02	CKS1B	1163
215850.s.at	-1.000	1.1E-04	0.501	4.9E-01		
219494.at	1.000	1.2E-04	0.595	2.8E-04	RAD54B	25788
206791.s.at	-1.000	1.2E-04	0.449	3.7E-02	PDE4C	5143
208079.s.at	1.000	1.2E-04	0.636	3.0E-07	AURKA	6790
215021.s.at	-1.000	1.3E-04	0.411	7.7E-04	NRXN3	9369
203213.at	1.000	1.4E-04	0.593	2.7E-04		
202188.at	1.000	1.4E-04	0.563	1.1E-02	NUP93	9688
221676.s.at	1.000	1.4E-04	0.573	3.6E-03	CORO1C	23603
204886.at	1.000	1.4E-04	0.594	1.9E-04	PLK4	10733
220245.at	-1.000	1.7E-04	0.461	7.2E-02	SLC45A2	51151
219010.at	1.000	1.9E-04	0.543	6.5E-02	C1orf106	55765
215999.at	-1.000	2.2E-04	0.477	2.0E-01		
203764.at	1.000	2.2E-04	0.614	1.5E-05	DLG7	9787
204641.at	1.000	2.2E-04	0.646	4.4E-09	NEK2	4751
210691.s.at	1.000	2.5E-04	0.566	1.1E-02	CACYBP	27101
201834.at	-1.000	2.6E-04	0.472	1.6E-01	PRKAB1	5564
206515.at	-1.000	2.6E-04	0.495	4.3E-01		
202107.s.at	1.000	2.7E-04	0.567	9.9E-03	MCM2	4171
218732.at	1.000	2.9E-04	0.547	4.8E-02	PTRH2	51651
216841.s.at	1.000	3.0E-04	0.533	1.2E-01	SOD2	6648
48580.at	-1.000	3.1E-04	0.425	4.2E-03	CXXC1	30827
218009.s.at	1.000	3.3E-04	0.605	7.0E-05	PRC1	9055
200940.s.at	-1.000	3.3E-04	0.433	8.1E-03	RERE	473
201557.at	-1.000	3.4E-04	0.455	5.4E-02	VAMP2	6844
219037.at	1.000	3.4E-04	0.605	4.3E-05	CGI-115	51018

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 3.72E-04, a concordance index of 0.619 95CI[0.568,0.67] (p-value of 2.16E-06) and an integrated Brier score of 0.182.

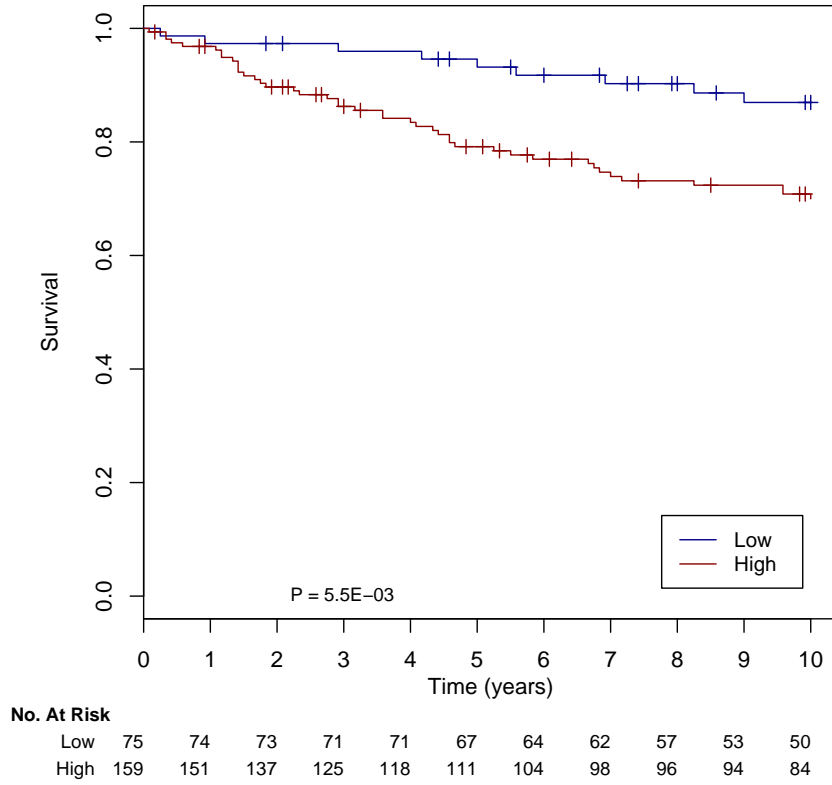
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 1.46E-03, a concordance index of 0.694 95CI[0.599,0.789] (p-value of 3.03E-05) and an integrated Brier score of 0.182. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years	5.years	10.years
Low	0.89 [0.84,0.96]	0.78 [0.70,0.87]	0.73 [0.65,0.83]
High	0.67 [0.61,0.74]	0.60 [0.53,0.67]	0.57 [0.50,0.64]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 8.01E-04, a concordance index of 0.653 95CI[0.58,0.727] (p-value of 2.12E-05) and an integrated Brier score of 0.146.

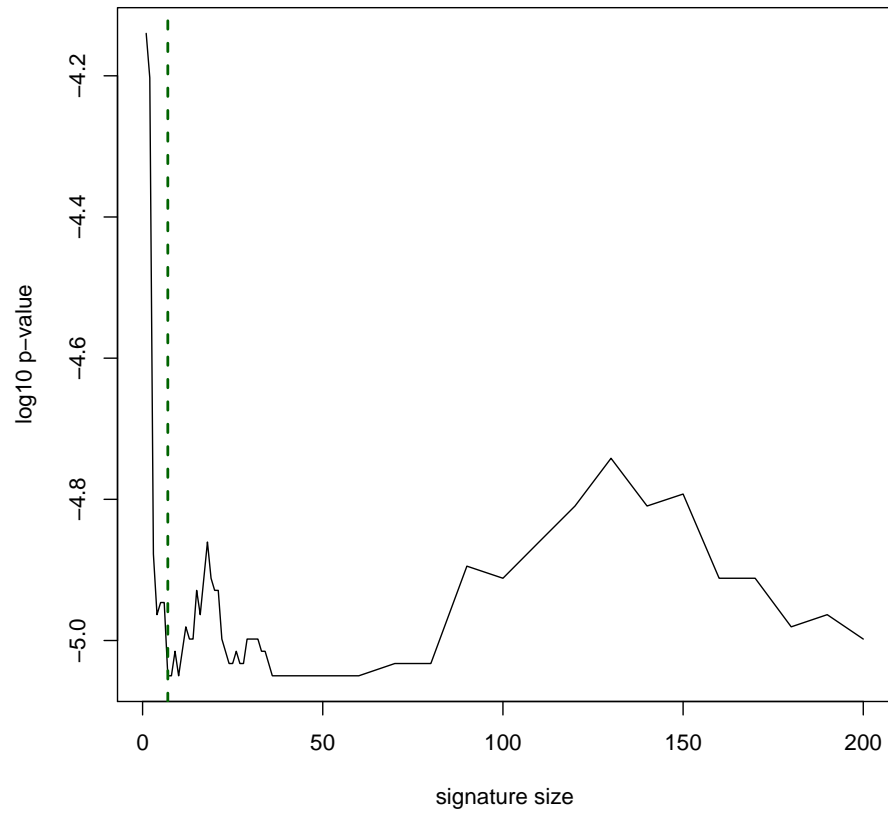
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 9.22E-03, a concordance index of 0.733 95CI[0.592,0.875] (p-value of 6.25E-04) and an integrated Brier score of 0.146. The following figure shows the Kaplan-Meier survival curves for the two groups :



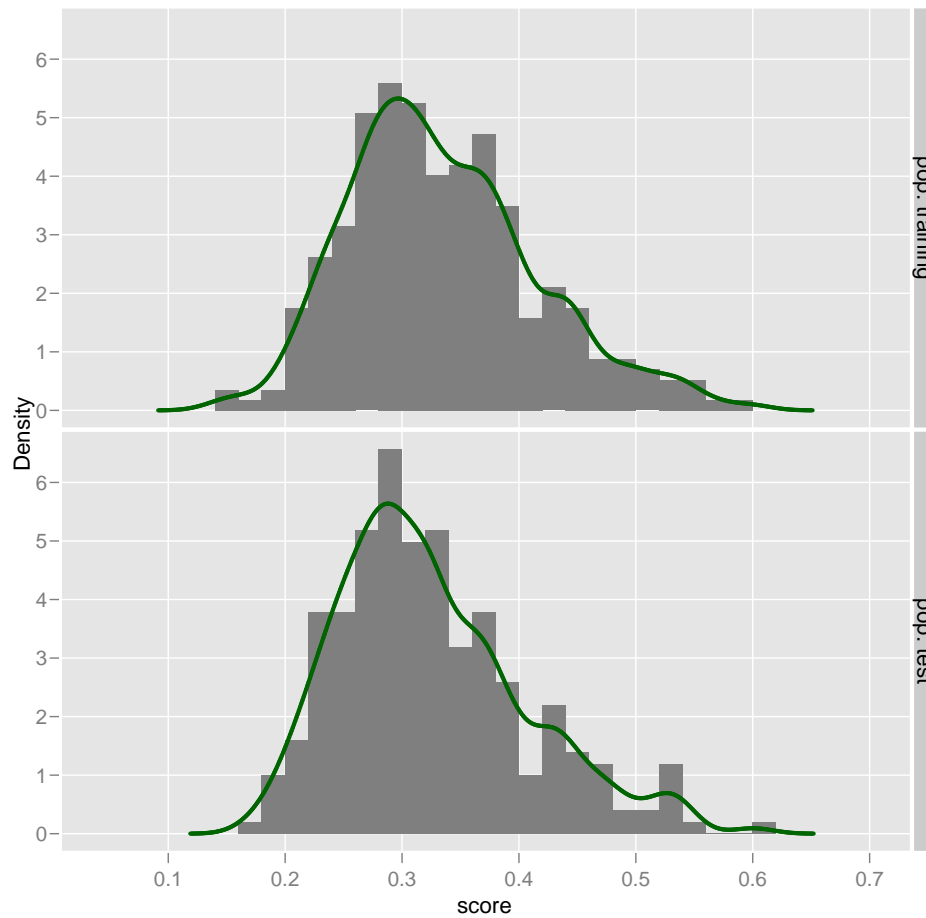
	3.years		5.years		10.years	
Low	0.95	[0.90,1.00]	0.93	[0.88,0.99]	0.87	[0.79,0.95]
High	0.86	[0.81,0.92]	0.79	[0.73,0.86]	0.70	[0.63,0.78]

## 1.8 GW.RANKCV.COMBUNIV.WILCOXON.HG

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 7):



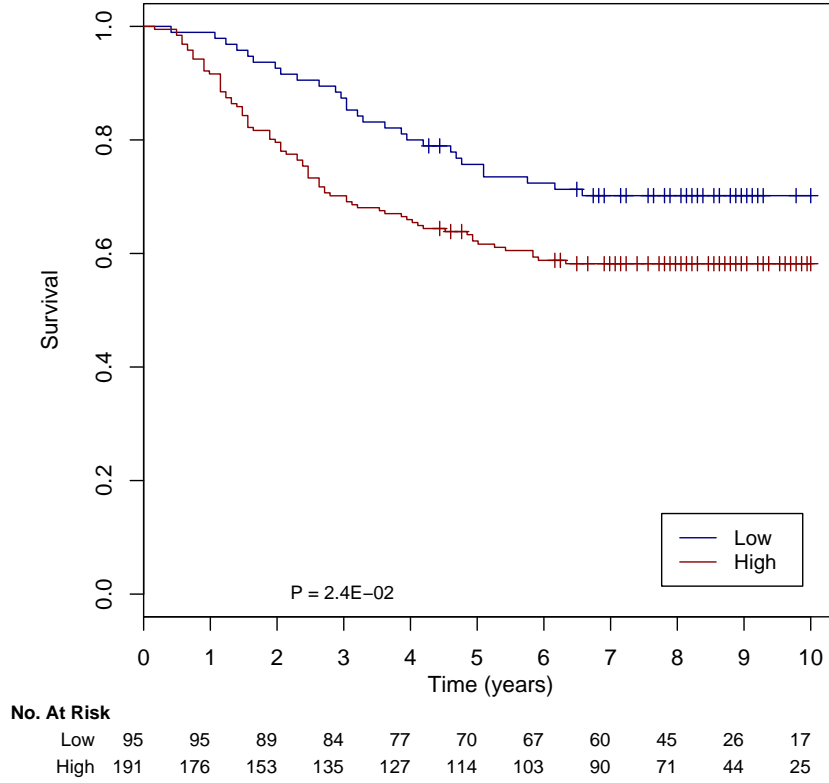
The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 2.71E-03, a concordance index of 0.595 95CI[0.543,0.647] (p-value of 1.72E-04) and an integrated Brier score of 0.184.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 1.99E-02, a concordance index of 0.642 95CI[0.544,0.741] (p-value of 2.28E-03) and an integrated Brier score of 0.185. The following figure shows the Kaplan-Meier survival curves for the two groups :

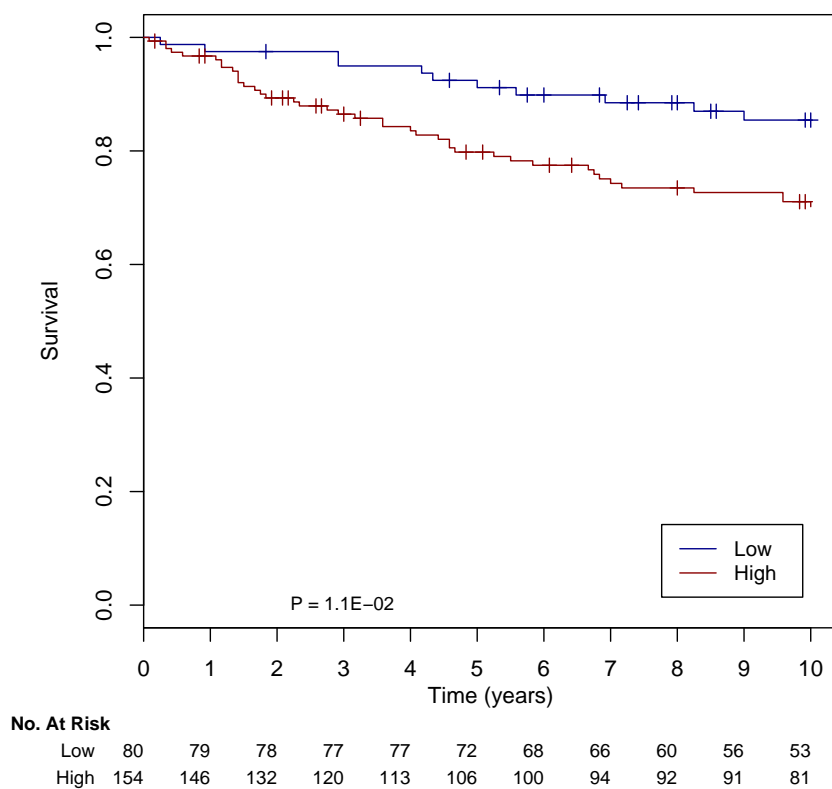




	3.years		5.years		10.years	
Low	0.85	[0.78,0.93]	0.73	[0.65,0.83]	0.70	[0.62,0.80]
High	0.69	[0.63,0.76]	0.62	[0.55,0.69]	0.58	[0.52,0.66]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.42E-02, a concordance index of 0.64 95CI[0.563,0.717] (p-value of 1.86E-04) and an integrated Brier score of 0.148.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 2.67E-02, a concordance index of 0.703 95CI[0.563,0.843] (p-value of 2.18E-03) and an integrated Brier score of 0.146. The following figure shows the Kaplan-Meier survival curves for the two groups :



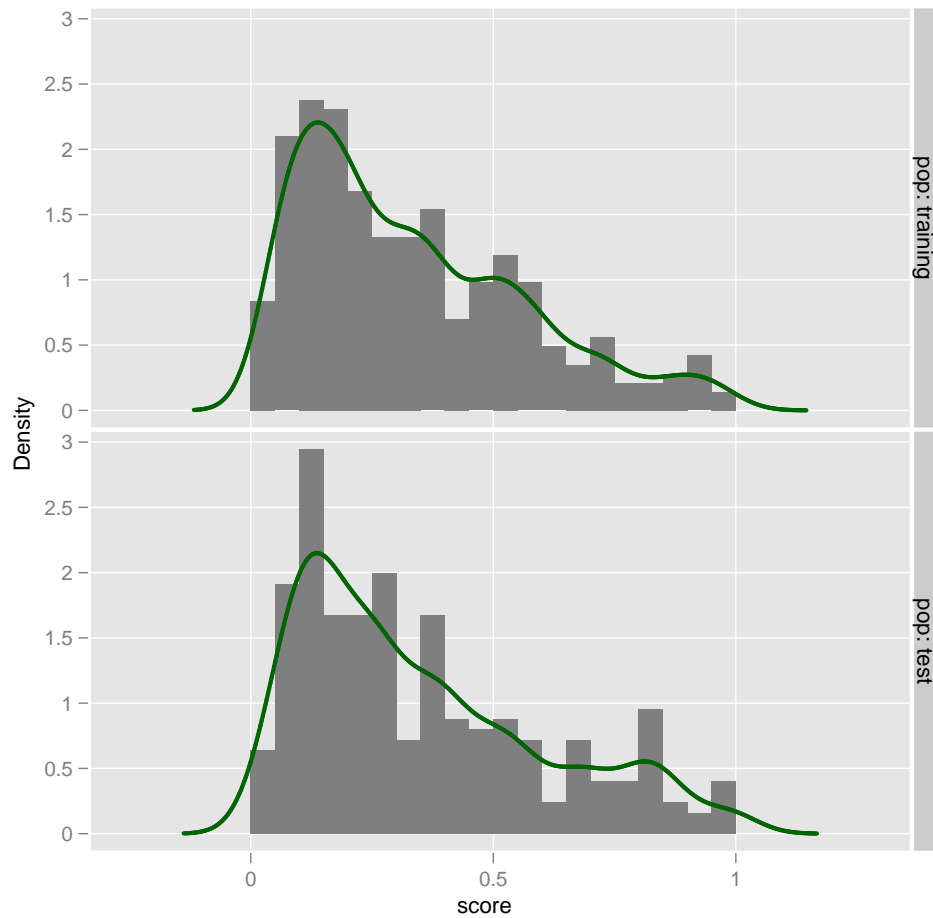
	3.years		5.years		10.years	
Low	0.94	[0.89,0.99]	0.91	[0.85,0.98]	0.85	[0.78,0.94]
High	0.86	[0.81,0.92]	0.80	[0.73,0.87]	0.70	[0.63,0.78]

## 1.9 GW.RANK.COMBUNIV.COX.SURV

The following table shows the selected features :

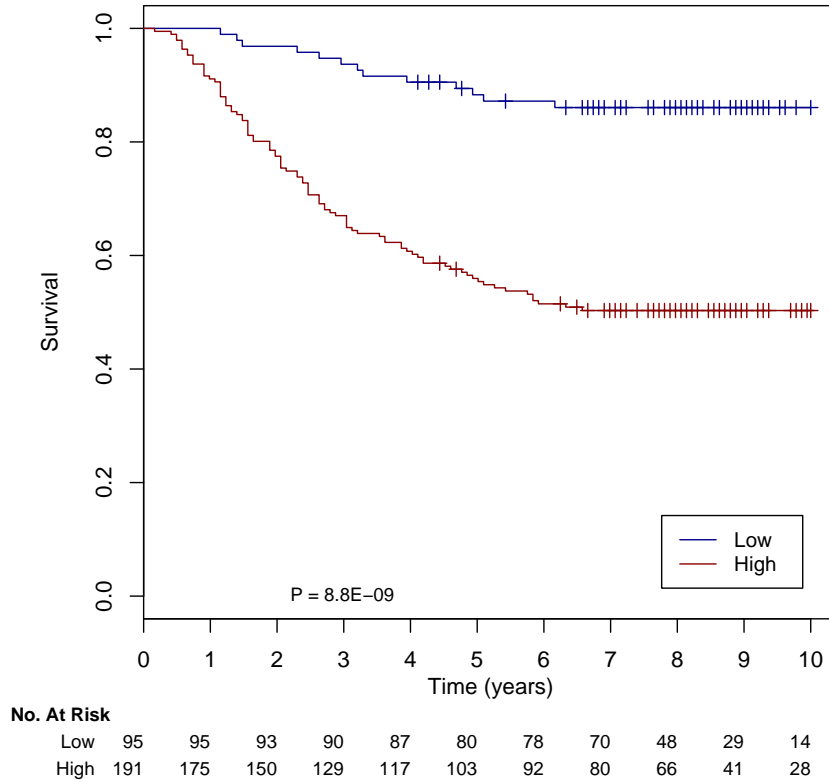
	hr	p.value	c.index	p.value	NCBI.gene.symbol	EntrezGene.ID
204641.at	1.565	6.5E-07	0.646	4.4E-09	NEK2	4751
222077.s.at	1.919	7.8E-07	0.643	8.1E-09	RACGAP1	29127
219478.at	1.551	8.5E-07	0.641	1.7E-07	WFDC1	58189
201769.at	2.529	3.3E-06	0.643	3.5E-08	CLINT1	9685
202324.s.at	2.416	3.3E-06	0.625	1.7E-06	ACBD3	64746
218252.at	2.343	4.2E-06	0.627	1.7E-06	CKAP2	26586
212898.at	1.887	4.7E-06	0.628	9.2E-07	KIAA0406	9675
208079.s.at	1.540	5.2E-06	0.636	3.0E-07	AURKA	6790
202824.s.at	2.042	6.6E-06	0.625	3.8E-06	TCEB1	6921
209380.s.at	1.777	6.7E-06	0.606	1.3E-04	ABCC5	10057
213226.at	1.657	7.7E-06	0.637	7.7E-08		
201076.at	0.349	8.3E-06	0.375	1.5E-06	NHP2L1	4809
201664.at	2.082	9.4E-06	0.621	3.2E-06	SMC4	10051
202969.at	1.894	1.0E-05	0.628	1.4E-06		
212900.at	2.439	1.0E-05	0.625	2.5E-06		
218701.at	1.783	1.2E-05	0.623	2.3E-06	LACTB2	51110
218478.s.at	2.707	1.3E-05	0.621	7.3E-06	ZCCHC8	55596
217235.x.at	0.753	1.3E-05	0.394	6.1E-05		
214853.s.at	2.447	1.4E-05	0.618	4.9E-06	SHC1	6464
212149.at	1.990	1.4E-05	0.623	2.5E-06	KIAA0143	23167
210396.s.at	1.922	1.6E-05	0.625	5.6E-07	BOLA2	552900
202620.s.at	1.534	1.6E-05	0.632	2.6E-07	PLOD2	5352
207165.at	1.613	1.6E-05	0.613	2.0E-05	HMMR	3161
212687.at	2.135	1.7E-05	0.626	1.1E-06		
209835.x.at	0.604	1.8E-05	0.404	2.2E-04	CD44	960
215205.x.at	0.629	2.0E-05	0.368	1.8E-07	NCOR2	9612
209276.s.at	0.575	2.2E-05	0.373	5.5E-07	GLRX	2745
201369.s.at	0.631	2.2E-05	0.378	1.2E-06	ZFP36L2	678
217157.x.at	0.776	2.3E-05	0.395	5.6E-05		
212014.x.at	0.640	2.4E-05	0.403	1.6E-04	CD44	960

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 3.39E-19, a concordance index of 0.742 95CI[0.699,0.785] (p-value of 2.86E-28) and an integrated Brier score of 0.148.

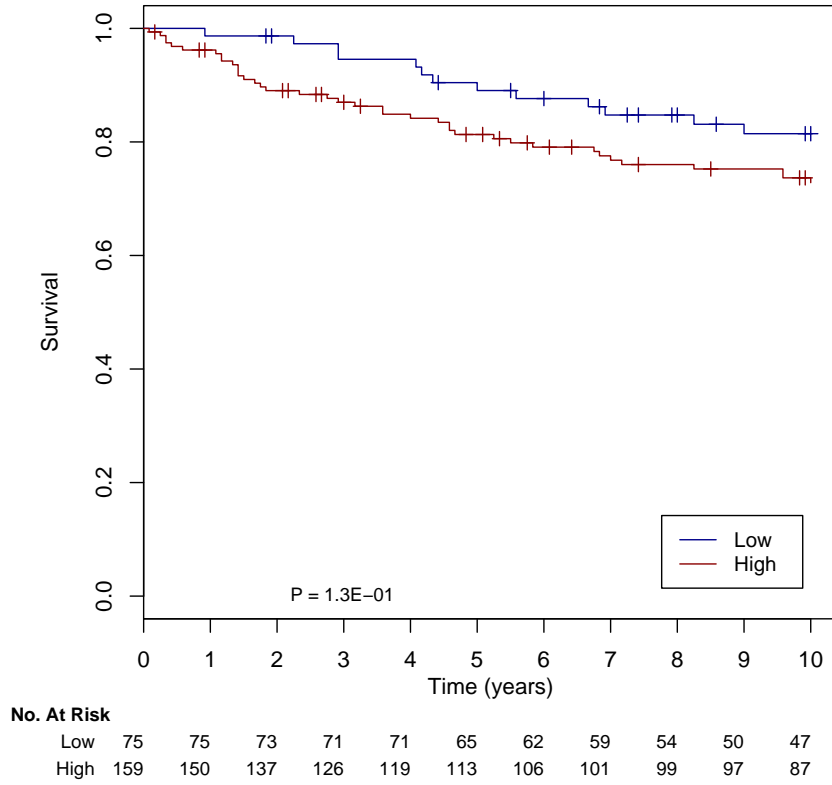
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 4.31E-10, a concordance index of 0.836 95CI[0.756,0.916] (p-value of 8.15E-17) and an integrated Brier score of 0.168. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.93	[0.88,0.98]	0.87	[0.81,0.94]	0.86	[0.79,0.93]
High	0.65	[0.58,0.72]	0.55	[0.49,0.63]	0.50	[0.44,0.58]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 4.42E-03, a concordance index of 0.637 95CI[0.562,0.712] (p-value of 1.83E-04) and an integrated Brier score of 0.172.

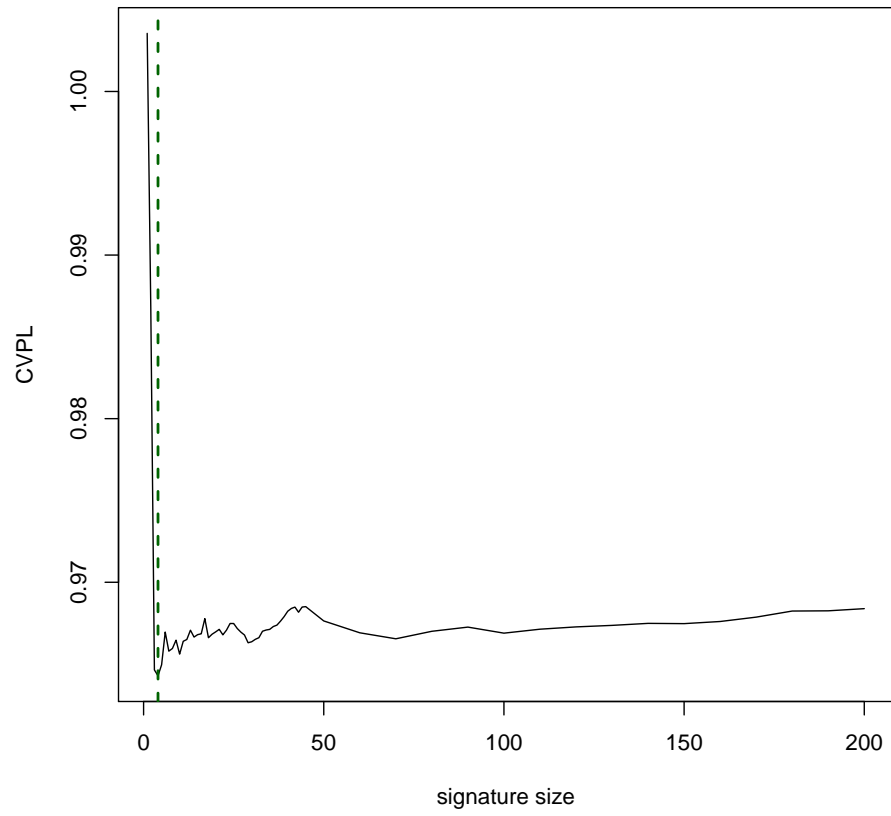
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 1.72E-01, a concordance index of 0.632 95CI[0.487,0.777] (p-value of 3.70E-02) and an integrated Brier score of 0.156. The following figure shows the Kaplan-Meier survival curves for the two groups :



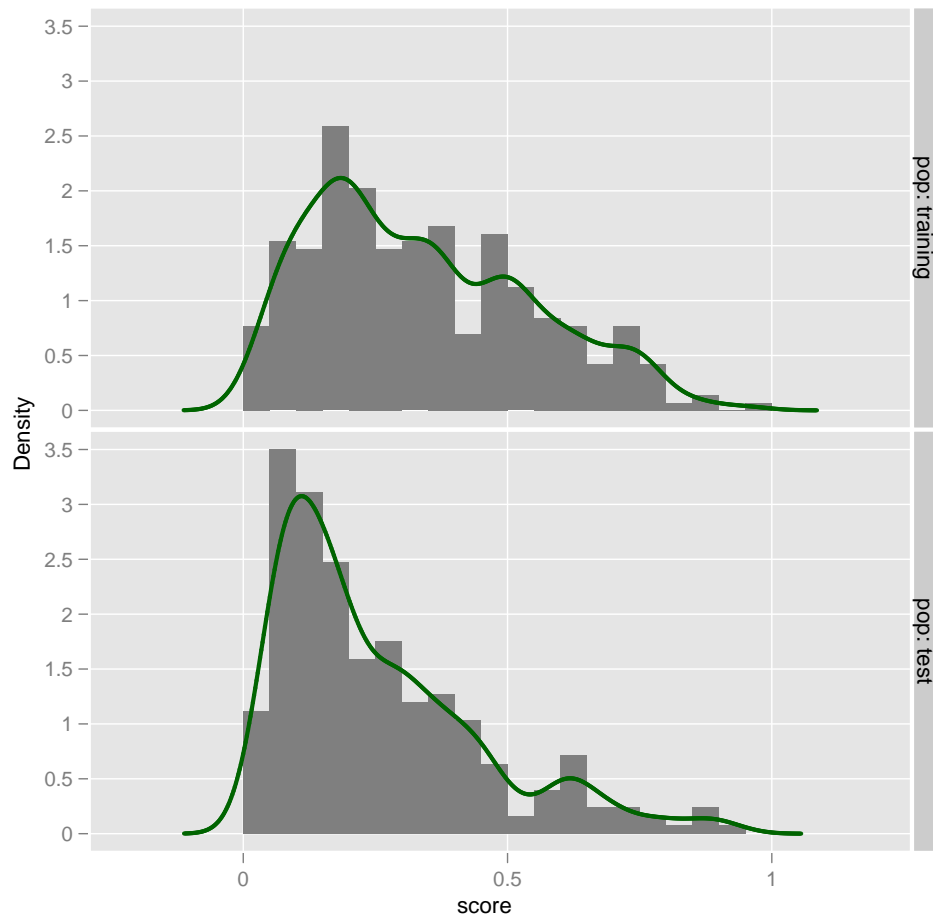
	3.years		5.years		10.years	
Low	0.93	[0.88,0.99]	0.89	[0.82,0.97]	0.81	[0.73,0.91]
High	0.87	[0.82,0.92]	0.81	[0.75,0.88]	0.73	[0.66,0.81]

### 1.10 GW.RANKCV.COMBUNIV.COX.SURV

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 4):



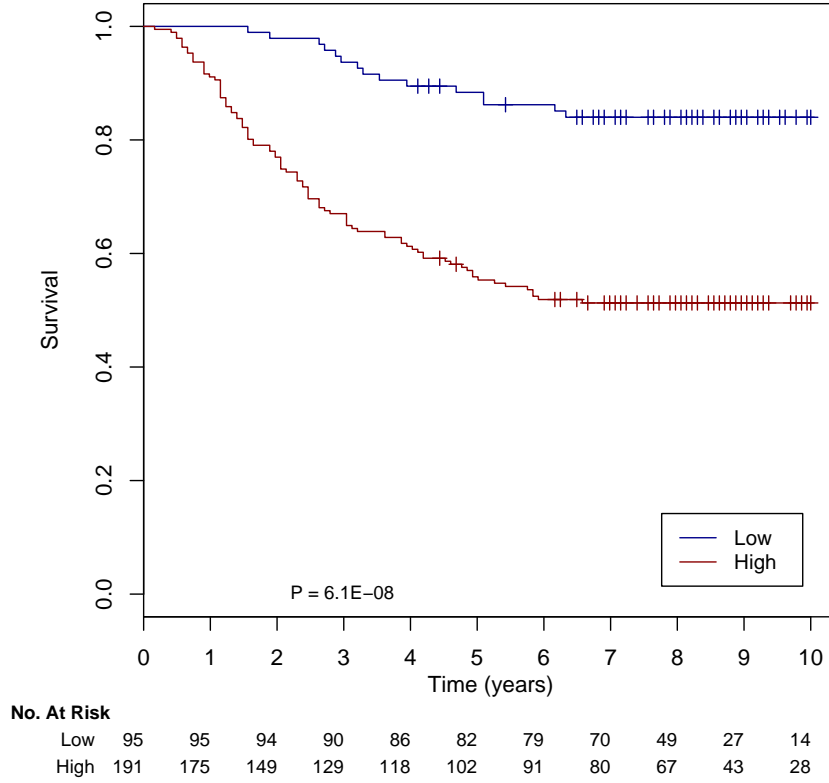
The following figure shows the distribution of the  $ggi$  :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 3.95E-15, a concordance index of 0.717 95CI[0.671,0.762] (p-value of 7.07E-21) and an integrated Brier score of 0.156.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 5.82E-09, a concordance index of 0.824 95CI[0.745,0.903] (p-value of 3.60E-16) and an integrated Brier score of 0.17. The following figure shows the Kaplan-Meier survival curves for the two groups :

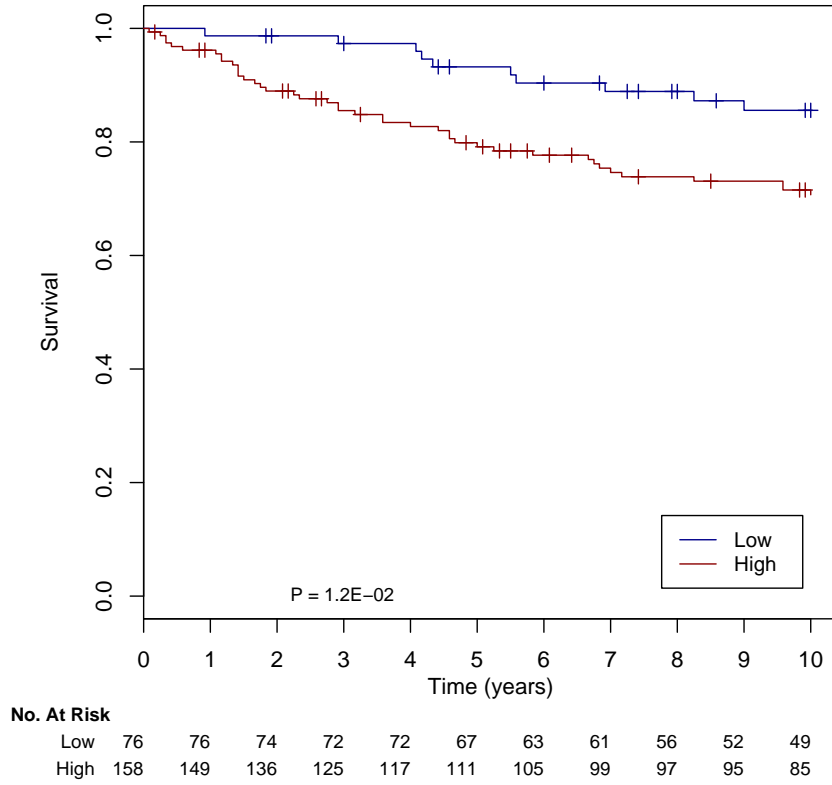




	3.years		5.years		10.years	
Low	0.93	[0.88,0.98]	0.86	[0.80,0.93]	0.84	[0.77,0.92]
High	0.65	[0.58,0.72]	0.55	[0.49,0.63]	0.51	[0.45,0.59]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 3.63E-04, a concordance index of 0.654 95CI[0.579,0.729] (p-value of 3.11E-05) and an integrated Brier score of 0.141.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 2.22E-02, a concordance index of 0.718 95CI[0.579,0.857] (p-value of 1.07E-03) and an integrated Brier score of 0.149. The following figure shows the Kaplan-Meier survival curves for the two groups :



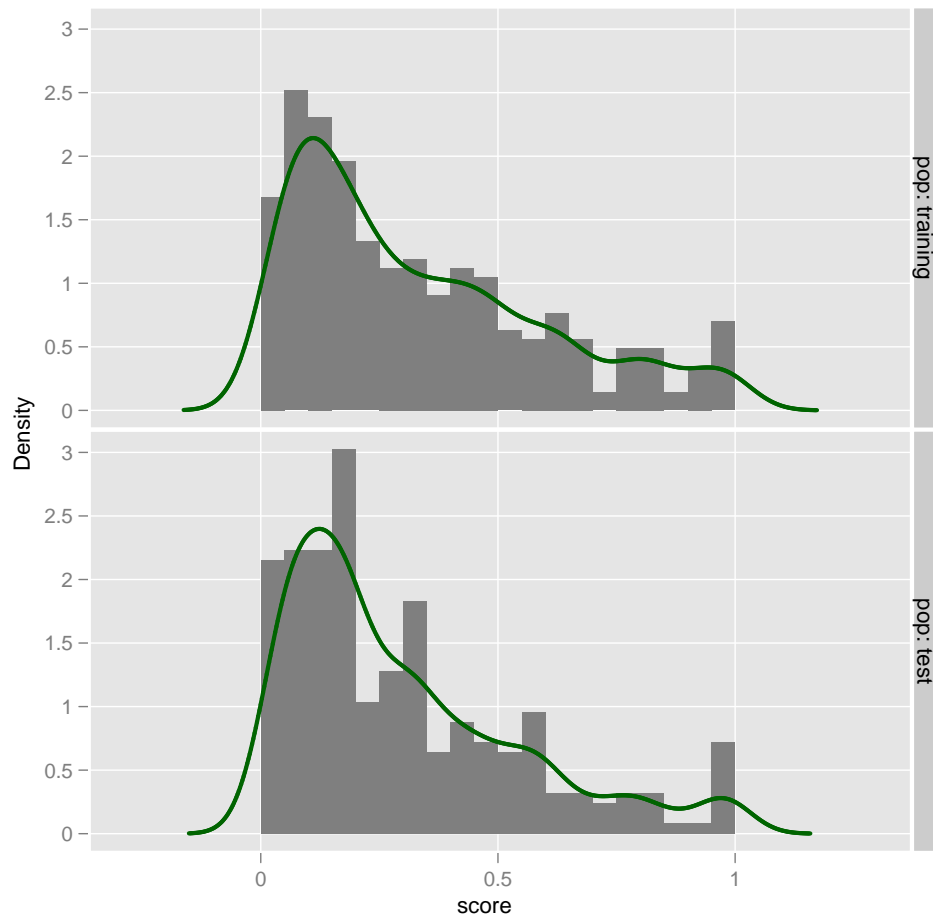
	3.years		5.years		10.years	
Low	0.97	[0.94,1.00]	0.92	[0.86,0.98]	0.86	[0.78,0.94]
High	0.85	[0.79,0.91]	0.79	[0.73,0.86]	0.71	[0.64,0.79]

### 1.11 GW.RANK.MULTIV.RCOX.SURV

The following table shows the selected features :

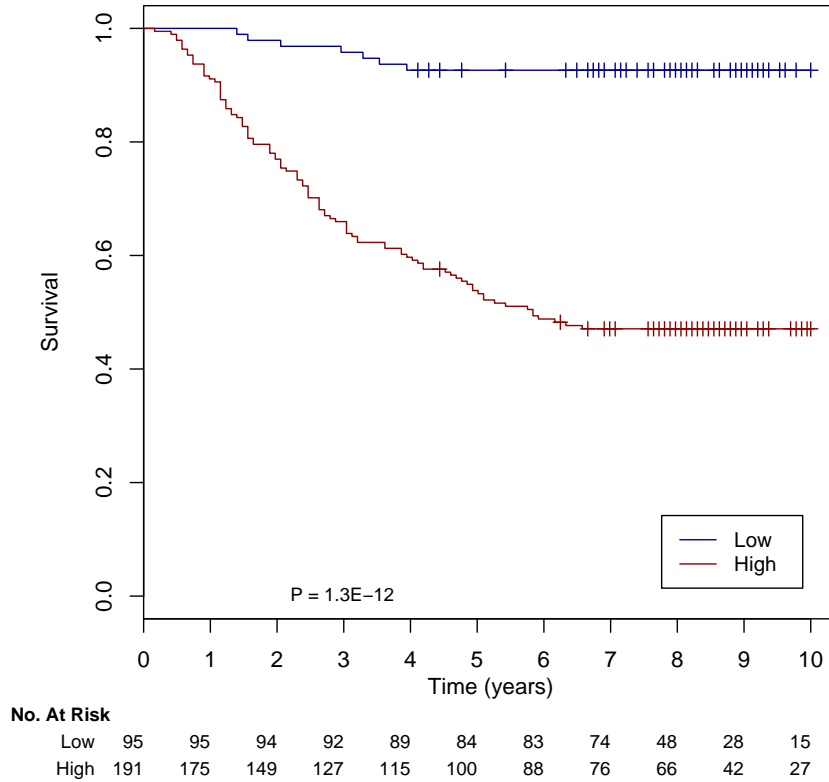
	hr	p.value	c.index	p.value	cox.coef	NCBI.gene.symbol	EntrezGene.ID
201076.at	0.349	8.3E−06	0.375	1.5E−06	−0.415	NHP2L1	4809
219478.at	1.551	8.5E−07	0.641	1.7E−07	0.330	WFDC1	58189
204641.at	1.565	6.5E−07	0.646	4.4E−09	0.219	NEK2	4751
201769.at	2.529	3.3E−06	0.643	3.5E−08	0.216	CLINT1	9685
218252.at	2.343	4.2E−06	0.627	1.7E−06	0.167	CKAP2	26586
209380.s.at	1.777	6.7E−06	0.606	1.3E−04	0.162	ABCC5	10057
215205.x.at	0.629	2.0E−05	0.368	1.8E−07	−0.153	NCOR2	9612
202969.at	1.894	1.0E−05	0.628	1.4E−06	0.133		
217235.x.at	0.753	1.3E−05	0.394	6.1E−05	−0.130		
212898.at	1.887	4.7E−06	0.628	9.2E−07	0.119	KIAA0406	9675
209835.x.at	0.604	1.8E−05	0.404	2.2E−04	−0.102	CD44	960
202620.s.at	1.534	1.6E−05	0.632	2.6E−07	0.094	PLOD2	5352
201369.s.at	0.631	2.2E−05	0.378	1.2E−06	−0.030	ZFP36L2	678
218701.at	1.783	1.2E−05	0.623	2.3E−06	0.022	LACTB2	51110
217157.x.at	0.776	2.3E−05	0.395	5.6E−05	−0.021		
212900.at	2.439	1.0E−05	0.625	2.5E−06	0.021		
209276.s.at	0.575	2.2E−05	0.373	5.5E−07	−0.013	GLRX	2745
201664.at	2.082	9.4E−06	0.621	3.2E−06	0.000	SMC4	10051

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of  $1.41\text{E-}25$ , a concordance index of 0.774 95CI[0.733,0.815] (p-value of  $4.21\text{E-}39$ ) and an integrated Brier score of 0.136.

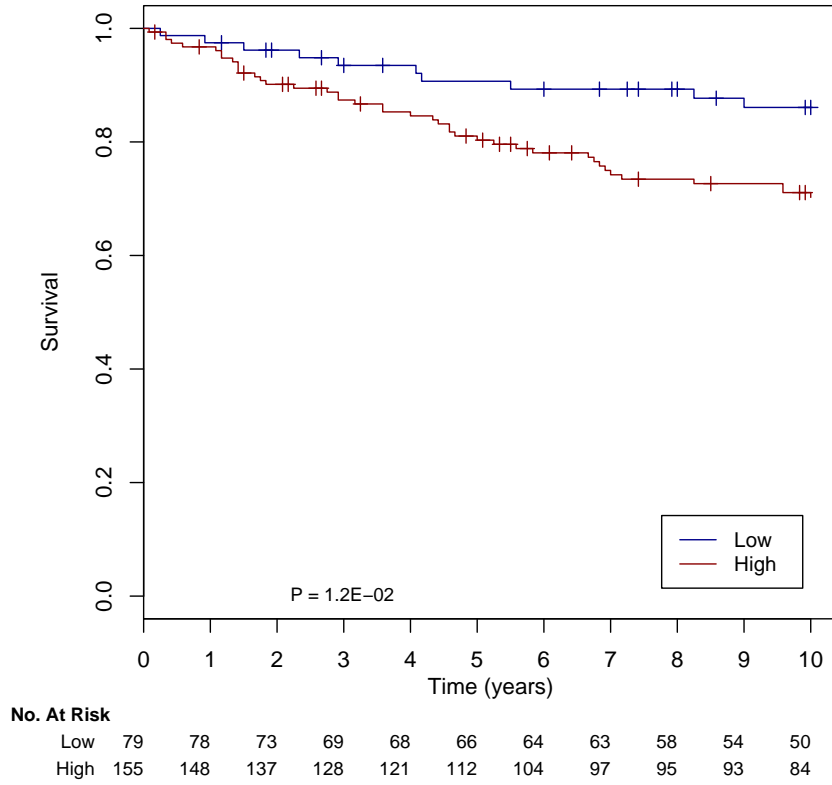
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of  $1.51\text{E-}15$ , a concordance index of 0.906 95CI[0.841,0.972] (p-value of  $9.74\text{E-}35$ ) and an integrated Brier score of 0.159. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.95	[0.90,0.99]	0.93	[0.88,0.98]	0.93	[0.88,0.98]
High	0.64	[0.57,0.71]	0.53	[0.47,0.61]	0.47	[0.40,0.55]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.83E-02, a concordance index of 0.63 95CI[0.558,0.702] (p-value of 1.92E-04) and an integrated Brier score of 0.16.

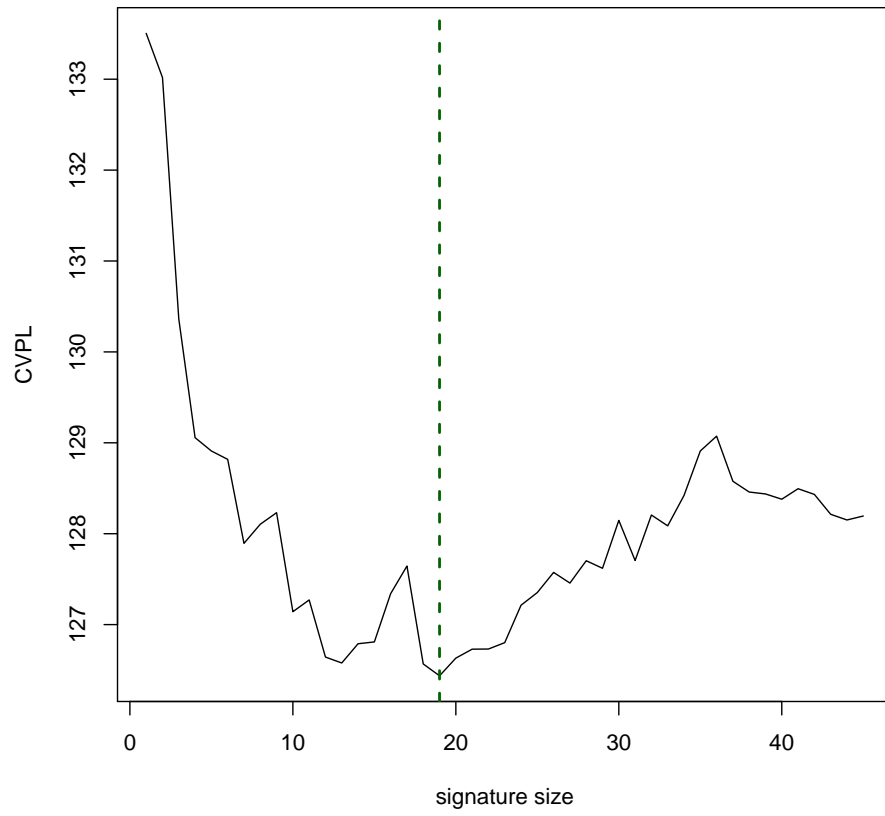
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 1.81E-02, a concordance index of 0.696 95CI[0.549,0.843] (p-value of 4.55E-03) and an integrated Brier score of 0.157. The following figure shows the Kaplan-Meier survival curves for the two groups :



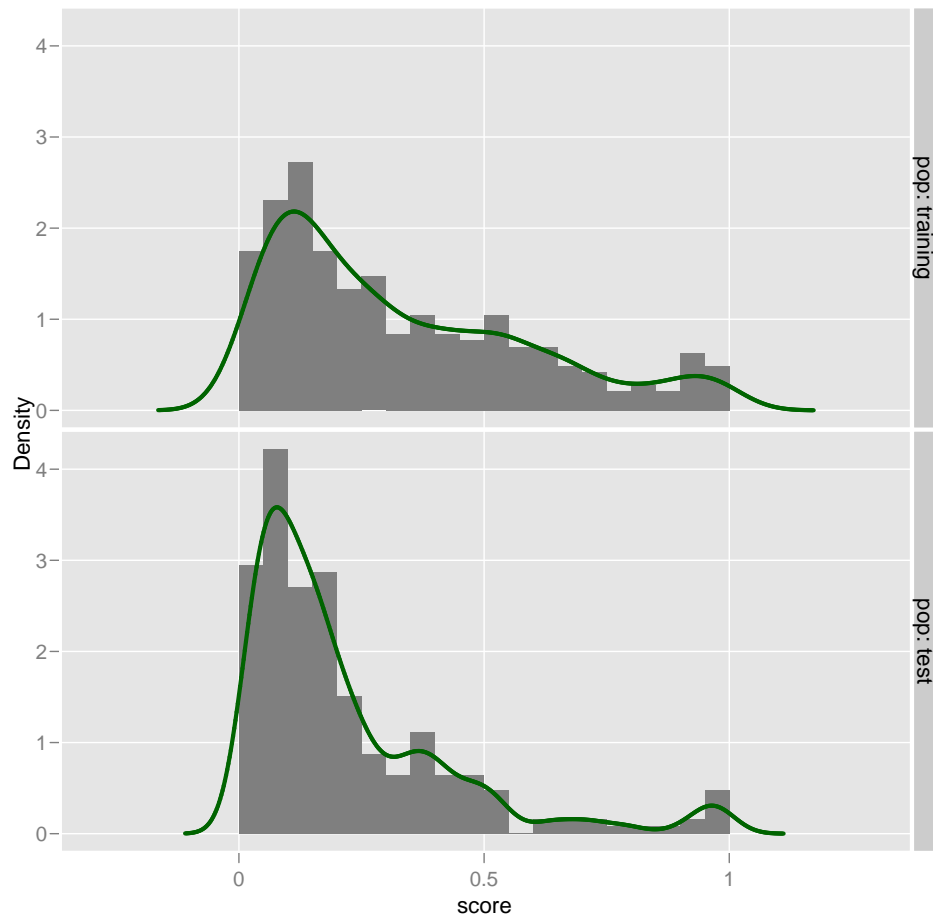
	3.years		5.years		10.years	
Low	0.93	[0.88,0.99]	0.89	[0.83,0.97]	0.86	[0.78,0.95]
High	0.87	[0.81,0.92]	0.80	[0.74,0.87]	0.70	[0.63,0.78]

### 1.12 GW.RANKCV.MULTIV.RCOX.SURV

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 19):



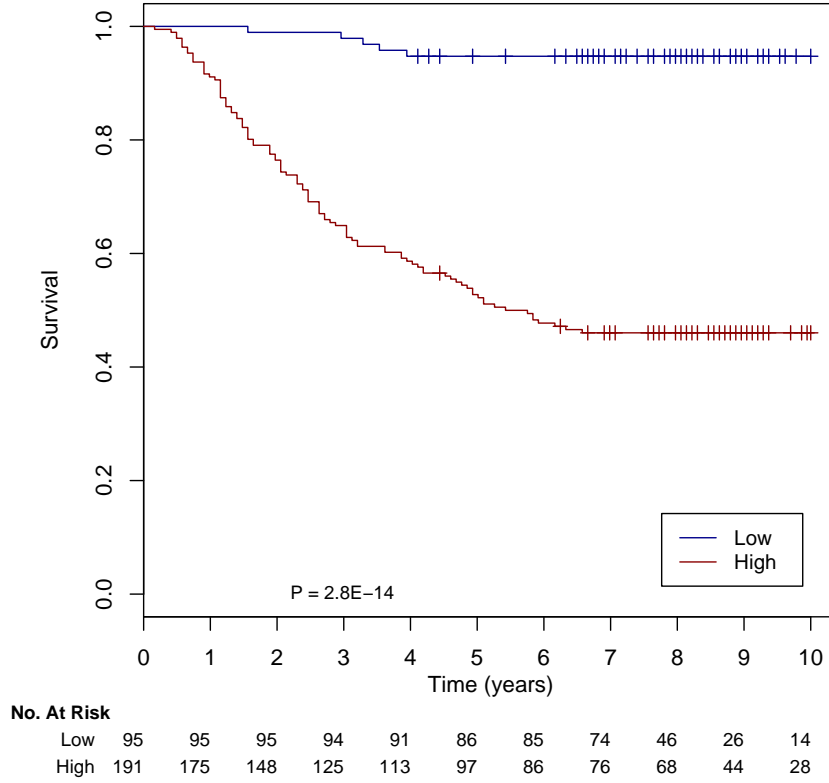
The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 5.60E-25, a concordance index of 0.777 95CI[0.737,0.817] (p-value of 9.72E-42) and an integrated Brier score of 0.138.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 3.86E-18, a concordance index of 0.938 95CI[0.885,0.99] (p-value of 9.53E-61) and an integrated Brier score of 0.155. The following figure shows the Kaplan-Meier survival curves for the two groups :

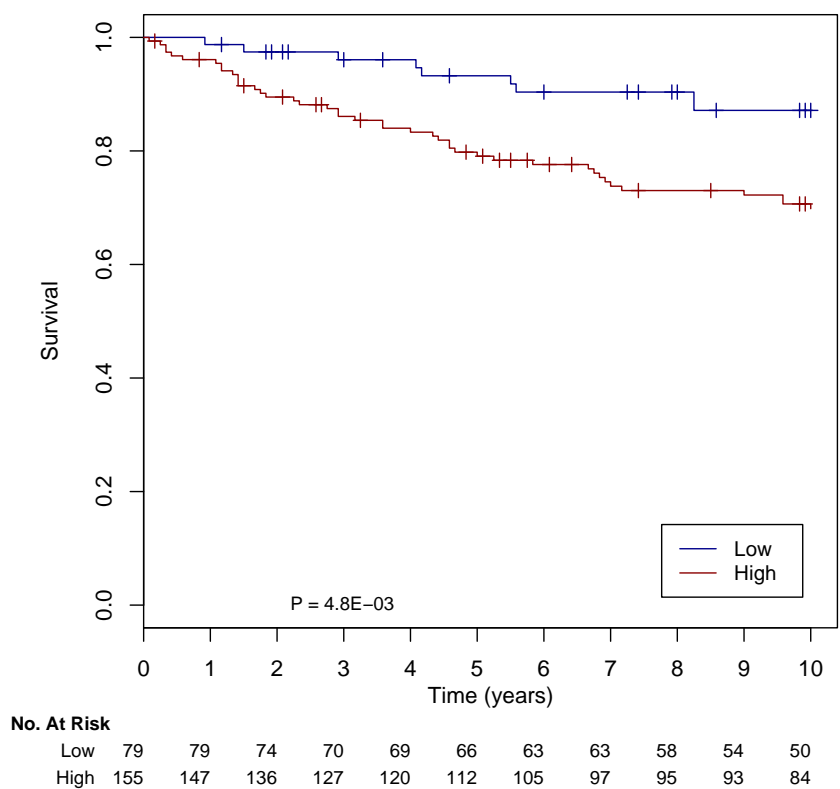




	3.years		5.years		10.years	
Low	0.97	[0.93,1.00]	0.95	[0.90,0.99]	0.95	[0.90,0.99]
High	0.63	[0.56,0.70]	0.52	[0.46,0.60]	0.46	[0.39,0.54]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.68E-02, a concordance index of 0.639 95CI[0.569,0.71] (p-value of 5.80E-05) and an integrated Brier score of 0.147.

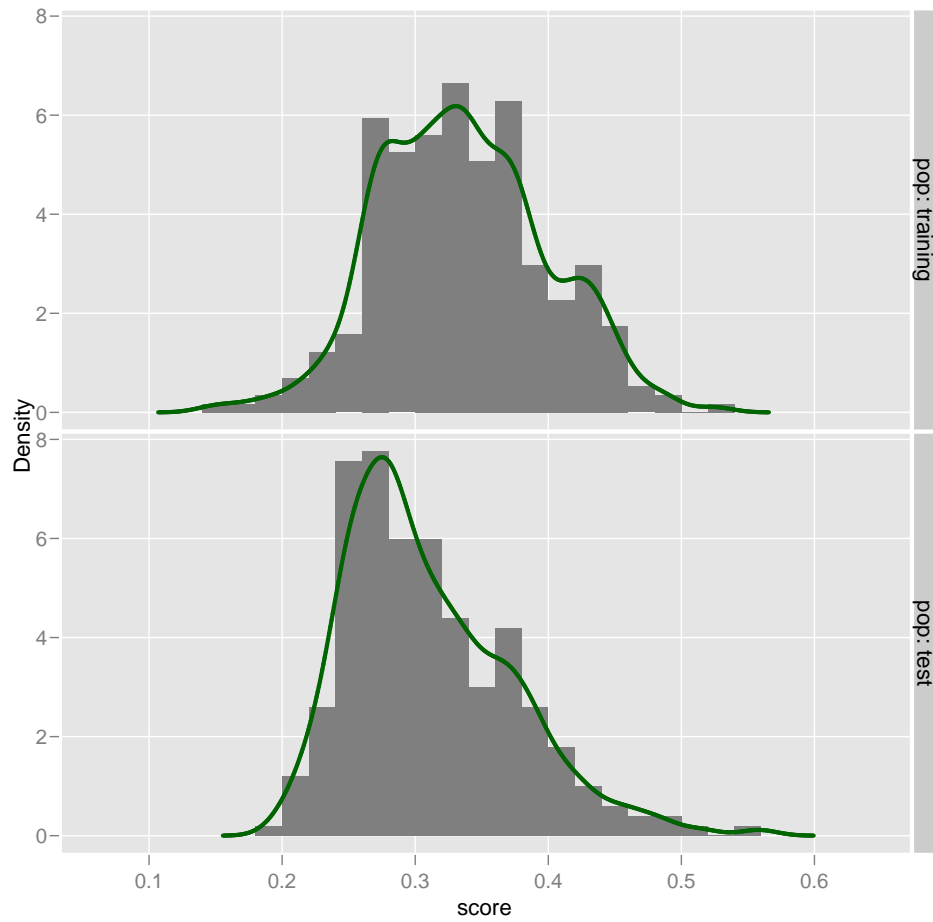
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 5.95E-03, a concordance index of 0.735 95CI[0.595,0.875] (p-value of 4.90E-04) and an integrated Brier score of 0.158. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.96	[0.92,1.00]	0.92	[0.86,0.98]	0.87	[0.80,0.95]
High	0.85	[0.80,0.91]	0.79	[0.73,0.86]	0.70	[0.63,0.78]

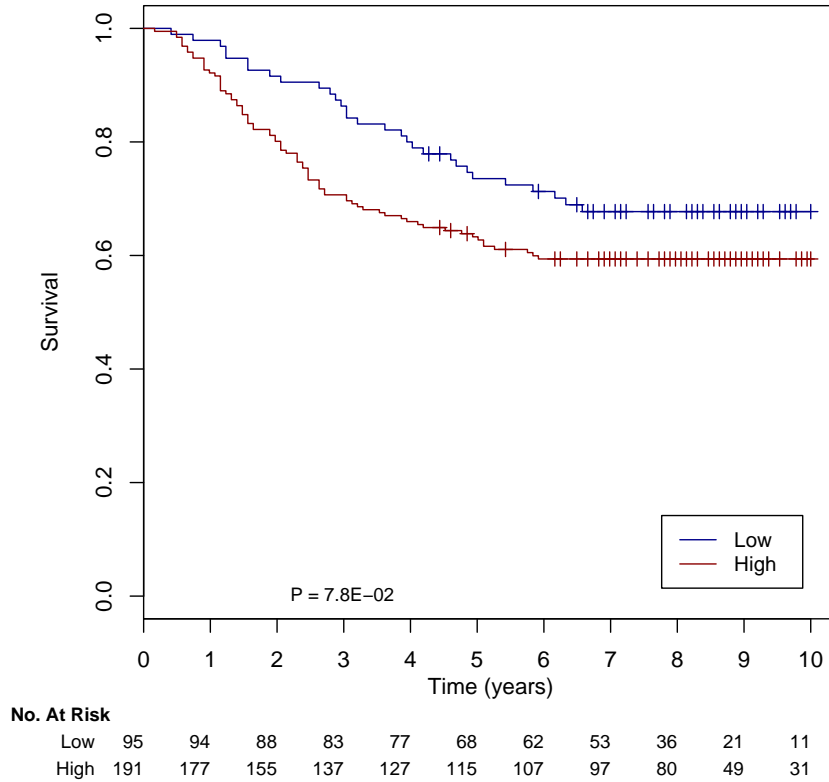
### 1.13 GW.PCA.COMBUNIV.WILCOXON.HG

The following figure shows the distribution of the ggi in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.94E-02, a concordance index of 0.586 95CI[0.533,0.64] (p-value of 7.81E-04) and an integrated Brier score of 0.186.

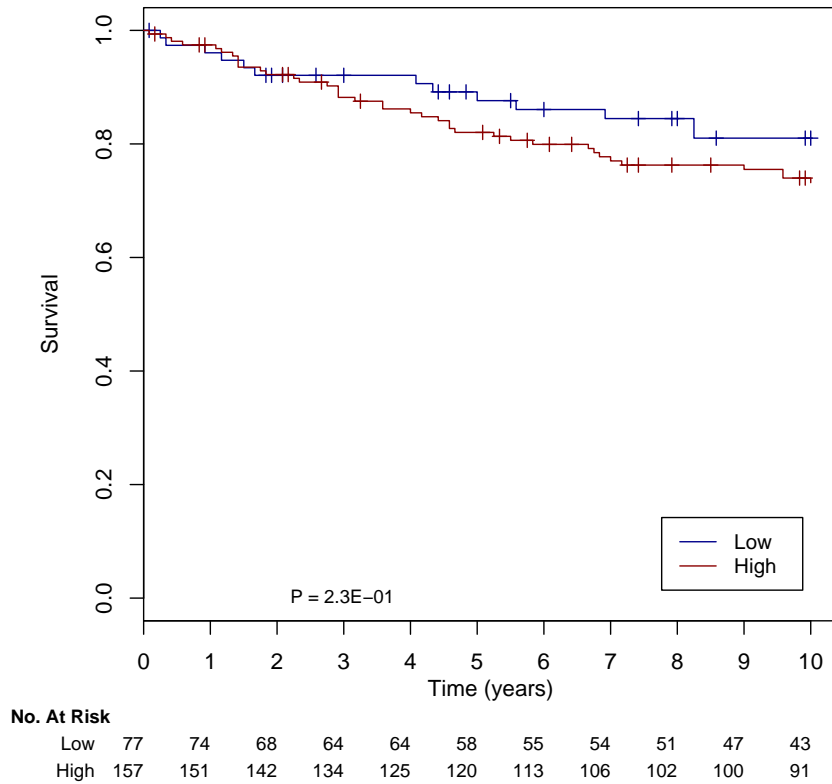
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 7.19E-02, a concordance index of 0.616 95CI[0.517,0.715] (p-value of 1.08E-02) and an integrated Brier score of 0.187. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.84	[0.77,0.92]	0.72	[0.64,0.82]	0.68	[0.59,0.78]
High	0.70	[0.63,0.76]	0.63	[0.56,0.70]	0.59	[0.53,0.67]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.51E-01, a concordance index of 0.579 95CI[0.494,0.664] (p-value of 3.35E-02) and an integrated Brier score of 0.148.

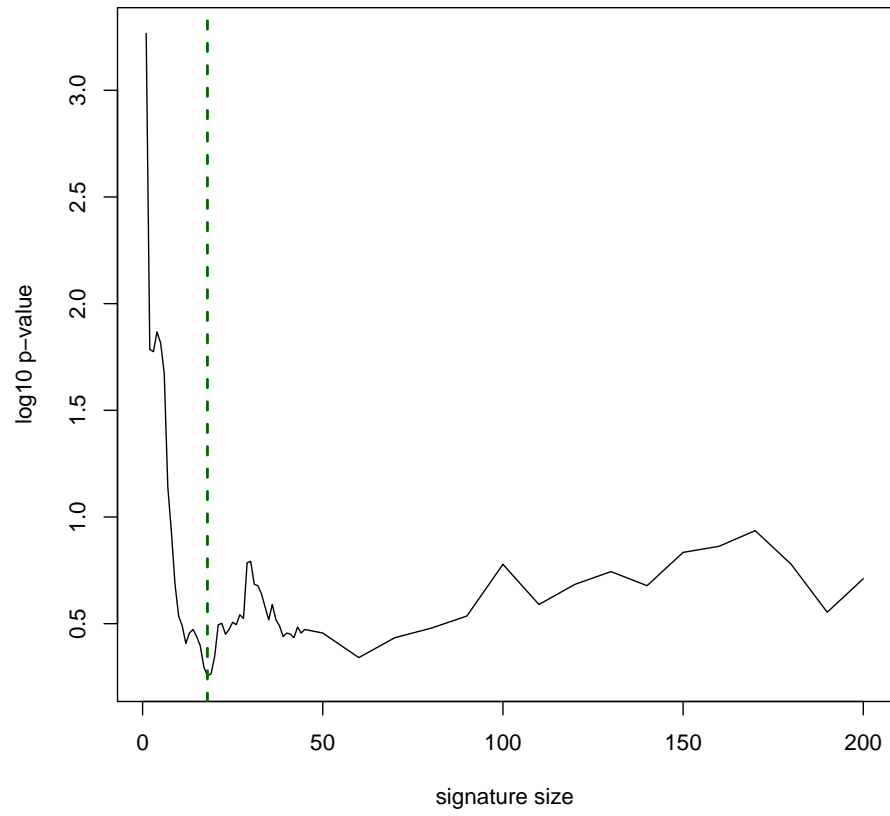
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 3.13E-01, a concordance index of 0.586 95CI[0.432,0.74] (p-value of 1.36E-01) and an integrated Brier score of 0.15. The following figure shows the Kaplan-Meier survival curves for the two groups :



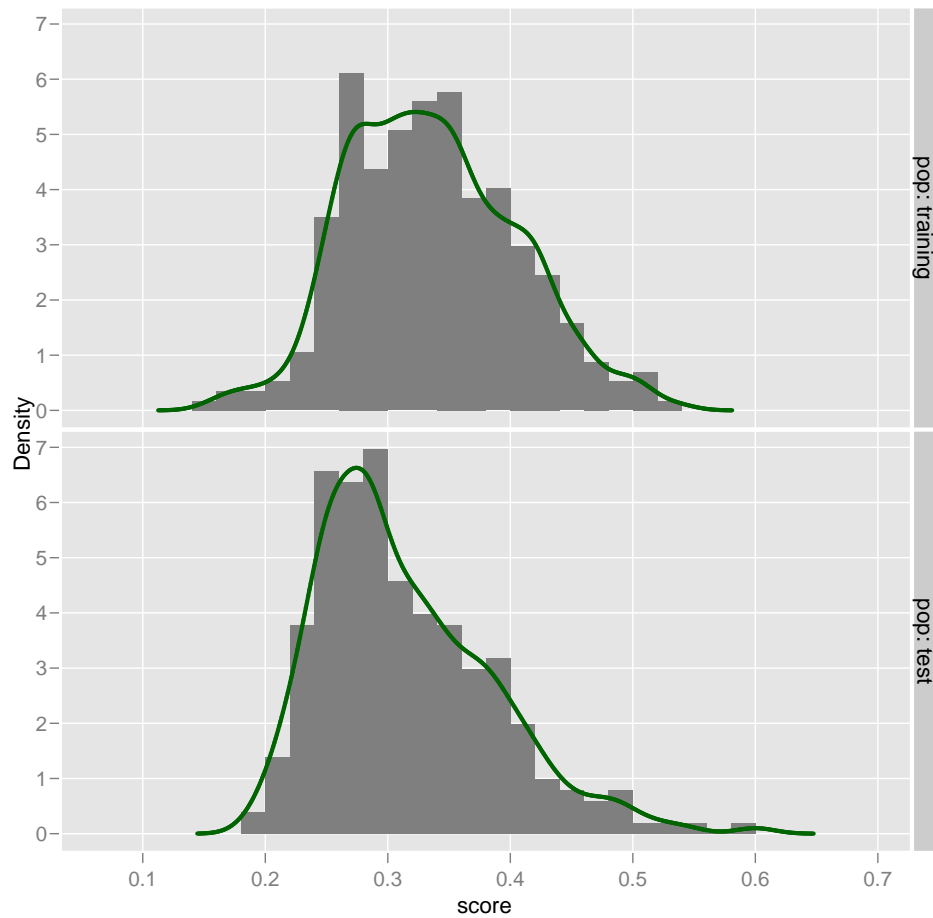
	3.years		5.years		10.years	
Low	0.92	[0.86,0.98]	0.88	[0.80,0.96]	0.81	[0.72,0.91]
High	0.88	[0.82,0.93]	0.82	[0.76,0.88]	0.73	[0.66,0.81]

#### 1.14 GW.PCACV.COMBUNIV.WILCOXON.HG

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 18):

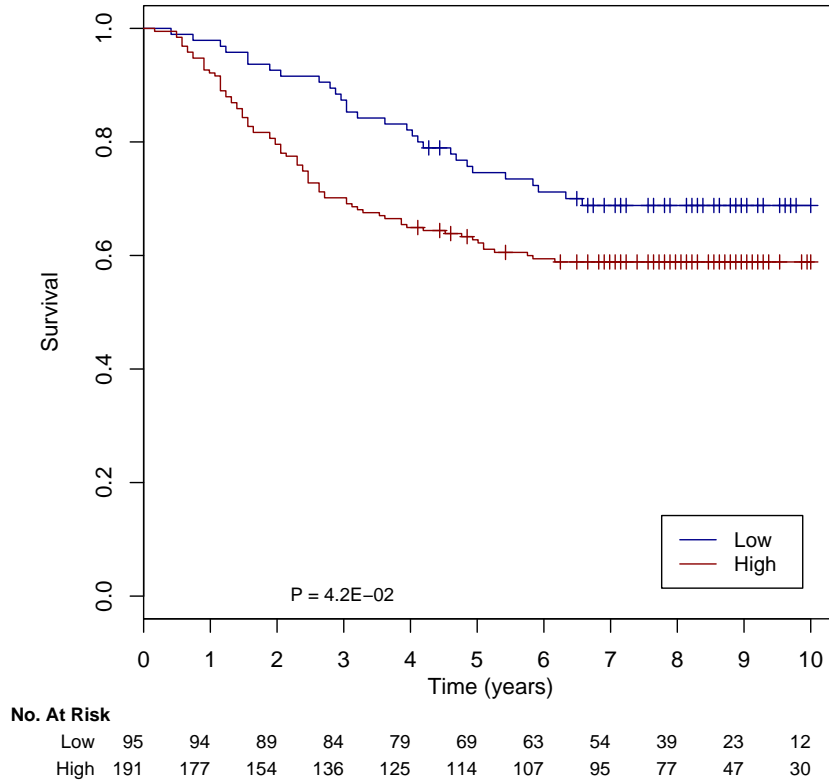


The following figure shows the distribution of the  $ggi$  in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 9.90E-03, a concordance index of 0.596 95CI[0.543,0.649] (p-value of 2.15E-04) and an integrated Brier score of 0.185.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 3.68E-02, a concordance index of 0.633 95CI[0.535,0.731] (p-value of 3.97E-03) and an integrated Brier score of 0.186. The following figure shows the Kaplan-Meier survival curves for the two groups :

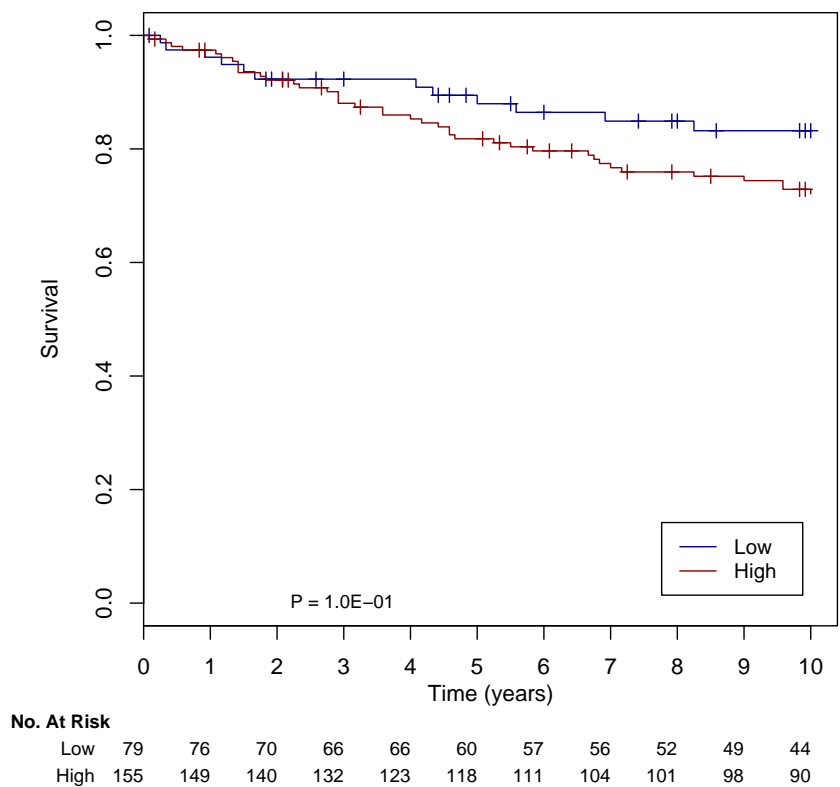


	3.years		5.years		10.years	
Low	0.85	[0.78,0.93]	0.73	[0.65,0.83]	0.69	[0.60,0.79]
High	0.69	[0.63,0.76]	0.62	[0.56,0.69]	0.59	[0.52,0.66]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 9.18E-02, a concordance index of 0.588 95CI[0.505,0.671] (p-value of 1.87E-02) and an integrated Brier score of 0.15.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 1.18E-01, a concordance index of 0.617 95CI[0.463,0.771] (p-value of 6.87E-02) and an integrated Brier score of 0.15. The following figure shows the Kaplan-Meier survival curves for the two groups :

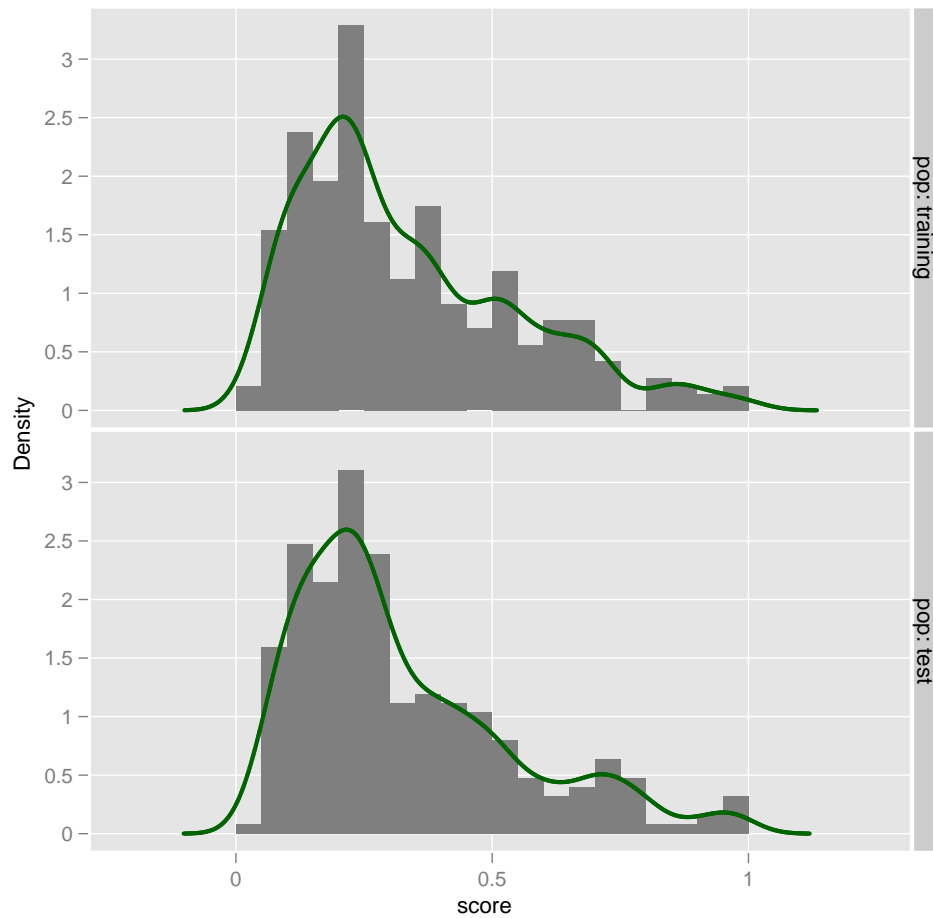




	3.years		5.years		10.years	
Low	0.92	[0.87,0.98]	0.88	[0.81,0.96]	0.83	[0.75,0.92]
High	0.87	[0.82,0.93]	0.82	[0.76,0.88]	0.72	[0.65,0.80]

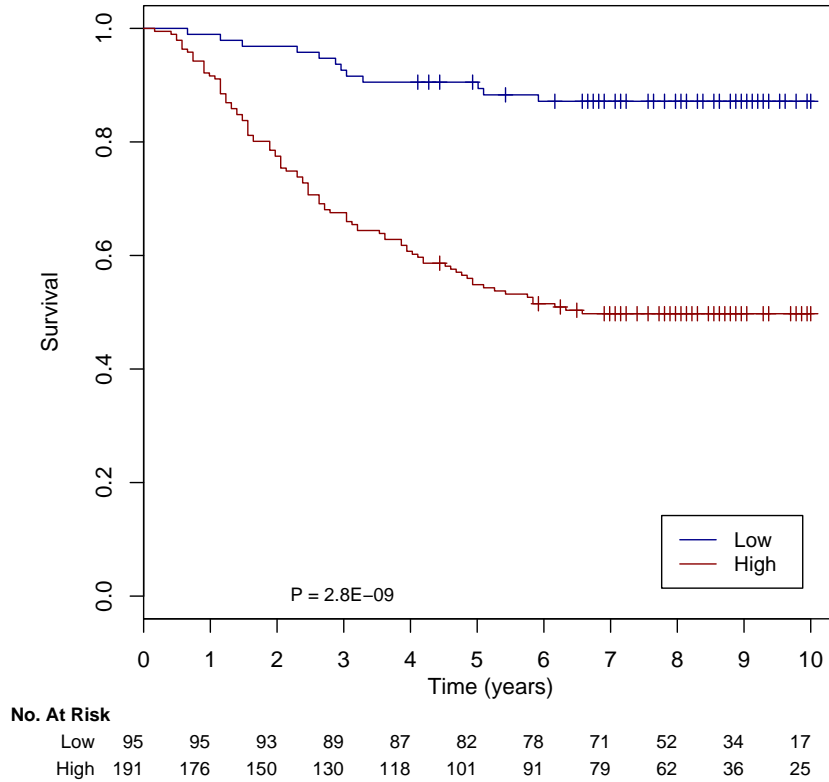
### 1.15 GW.PCA.COMBUNIV.COX.SURV

The following figure shows the distribution of the ggi in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 2.37E-16, a concordance index of 0.726 95CI[0.679,0.773] (p-value of 3.41E-21) and an integrated Brier score of 0.154.

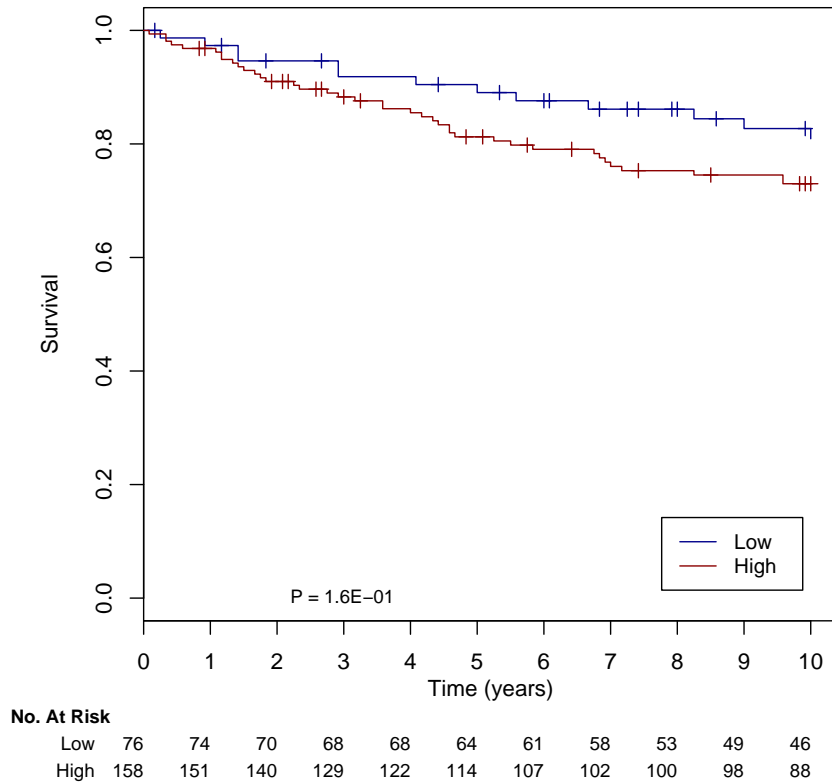
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 8.96E-11, a concordance index of 0.843 95CI[0.762,0.923] (p-value of 3.46E-17) and an integrated Brier score of 0.167. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.92	[0.86,0.97]	0.89	[0.83,0.96]	0.87	[0.81,0.94]
High	0.66	[0.60,0.73]	0.54	[0.48,0.62]	0.50	[0.43,0.57]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.78E-01, a concordance index of 0.594 95CI[0.517,0.67] (p-value of 8.00E-03) and an integrated Brier score of 0.177.

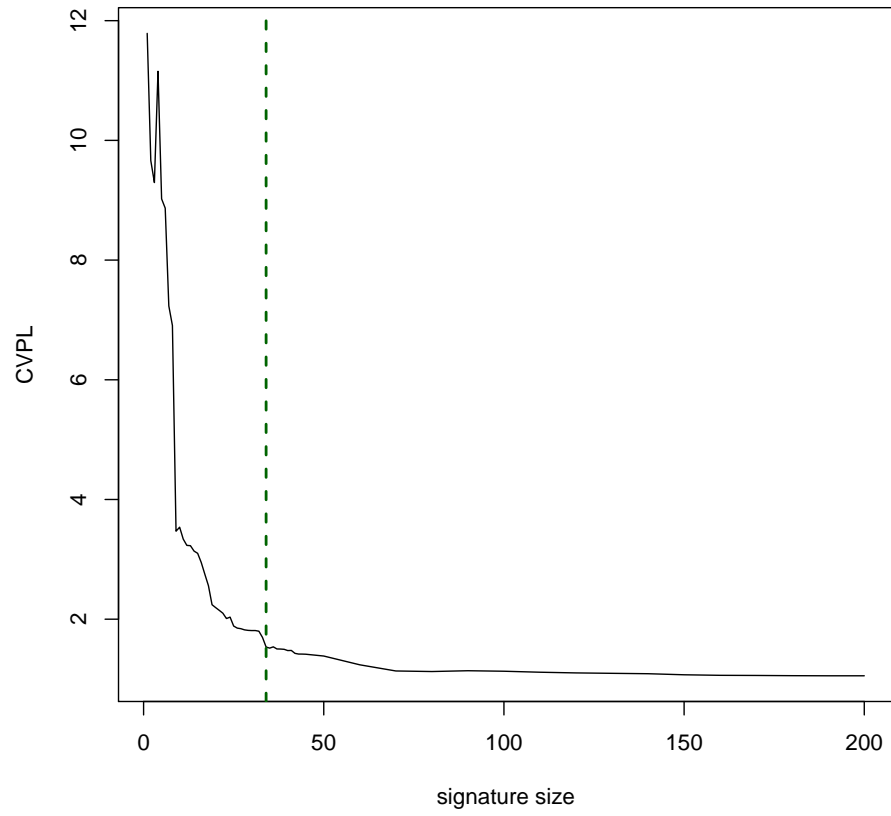
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 1.72E-01, a concordance index of 0.63 95CI[0.479,0.782] (p-value of 4.60E-02) and an integrated Brier score of 0.174. The following figure shows the Kaplan-Meier survival curves for the two groups :



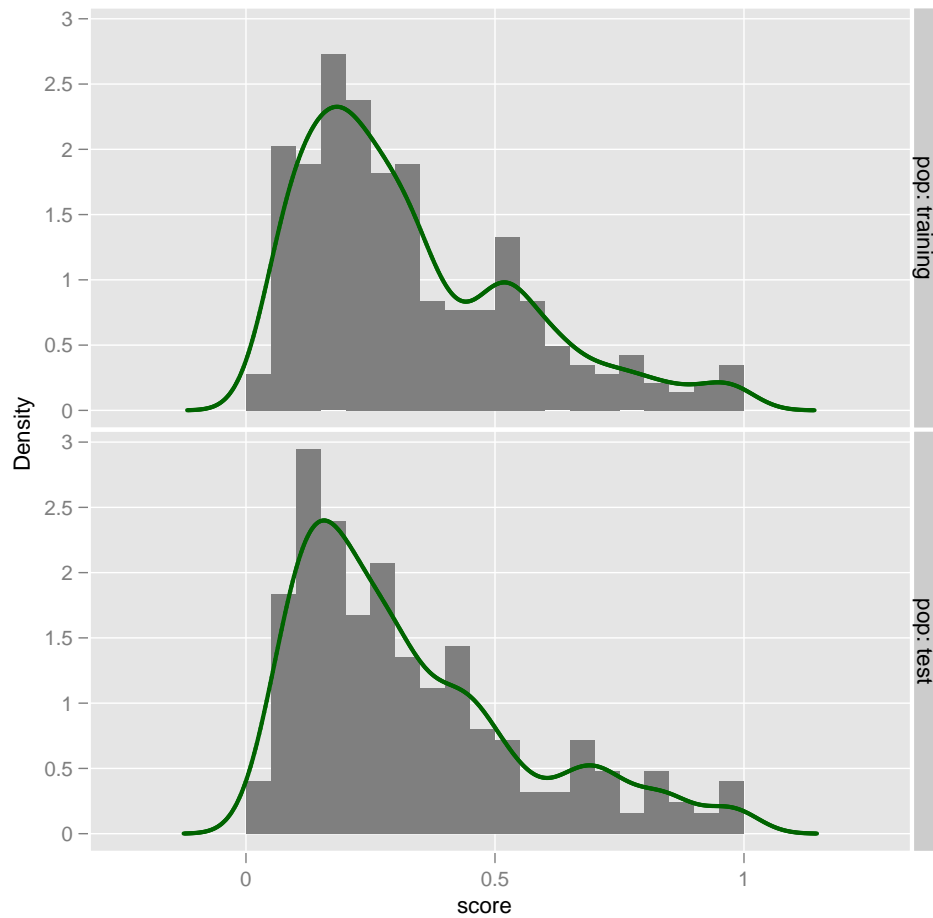
	3.years		5.years		10.years	
Low	0.90	[0.84,0.97]	0.89	[0.82,0.97]	0.81	[0.72,0.91]
High	0.88	[0.83,0.94]	0.81	[0.75,0.88]	0.73	[0.66,0.81]

### 1.16 GW.PCACV.COMBUNIV.COX.SURV

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 34):

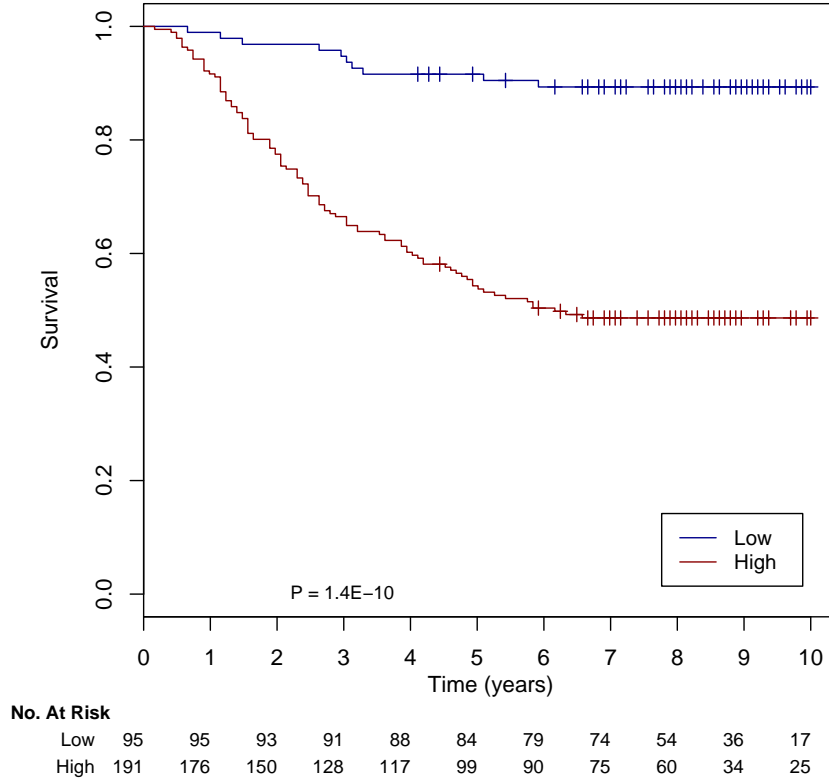


The following figure shows the distribution of the  $ggi$  in the two populations :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.23E-18, a concordance index of 0.747 95CI[0.702,0.793] (p-value of 1.16E-26) and an integrated Brier score of 0.149.

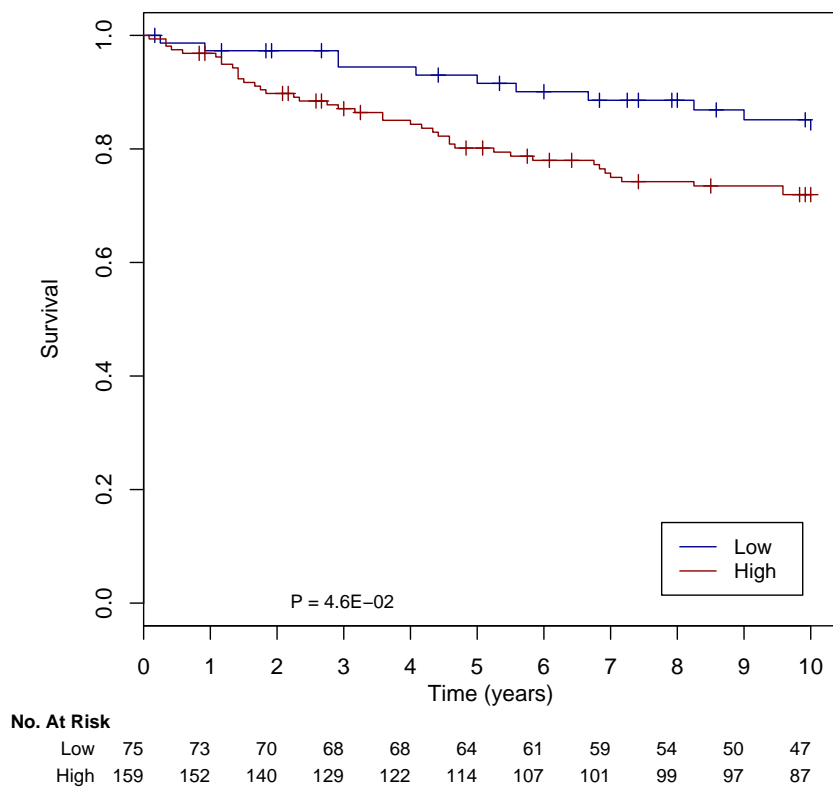
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 1.54E-12, a concordance index of 0.868 95CI[0.792,0.944] (p-value of 8.17E-22) and an integrated Brier score of 0.164. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.94	[0.89,0.99]	0.90	[0.85,0.97]	0.89	[0.83,0.96]
High	0.65	[0.58,0.72]	0.54	[0.47,0.61]	0.49	[0.42,0.56]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 1.66E-01, a concordance index of 0.598 95CI[0.523,0.673] (p-value of 5.07E-03) and an integrated Brier score of 0.185.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 6.55E-02, a concordance index of 0.691 95CI[0.543,0.839] (p-value of 5.65E-03) and an integrated Brier score of 0.173. The following figure shows the Kaplan-Meier survival curves for the two groups :

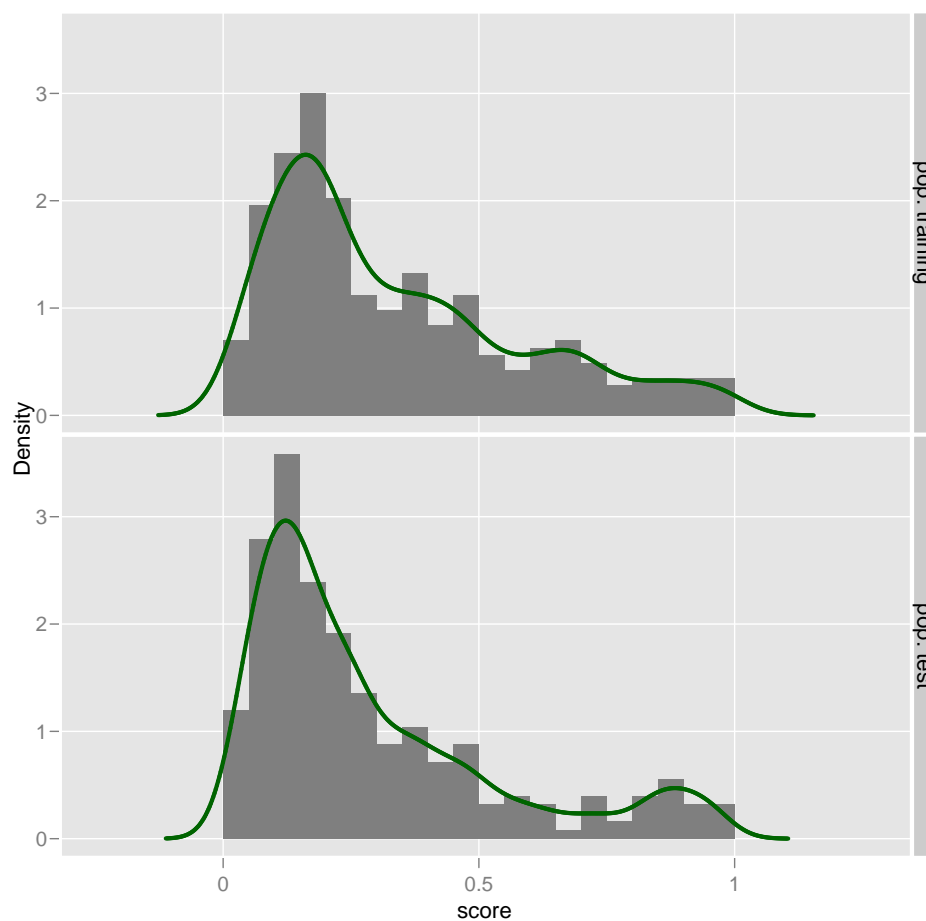


	3.years		5.years		10.years	
Low	0.93	[0.87,0.99]	0.92	[0.85,0.98]	0.83	[0.75,0.93]
High	0.87	[0.82,0.93]	0.80	[0.74,0.87]	0.72	[0.65,0.80]

### 1.17 GW.PCA.MULTIV.RCOX.SURV

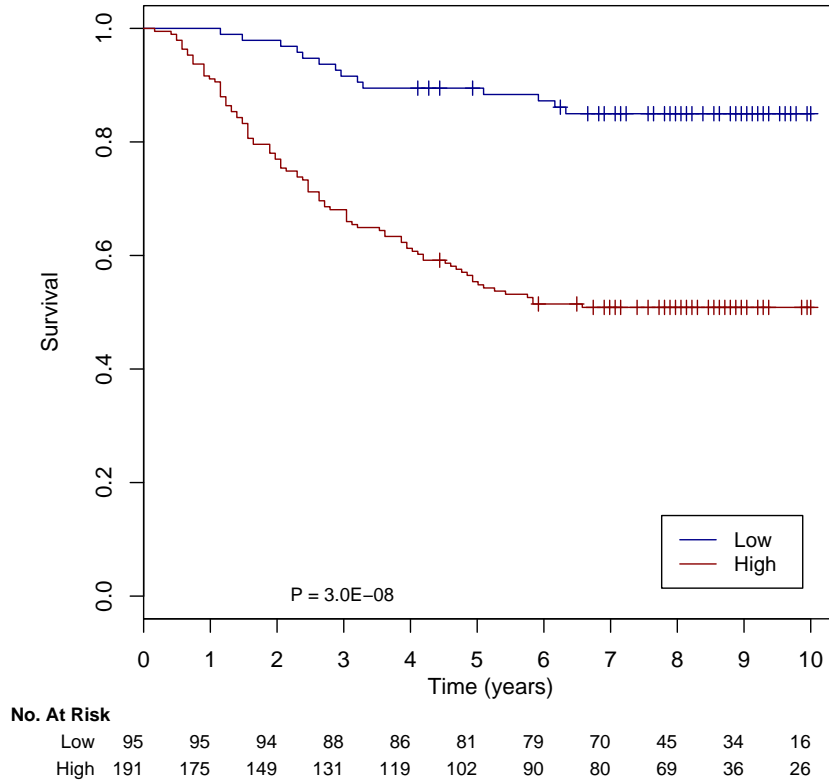
The following figure shows the distribution of the ggi :





**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 3.91E-21, a concordance index of 0.75 95CI[0.705,0.794] (p-value of 8.86E-29) and an integrated Brier score of 0.143.

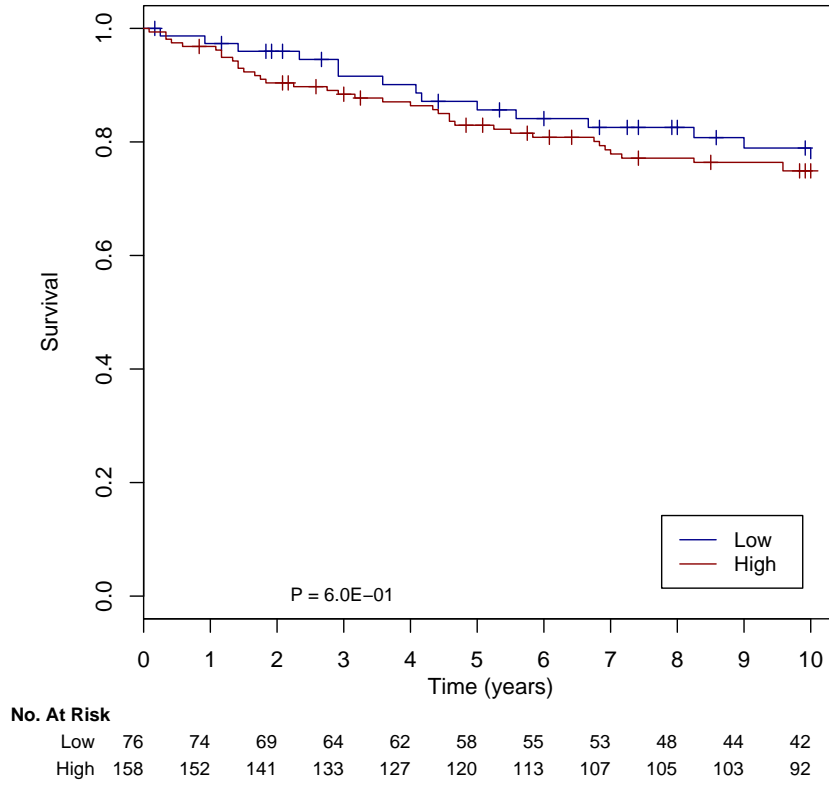
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 2.19E-09, a concordance index of 0.826 95CI[0.744,0.907] (p-value of 2.30E-15) and an integrated Brier score of 0.169. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.91	[0.85,0.97]	0.88	[0.82,0.95]	0.85	[0.78,0.93]
High	0.66	[0.60,0.73]	0.55	[0.48,0.62]	0.51	[0.44,0.59]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 9.00E-02, a concordance index of 0.591 95CI[0.509,0.672] (p-value of 1.43E-02) and an integrated Brier score of 0.176.

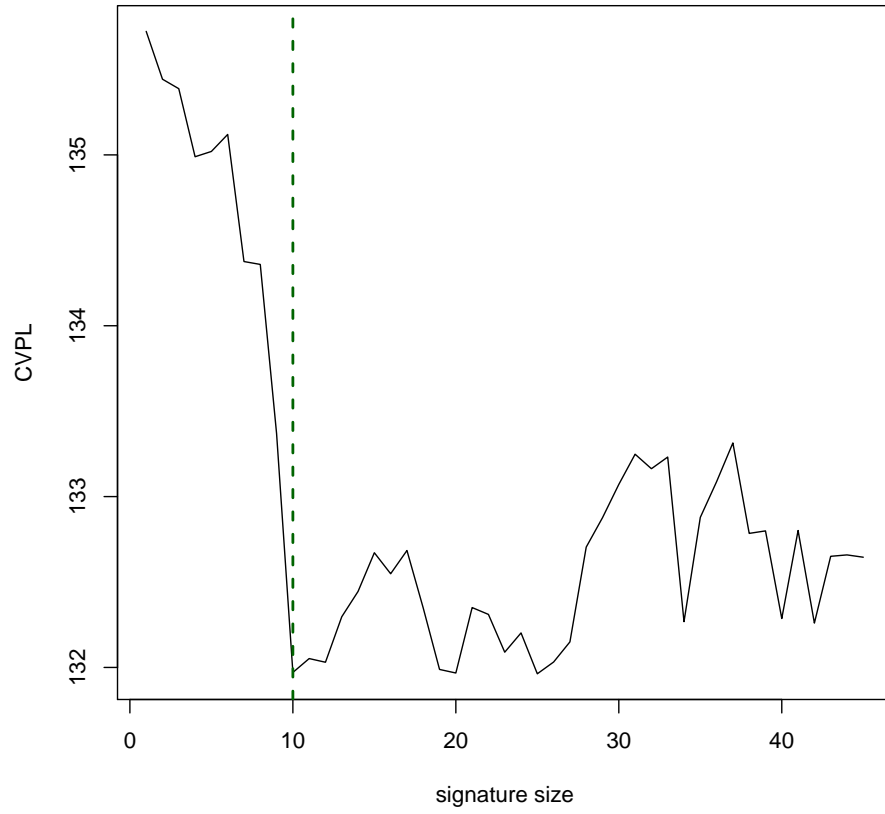
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 6.49E-01, a concordance index of 0.564 95CI[0.413,0.715] (p-value of 2.03E-01) and an integrated Brier score of 0.177. The following figure shows the Kaplan-Meier survival curves for the two groups :



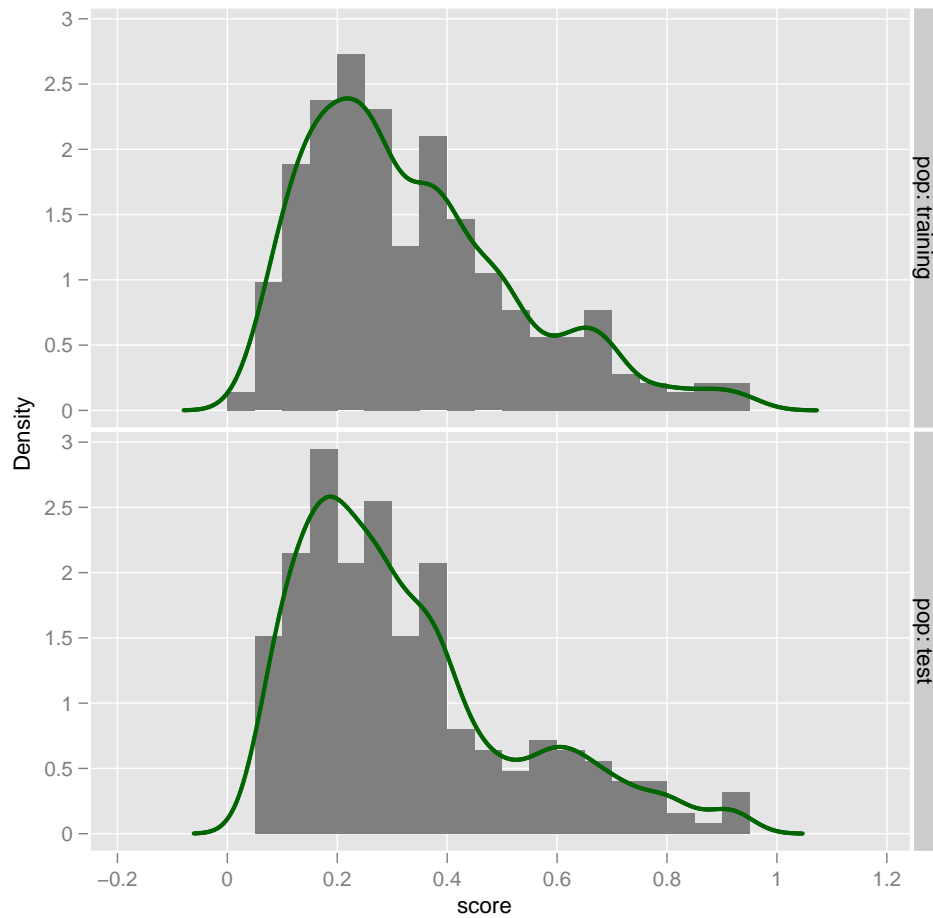
	3.years		5.years		10.years	
Low	0.90	[0.83,0.97]	0.86	[0.78,0.94]	0.77	[0.67,0.88]
High	0.88	[0.84,0.94]	0.83	[0.77,0.89]	0.75	[0.68,0.82]

### 1.18 GW.PCACV.MULTIV.RCOX.SURV

The following figure shows the evolution of the performance w.r.t. the signature size (best signature size is 10):

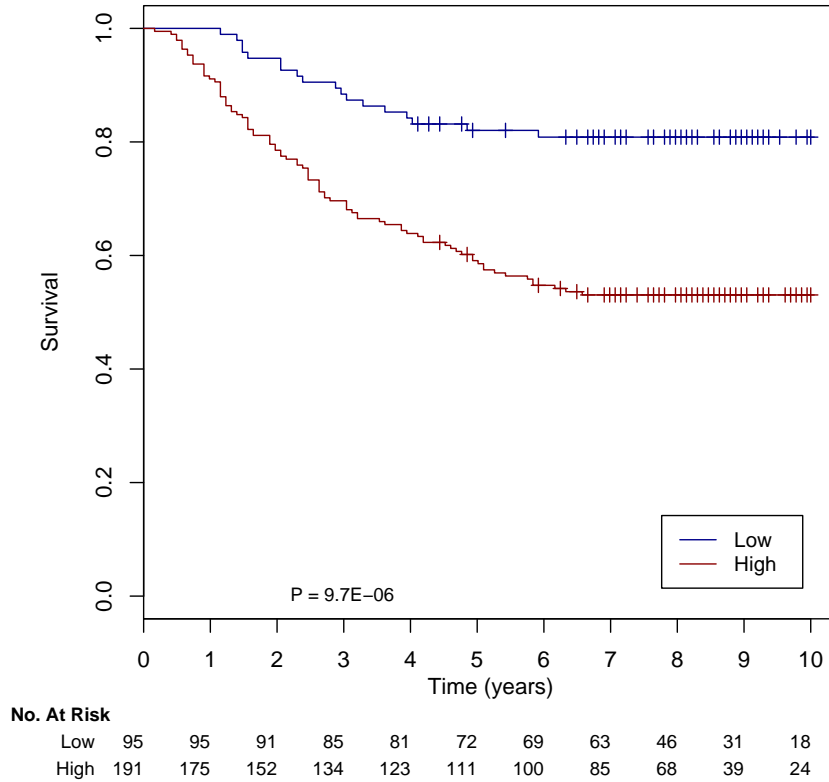


The following figure shows the distribution of the  $ggi$  :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 4.00E-13, a concordance index of 0.686 95CI[0.636,0.736] (p-value of 2.16E-13) and an integrated Brier score of 0.161.

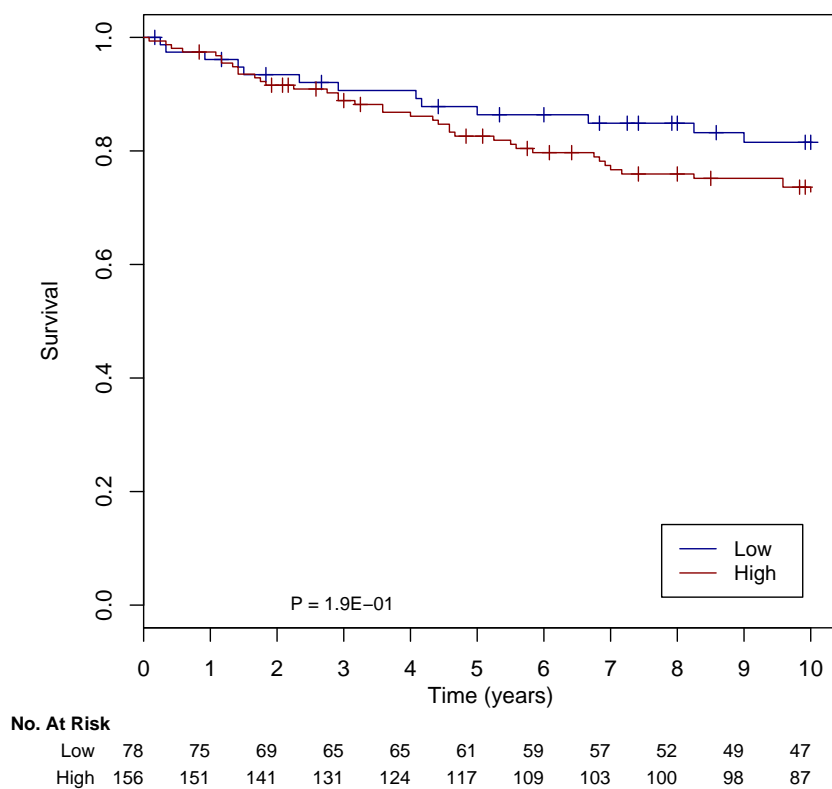
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 2.65E-06, a concordance index of 0.754 95CI[0.66,0.848] (p-value of 6.18E-08) and an integrated Brier score of 0.178. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.87	[0.81,0.94]	0.82	[0.75,0.90]	0.81	[0.73,0.89]
High	0.68	[0.62,0.75]	0.59	[0.52,0.66]	0.53	[0.46,0.61]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 2.21E-01, a concordance index of 0.566 95CI[0.487,0.645] (p-value of 5.17E-02) and an integrated Brier score of 0.176.

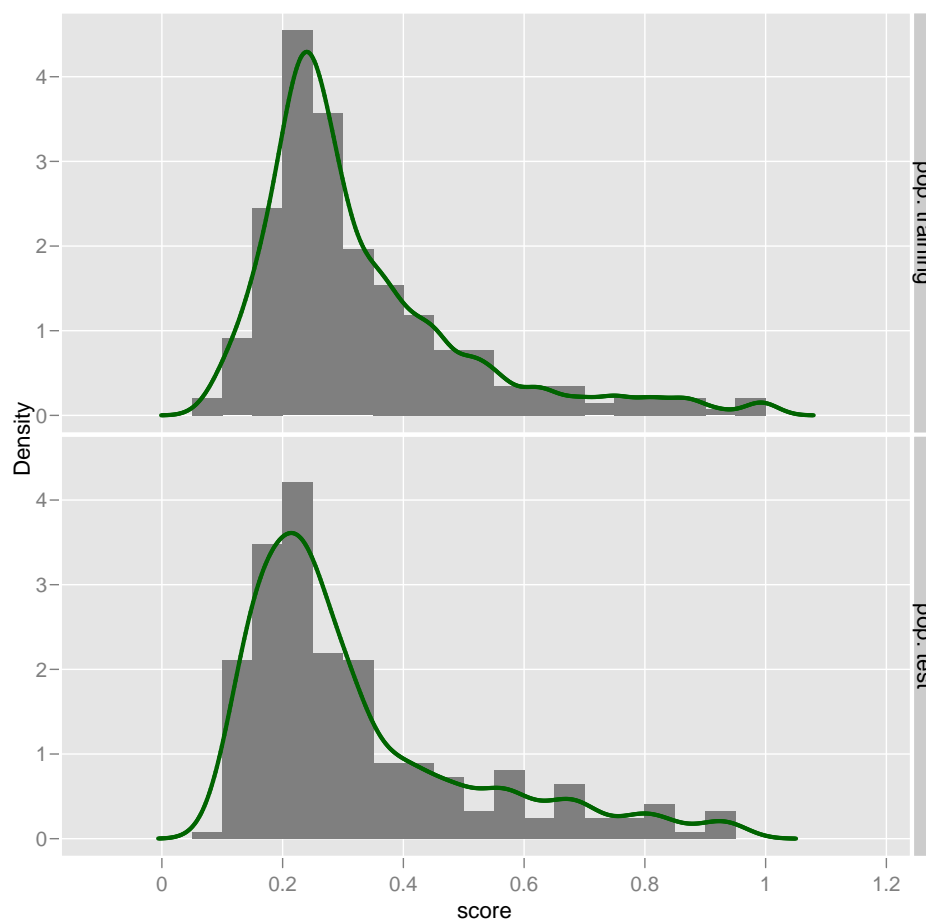
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 2.22E-01, a concordance index of 0.592 95CI[0.438,0.745] (p-value of 1.20E-01) and an integrated Brier score of 0.154. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.89	[0.82,0.97]	0.86	[0.79,0.95]	0.82	[0.73,0.91]
High	0.89	[0.84,0.94]	0.83	[0.77,0.89]	0.73	[0.66,0.81]

## 1.19 GENE76

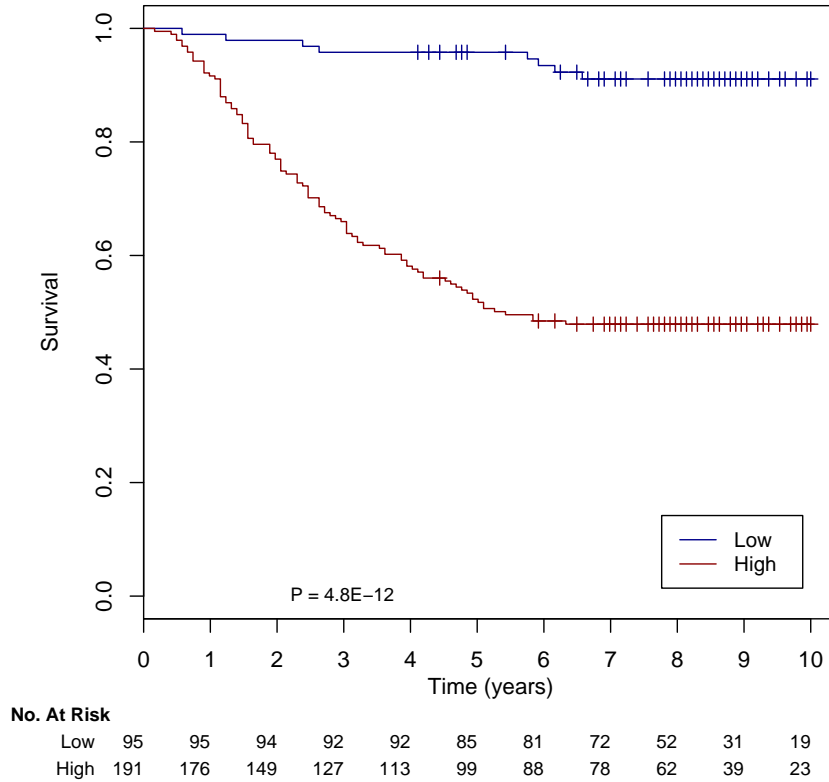
The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 2.63E-14, a concordance index of 0.754 95CI[0.713,0.795] (p-value of 2.22E-34) and an integrated Brier score of 0.158.

**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 1.21E-14, a concordance index of 0.903 95CI[0.838,0.969] (p-value of 4.23E-34) and an integrated Brier score of 0.16. The following figure shows the Kaplan-Meier survival curves for the two groups :

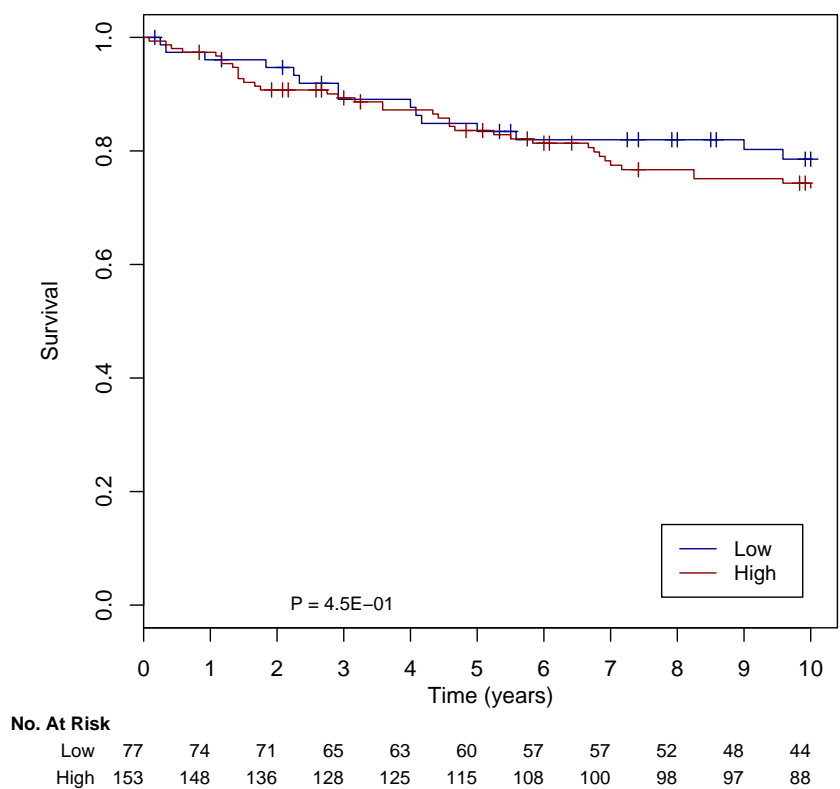




	3.years		5.years		10.years	
Low	0.96	[0.92,1.00]	0.96	[0.92,1.00]	0.91	[0.85,0.97]
High	0.64	[0.57,0.71]	0.52	[0.45,0.59]	0.48	[0.41,0.56]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 4.72E-01, a concordance index of 0.557 95CI[0.477,0.637] (p-value of 8.01E-02) and an integrated Brier score of 0.182.

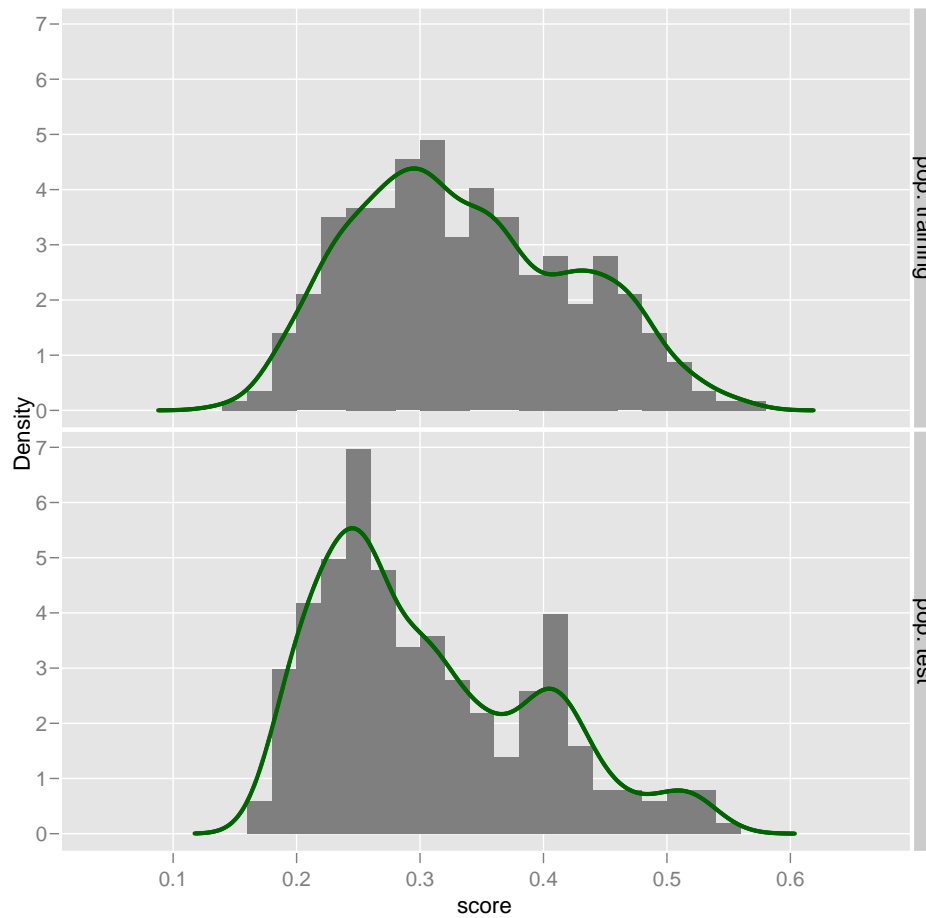
**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 6.35E-01, a concordance index of 0.548 95CI[0.398,0.698] (p-value of 2.64E-01) and an integrated Brier score of 0.17. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.88	[0.80,0.96]	0.83	[0.75,0.92]	0.79	[0.69,0.89]
High	0.89	[0.85,0.94]	0.84	[0.78,0.90]	0.73	[0.66,0.81]

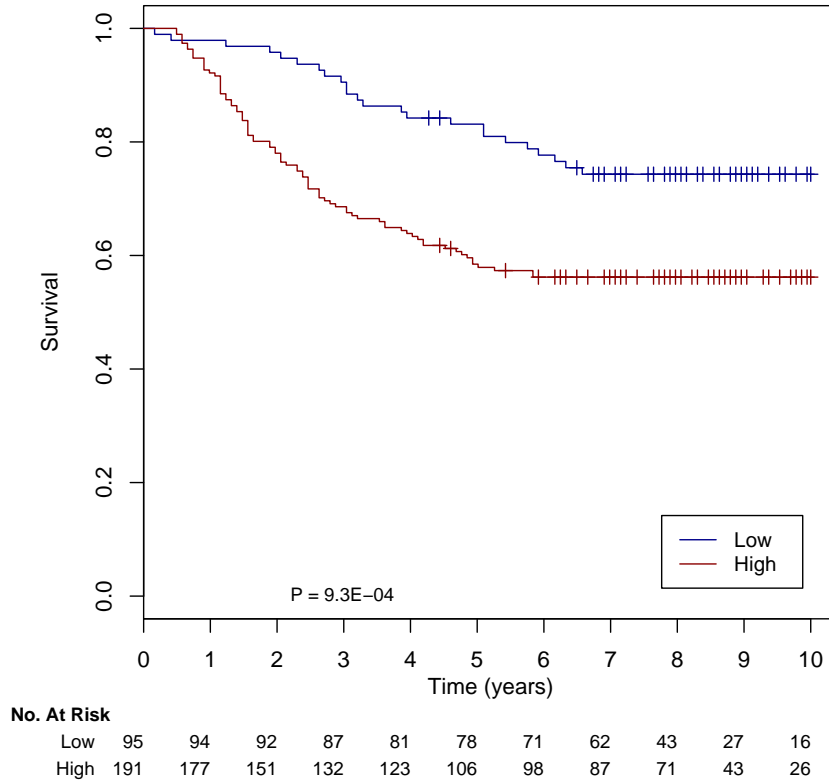
## 1.20 GGI

The following figure shows the distribution of the ggi :



**Risk Score** On TRAINING, the risk score exhibits a Cox p-value of 1.44E-03, a concordance index of 0.613 95CI[0.559,0.667] (p-value of 2.15E-05) and an integrated Brier score of 0.183.

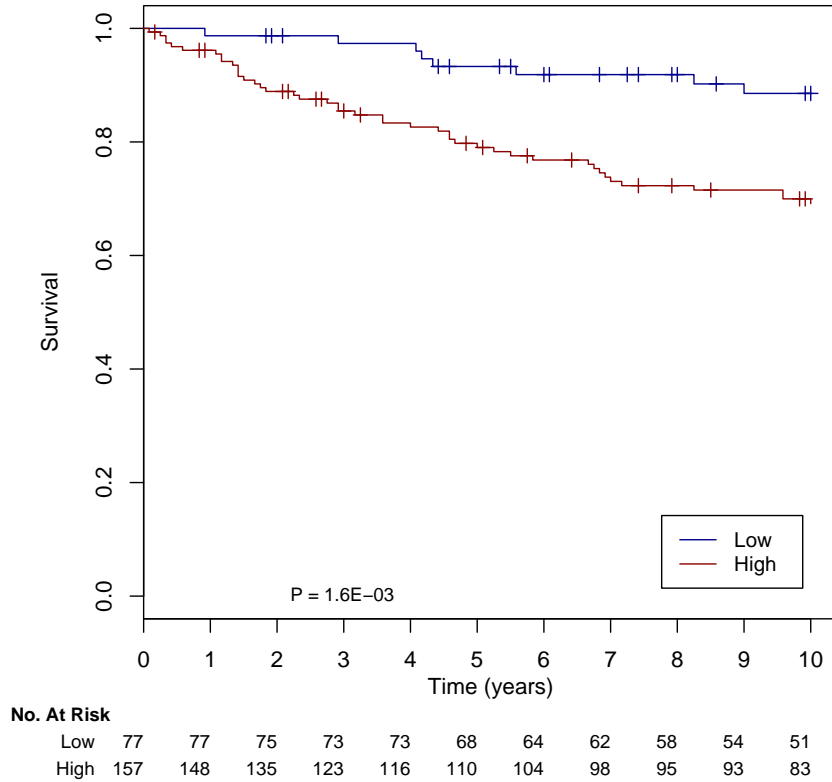
**Risk Group** On TRAINING, the binary classification computed from the risk score exhibits a Cox p-value of 5.72E-04, a concordance index of 0.706 95CI[0.611,0.8] (p-value of 9.82E-06) and an integrated Brier score of 0.181. The following figure shows the Kaplan-Meier survival curves for the two groups :



	3.years		5.years		10.years	
Low	0.88	[0.82,0.95]	0.81	[0.73,0.89]	0.74	[0.66,0.84]
High	0.68	[0.61,0.75]	0.58	[0.51,0.65]	0.56	[0.50,0.64]

**Risk Score** On TEST, the risk score exhibits a Cox p-value of 2.68E-04, a concordance index of 0.67 95CI[0.602,0.738] (p-value of 5.52E-07) and an integrated Brier score of 0.142.

**Risk Group** On TEST, the binary classification computed from the risk score exhibits a Cox p-value of 2.29E-03, a concordance index of 0.769 95CI[0.635,0.903] (p-value of 4.17E-05) and an integrated Brier score of 0.145. The following figure shows the Kaplan-Meier survival curves for the two groups :

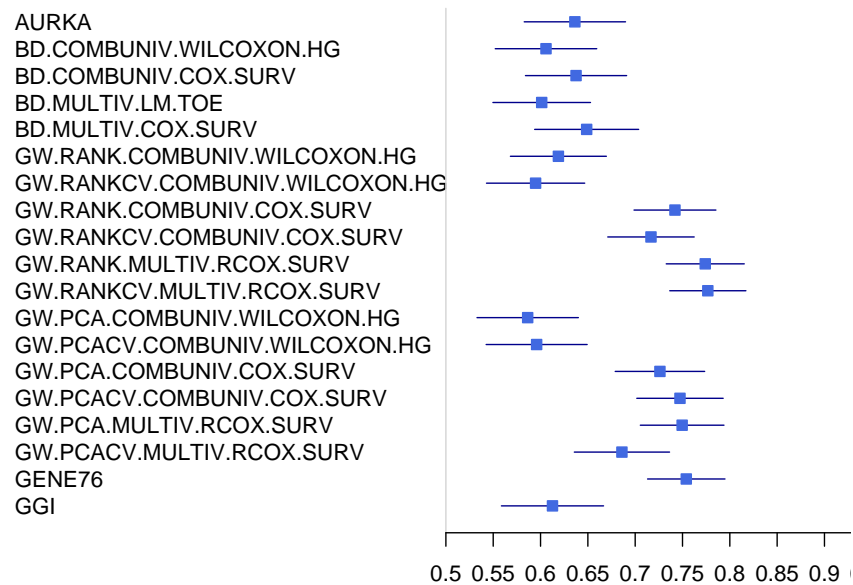


	3.years		5.years		10.years	
Low	0.96	[0.92,1.00]	0.93	[0.88,0.99]	0.89	[0.81,0.96]
High	0.85	[0.80,0.91]	0.79	[0.73,0.86]	0.69	[0.62,0.77]

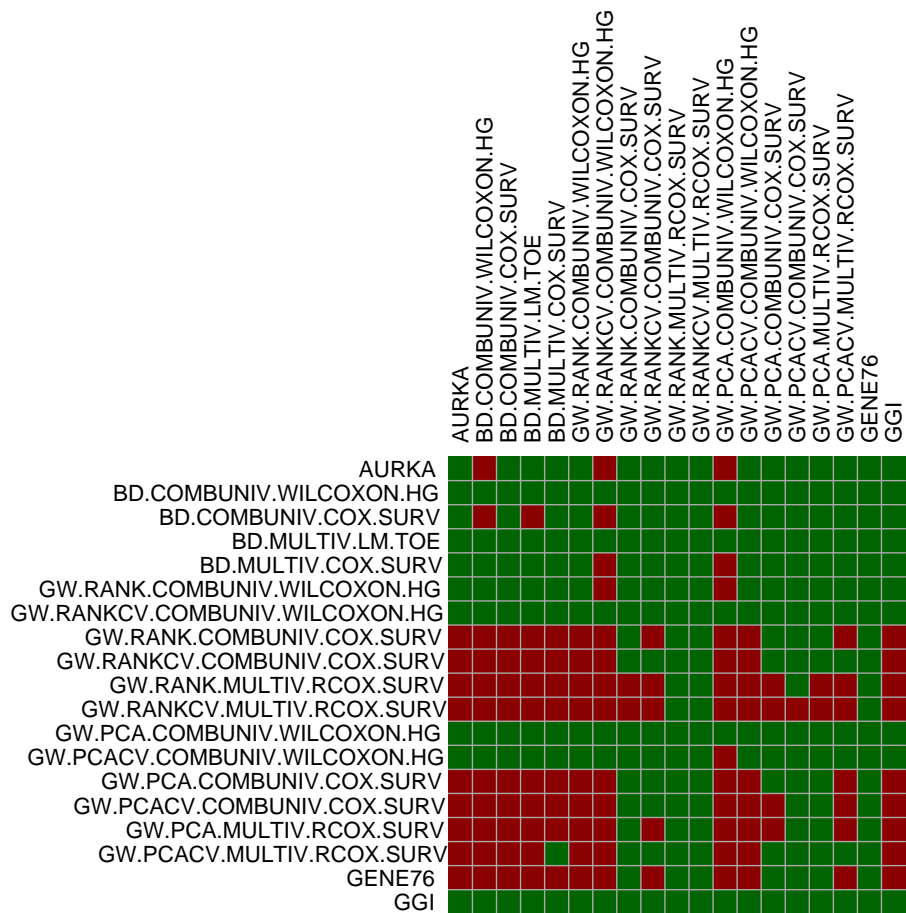
## 1.21 Model Comparison

### 1.21.1 Training Set

**Concordance Index for Risk Score** The following foresplot shows the concordance indices and their confidence interval for each method :



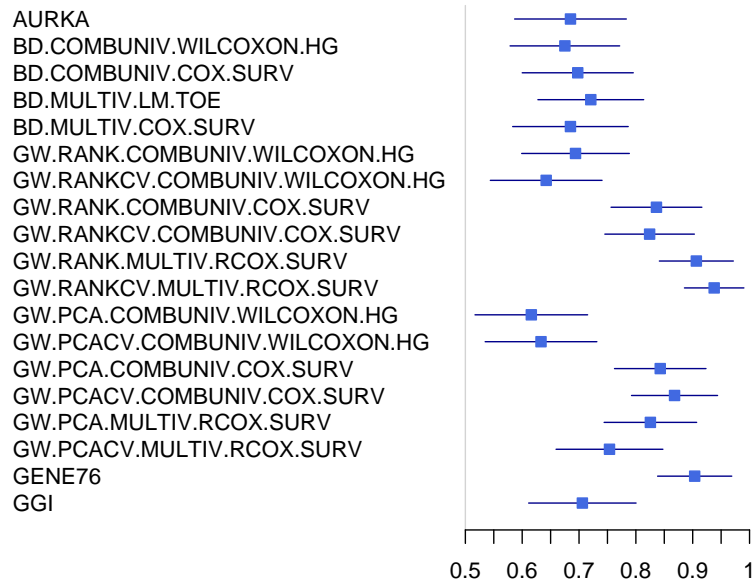
The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row against the method in column. A green box represents no significant superiority (Student t test p-value  $\geq 0.05$ ) of the method in row against the method in column.



The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	concordance.index
AURKA	0.636
BD.COMBUNIV.WILCOXON.HG	0.606
BD.COMBUNIV.COX.SURV	0.638
BD.MULTIV.LM.TOE	0.601
BD.MULTIV.COX.SURV	0.649
GW.RANK.COMBUNIV.WILCOXON.HG	0.619
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.595
GW.RANK.COMBUNIV.COX.SURV	<b>0.742</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.717</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.774</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.777</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.586
GW.PCACV.COMBUNIV.WILCOXON.HG	0.596
GW.PCA.COMBUNIV.COX.SURV	<b>0.726</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>0.747</b>
GW.PCA.MULTIV.RCOX.SURV	<b>0.75</b>
GW.PCACV.MULTIV.RCOX.SURV	<b>0.686</b>
GENE76	<b>0.754</b>
GGI	0.613

**Concordance Index for Risk Group** The following foresplot shows the concordance indices and their confidence interval for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row against the method in column. A green box represents no significant superiority (Student t test p-value  $\geq 0.05$ ) of the method in row against the method in column.

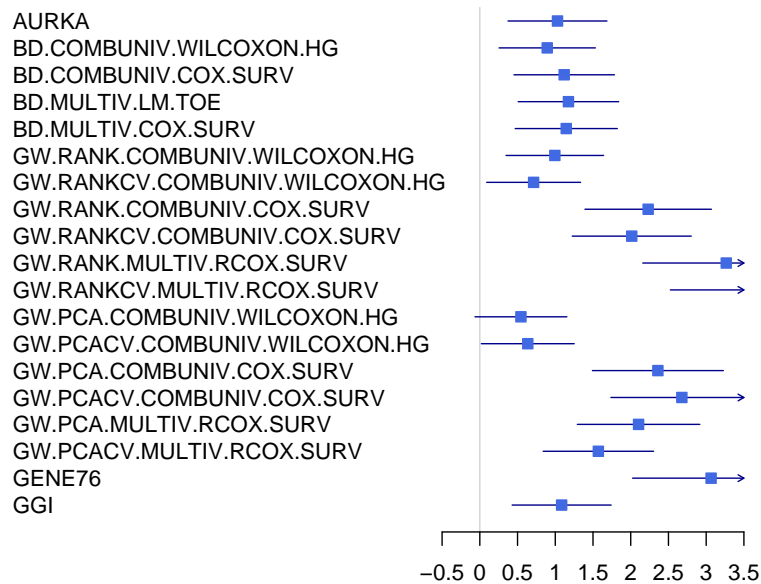


	AURKA	BD.COMBUNIV.WILCOXON.HG	BD.COMBUNIV.COX.SURV	BD.MULTIV.LM.TOE	BD.MULTIV.COX.SURV	GW.RANK.COMBUNIV.WILCOXON.HG	GW.RANKCV.COMBUNIV.WILCOXON.HG	GW.RANK.COMBUNIV.COX.SURV	GW.RANKCV.COMBUNIV.COX.SURV	GW.RANK.MULTIV.RCOX.SURV	GW.RANKCV.MULTIV.RCOX.SURV	GW.PCA.COMBUNIV.WILCOXON.HG	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.COMBUNIV.COX.SURV	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.MULTIV.RCOX.SURV	GW.PCACV.MULTIV.RCOX.SURV	GENE76	GGI
AURKA																			
BD.COMBUNIV.WILCOXON.HG																			
BD.COMBUNIV.COX.SURV																			
BD.MULTIV.LM.TOE																			
BD.MULTIV.COX.SURV																			
GW.RANK.COMBUNIV.WILCOXON.HG																			
GW.RANKCV.COMBUNIV.WILCOXON.HG																			
GW.RANK.COMBUNIV.COX.SURV																			
GW.RANKCV.COMBUNIV.COX.SURV																			
GW.RANK.MULTIV.RCOX.SURV																			
GW.RANKCV.MULTIV.RCOX.SURV																			
GW.PCA.COMBUNIV.WILCOXON.HG																			
GW.PCACV.COMBUNIV.WILCOXON.HG																			
GW.PCA.COMBUNIV.COX.SURV																			
GW.PCACV.COMBUNIV.COX.SURV																			
GW.PCA.MULTIV.RCOX.SURV																			
GW.PCACV.MULTIV.RCOX.SURV																			
GENE76																			
GGI																			

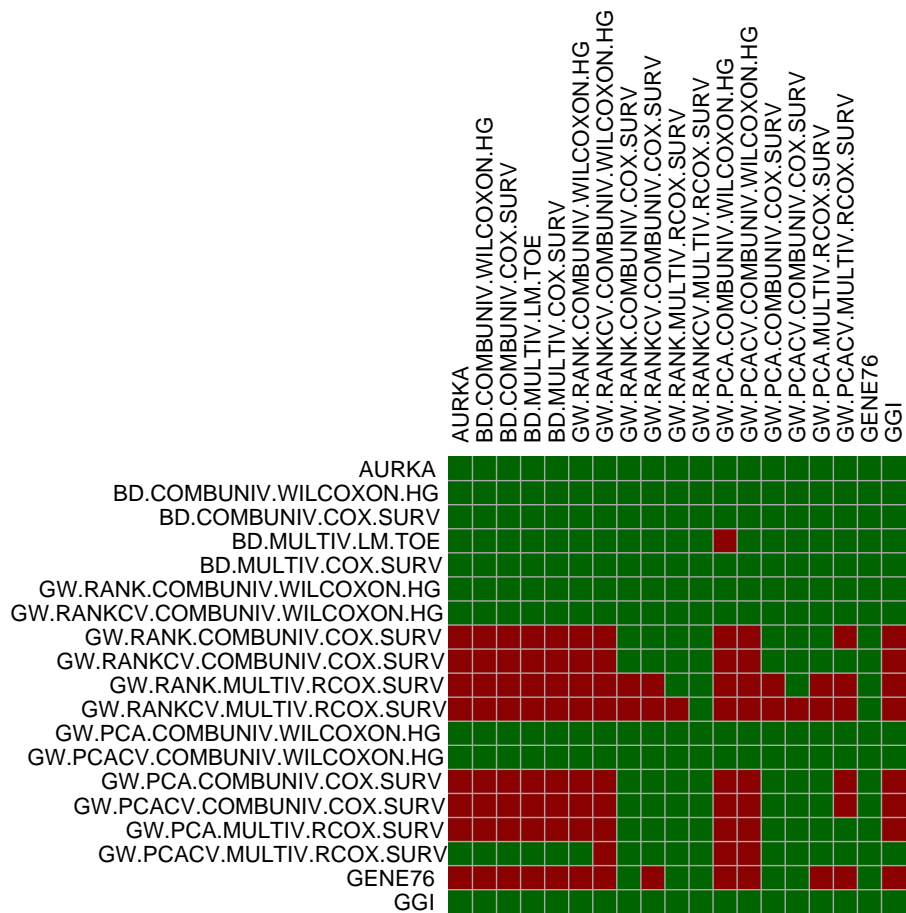
The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	concordance.index
AURKA	0.685
BD.COMBUNIV.WILCOXON.HG	0.675
BD.COMBUNIV.COX.SURV	0.698
BD.MULTIV.LM.TOE	0.721
BD.MULTIV.COX.SURV	0.685
GW.RANK.COMBUNIV.WILCOXON.HG	0.694
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.642
GW.RANK.COMBUNIV.COX.SURV	<b>0.836</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.824</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.906</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.938</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.616
GW.PCACV.COMBUNIV.WILCOXON.HG	0.633
GW.PCA.COMBUNIV.COX.SURV	<b>0.843</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>0.868</b>
GW.PCA.MULTIV.RCOX.SURV	<b>0.826</b>
GW.PCACV.MULTIV.RCOX.SURV	0.754
GENE76	<b>0.903</b>
GGI	0.706

**Hazard Ratio for Risk Group** The following foresplot shows the hazard ratios and their confidence interval for each method :



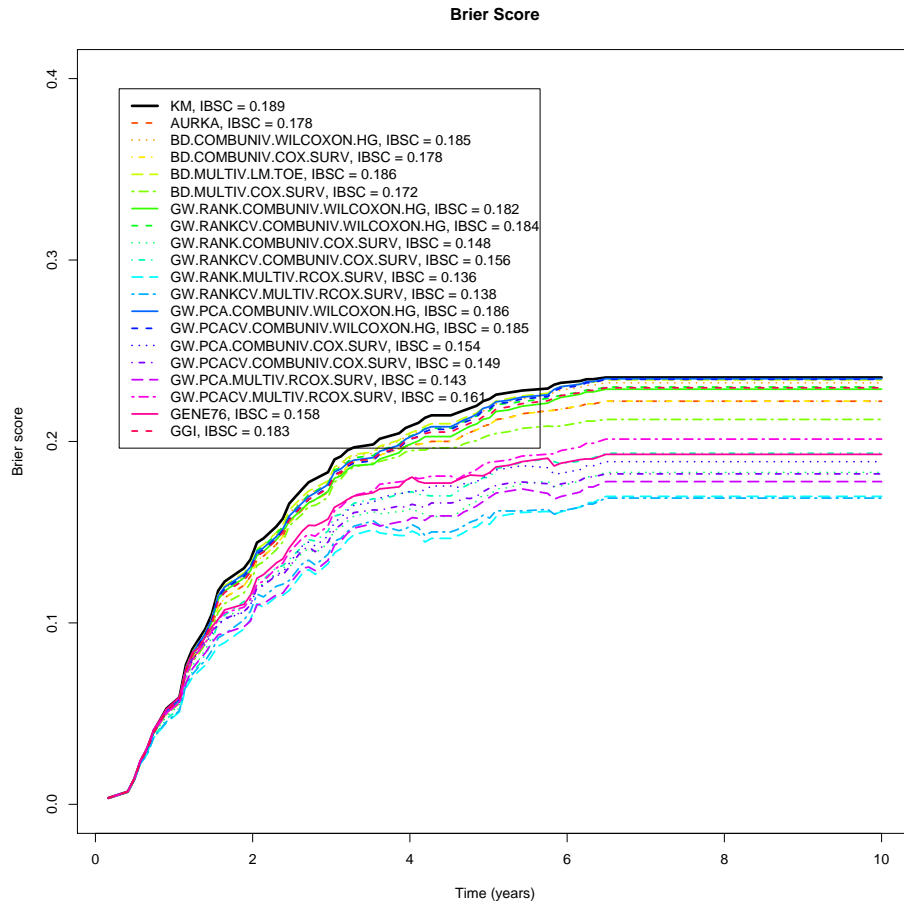
The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row against the method in column. A green box represents no significant superiority (Student t test p-value >= 0.05) of the method in row against the method in column.



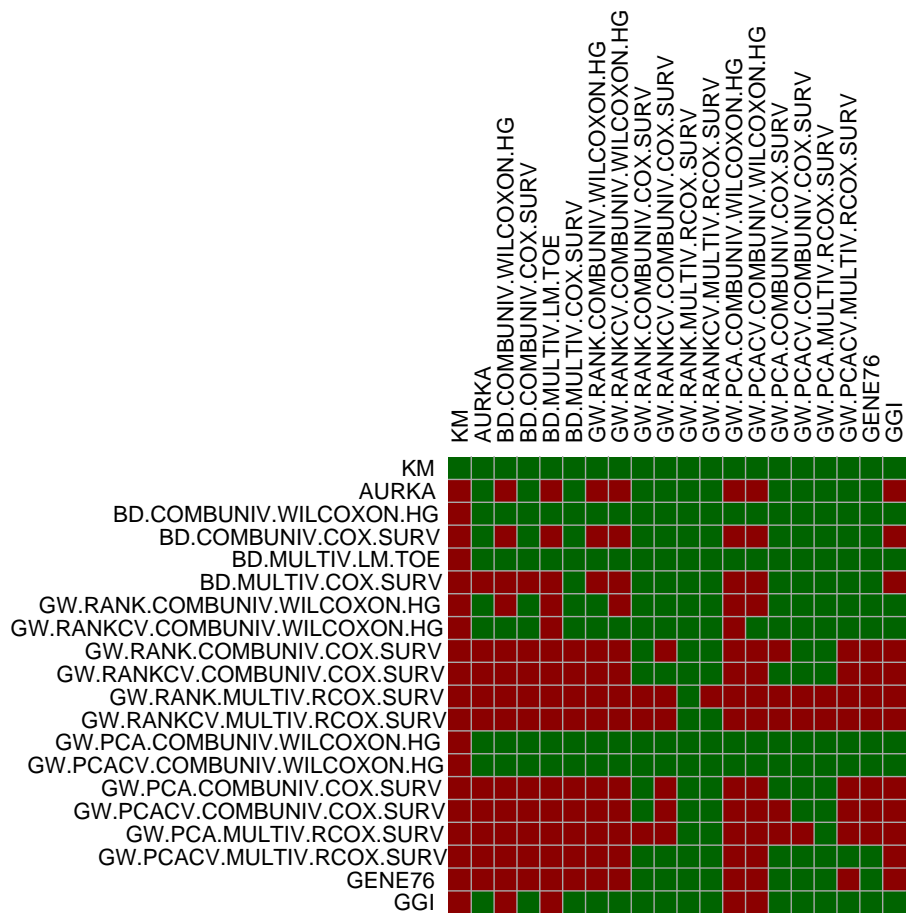
The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	HR
AURKA	2.04
BD.COMBUNIV.WILCOXON.HG	1.86
BD.COMBUNIV.COX.SURV	2.17
BD.MULTIV.LM.TOE	2.26
BD.MULTIV.COX.SURV	2.21
GW.RANK.COMBUNIV.WILCOXON.HG	1.99
GW.RANKCV.COMBUNIV.WILCOXON.HG	1.64
GW.RANK.COMBUNIV.COX.SURV	<b>4.69</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>4.04</b>
GW.RANK.MULTIV.RCOX.SURV	<b>9.62</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>14.1</b>
GW.PCA.COMBUNIV.WILCOXON.HG	1.46
GW.PCACV.COMBUNIV.WILCOXON.HG	1.55
GW.PCA.COMBUNIV.COX.SURV	<b>5.13</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>6.4</b>
GW.PCA.MULTIV.RCOX.SURV	<b>4.3</b>
GW.PCACV.MULTIV.RCOX.SURV	2.97
GENE76	<b>8.37</b>
GGI	2.12

**Brier Score for Risk Score** The following figure shows the Brier score w.r.t. the time for each method :



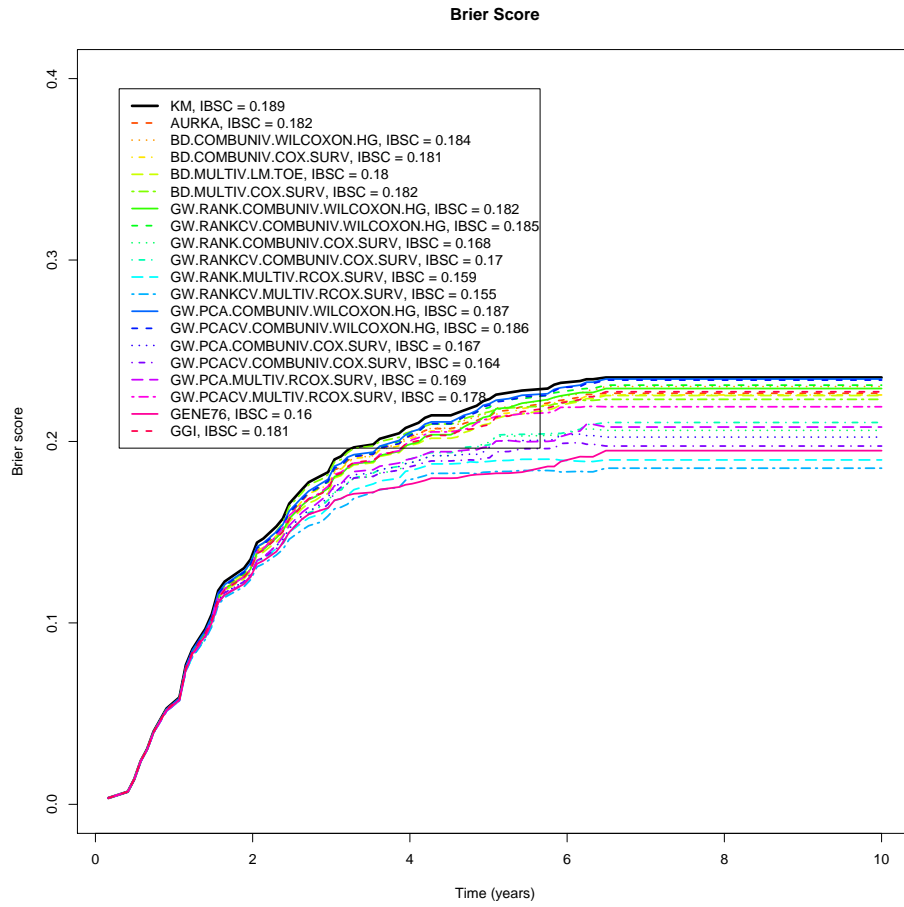
The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.



The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	IBSC
KM	0.189
AURKA	<b>0.178</b>
BD.COMBUNIV.WILCOXON.HG	0.185
BD.COMBUNIV.COX.SURV	0.178
BD.MULTIV.LM.TOE	0.186
BD.MULTIV.COX.SURV	<b>0.172</b>
GW.RANK.COMBUNIV.WILCOXON.HG	0.182
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.184
GW.RANK.COMBUNIV.COX.SURV	<b>0.148</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.156</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.136</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.138</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.186
GW.PCACV.COMBUNIV.WILCOXON.HG	0.185
GW.PCA.COMBUNIV.COX.SURV	<b>0.154</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>0.149</b>
GW.PCA.MULTIV.RCOX.SURV	<b>0.143</b>
GW.PCACV.MULTIV.RCOX.SURV	<b>0.161</b>
GENE76	<b>0.158</b>
GGI	0.183

**Brier Score for Risk Group** The following figure shows the Brier score w.r.t. the time for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.

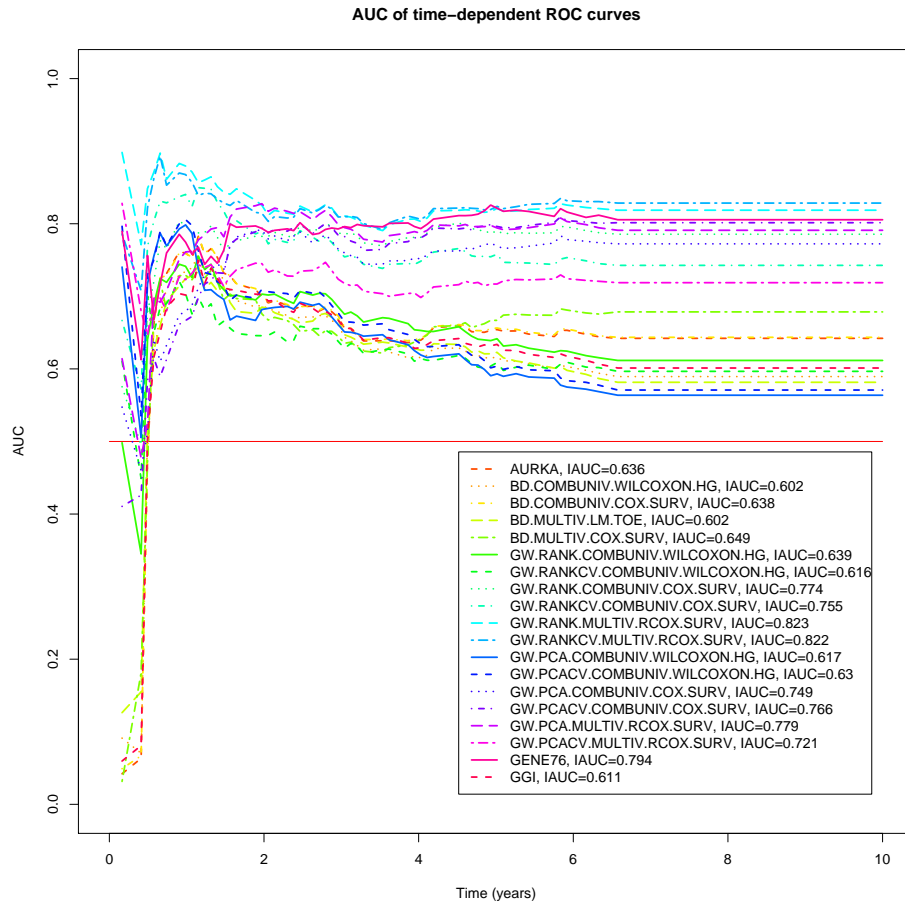


[illegible]

The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value  $< 0.05$ ) of the method in row against AURKA.

	IBSC
KM	0.189
AURKA	<b>0.182</b>
BD.COMBUNIV.WILCOXON.HG	0.184
BD.COMBUNIV.COX.SURV	0.181
BD.MULTIV.LM.TOE	<b>0.18</b>
BD.MULTIV.COX.SURV	0.182
GW.RANK.COMBUNIV.WILCOXON.HG	0.182
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.185
GW.RANK.COMBUNIV.COX.SURV	<b>0.168</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.17</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.159</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.155</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.187
GW.PCACV.COMBUNIV.WILCOXON.HG	0.186
GW.PCA.COMBUNIV.COX.SURV	<b>0.167</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>0.164</b>
GW.PCA.MULTIV.RCOX.SURV	<b>0.169</b>
GW.PCACV.MULTIV.RCOX.SURV	<b>0.178</b>
GENE76	<b>0.16</b>
GGI	0.181

**Time-Dependent ROC Curves for Risk Score** The following figure shows the evolution of the AUC of the time-dependent ROC curves with respect to the time for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.

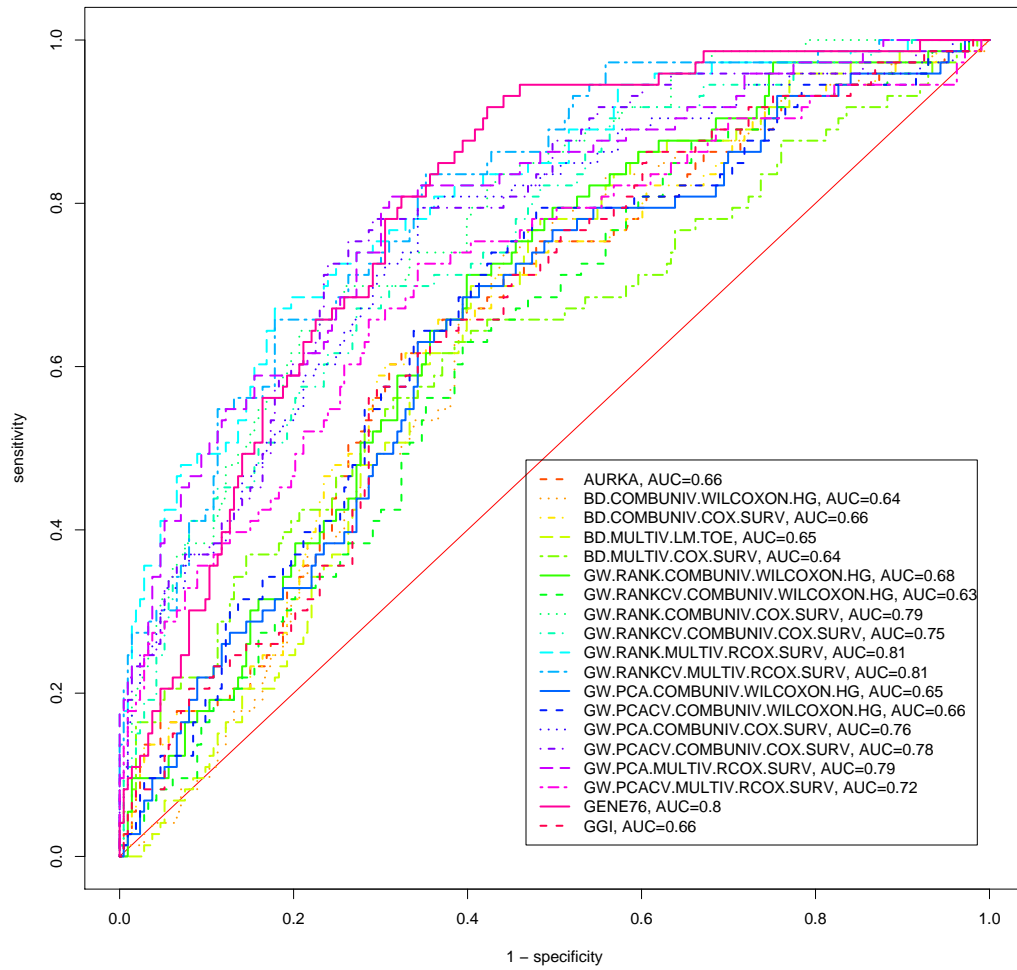
[illegible]

The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value  $< 0.05$ ) of the method in row against AURKA.

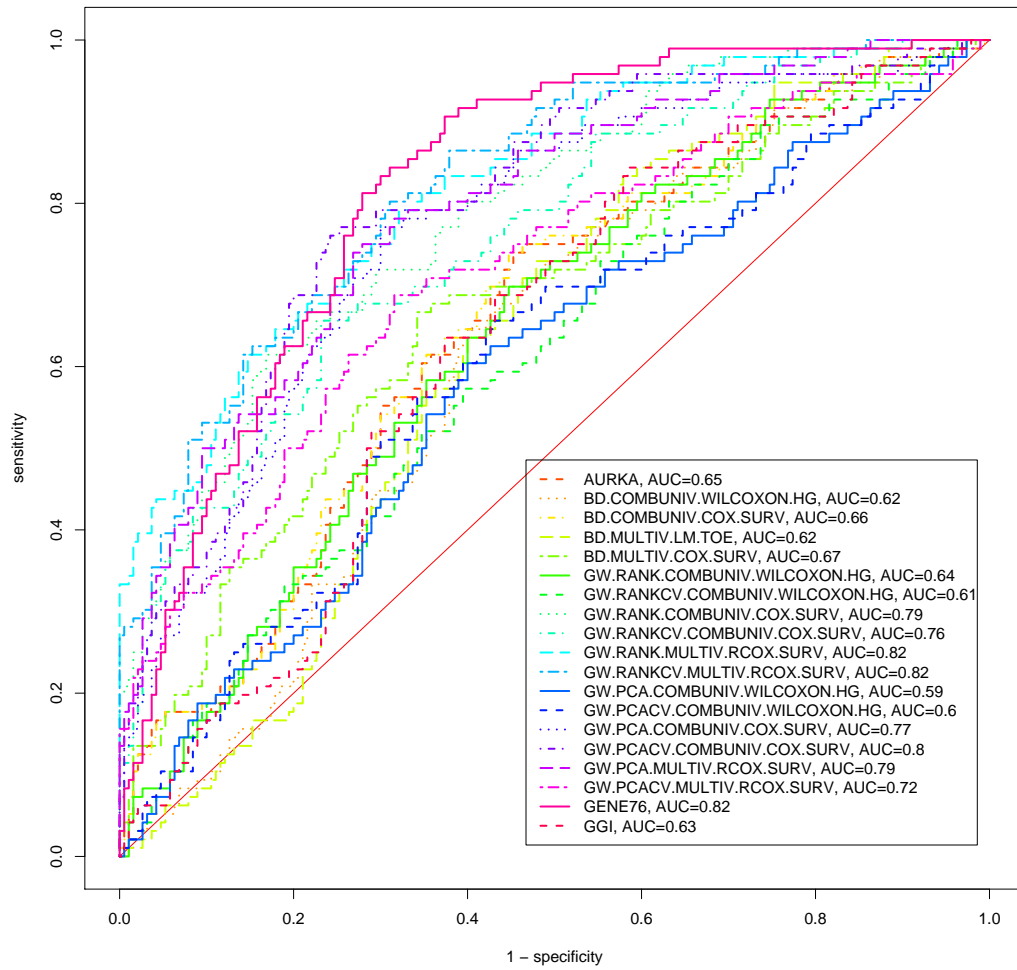
	IAUC
AURKA	0.636
BD.COMBUNIV.WILCOXON.HG	0.602
BD.COMBUNIV.COX.SURV	0.638
BD.MULTIV.LM.TOE	0.602
BD.MULTIV.COX.SURV	0.649
GW.RANK.COMBUNIV.WILCOXON.HG	0.639
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.616
GW.RANK.COMBUNIV.COX.SURV	<b>0.774</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.755</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.823</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.822</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.617
GW.PCACV.COMBUNIV.WILCOXON.HG	0.63
GW.PCA.COMBUNIV.COX.SURV	<b>0.749</b>
GW.PCACV.COMBUNIV.COX.SURV	<b>0.766</b>
GW.PCA.MULTIV.RCOX.SURV	<b>0.779</b>
GW.PCACV.MULTIV.RCOX.SURV	<b>0.721</b>
GENE76	<b>0.794</b>
GGI	0.611

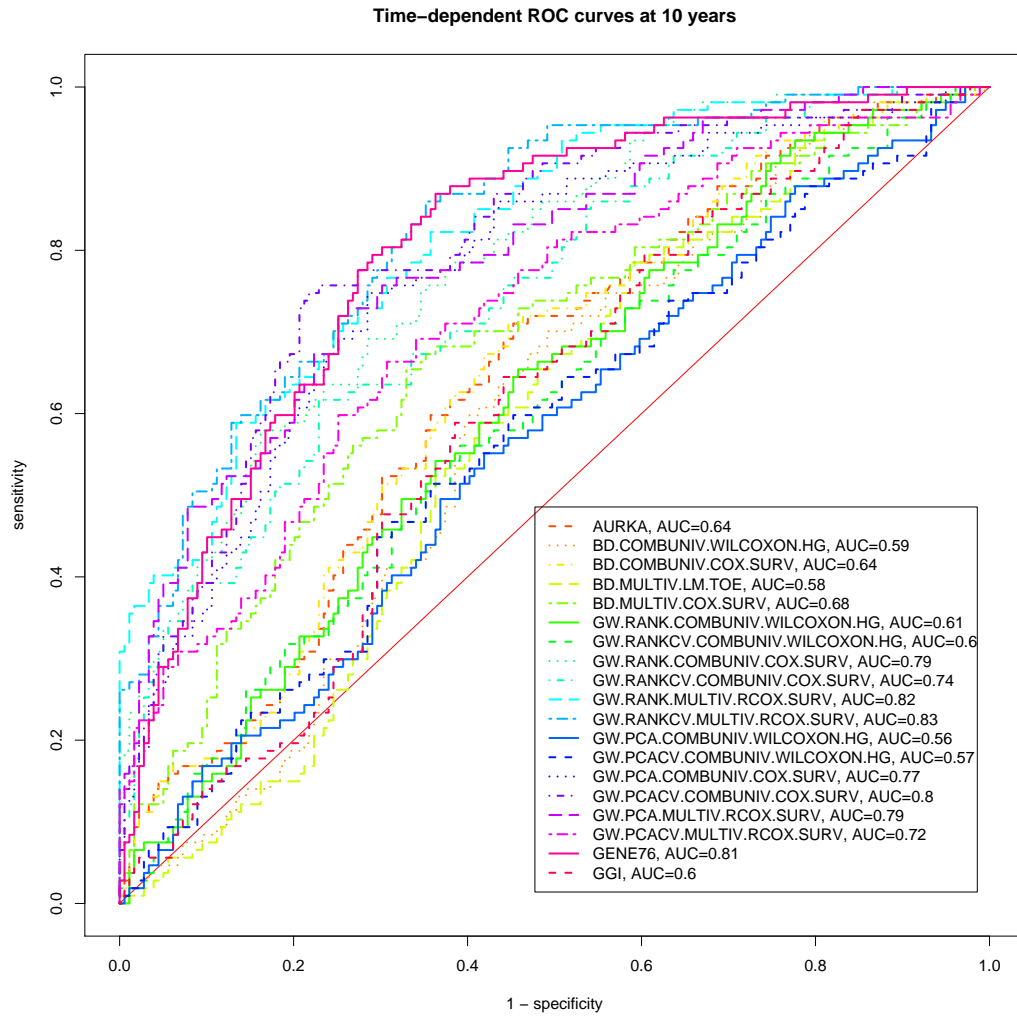
The following figure shows the time-dependent ROC curves and their corresponding AUC for each method :

Time-dependent ROC curves at 3 years



Time-dependent ROC curves at 5 years





The following table shows the specificity for a given sensitivity of 90% at some points in time:



	years.3	years.5	years.10
AURKA	0.249	0.253	0.263
BD.COMBUNIV.WILCOXON.HG	0.263	0.247	0.246
BD.COMBUNIV.COX.SURV	0.272	0.268	0.279
BD.MULTIV.LM.TOE	0.263	0.268	0.223
BD.MULTIV.COX.SURV	0.174	0.205	0.257
GW.RANK.COMBUNIV.WILCOXON.HG	0.315	0.258	0.251
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.258	0.242	0.184
GW.RANK.COMBUNIV.COX.SURV	0.432	0.400	0.419
GW.RANKCV.COMBUNIV.COX.SURV	0.437	0.353	0.369
GW.RANK.MULTIV.RCOX.SURV	0.432	0.468	0.497
GW.RANKCV.MULTIV.RCOX.SURV	0.488	0.526	0.553
GW.PCA.COMBUNIV.WILCOXON.HG	0.258	0.147	0.151
GW.PCACV.COMBUNIV.WILCOXON.HG	0.244	0.147	0.134
GW.PCA.COMBUNIV.COX.SURV	0.390	0.426	0.413
GW.PCACV.COMBUNIV.COX.SURV	0.460	0.505	0.514
GW.PCA.MULTIV.RCOX.SURV	0.362	0.405	0.402
GW.PCACV.MULTIV.RCOX.SURV	0.300	0.300	0.313
GENE76	0.582	0.626	0.536
GGI	0.277	0.258	0.201

The following table shows the sensitivity of the methods in leaving 33% of the patients in the low-risk group at some points in time:

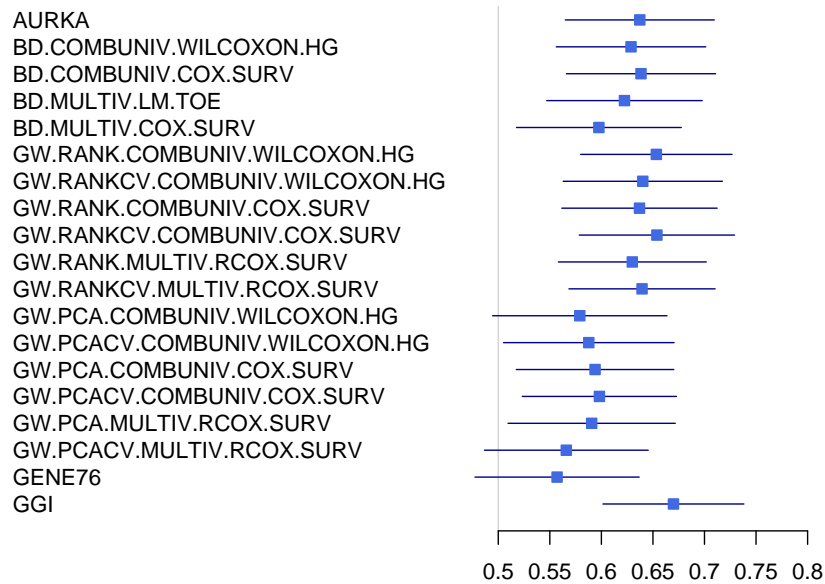
	years.3	years.5	years.10
AURKA	0.808	0.802	0.785
BD.COMBUNIV.WILCOXON.HG	0.836	0.792	0.757
BD.COMBUNIV.COX.SURV	0.822	0.813	0.785
BD.MULTIV.LM.TOE	0.863	0.833	0.785
BD.MULTIV.COX.SURV	0.767	0.792	0.804
GW.RANK.COMBUNIV.WILCOXON.HG	0.863	0.813	0.776
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.808	0.760	0.738
GW.RANK.COMBUNIV.COX.SURV	0.918	0.885	0.879
GW.RANKCV.COMBUNIV.COX.SURV	0.918	0.885	0.860
GW.RANK.MULTIV.RCOX.SURV	0.945	0.927	0.935
GW.RANKCV.MULTIV.RCOX.SURV	0.973	0.948	0.953
GW.PCA.COMBUNIV.WILCOXON.HG	0.795	0.740	0.720
GW.PCACV.COMBUNIV.WILCOXON.HG	0.808	0.760	0.738
GW.PCA.COMBUNIV.COX.SURV	0.890	0.896	0.888
GW.PCACV.COMBUNIV.COX.SURV	0.918	0.917	0.907
GW.PCA.MULTIV.RCOX.SURV	0.890	0.896	0.869
GW.PCACV.MULTIV.RCOX.SURV	0.836	0.823	0.832
GENE76	0.945	0.958	0.925
GGI	0.863	0.844	0.785

The following table shows the specificity of the methods in leaving 33% of the patients in the low-risk group at some points in time:

	years.3	years.5	years.10
AURKA	0.371	0.389	0.391
BD.COMBUNIV.WILCOXON.HG	0.385	0.389	0.380
BD.COMBUNIV.COX.SURV	0.380	0.400	0.397
BD.MULTIV.LM.TOE	0.394	0.411	0.397
BD.MULTIV.COX.SURV	0.362	0.389	0.408
GW.RANK.COMBUNIV.WILCOXON.HG	0.394	0.400	0.391
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.376	0.374	0.369
GW.RANK.COMBUNIV.COX.SURV	0.413	0.437	0.453
GW.RANKCV.COMBUNIV.COX.SURV	0.413	0.437	0.441
GW.RANK.MULTIV.RCOX.SURV	0.423	0.458	0.486
GW.RANKCV.MULTIV.RCOX.SURV	0.432	0.468	0.497
GW.PCA.COMBUNIV.WILCOXON.HG	0.371	0.363	0.358
GW.PCACV.COMBUNIV.WILCOXON.HG	0.376	0.374	0.369
GW.PCA.COMBUNIV.COX.SURV	0.404	0.442	0.458
GW.PCACV.COMBUNIV.COX.SURV	0.413	0.453	0.469
GW.PCA.MULTIV.RCOX.SURV	0.404	0.442	0.447
GW.PCACV.MULTIV.RCOX.SURV	0.385	0.405	0.425
GENE76	0.423	0.474	0.480
GGI	0.394	0.416	0.397

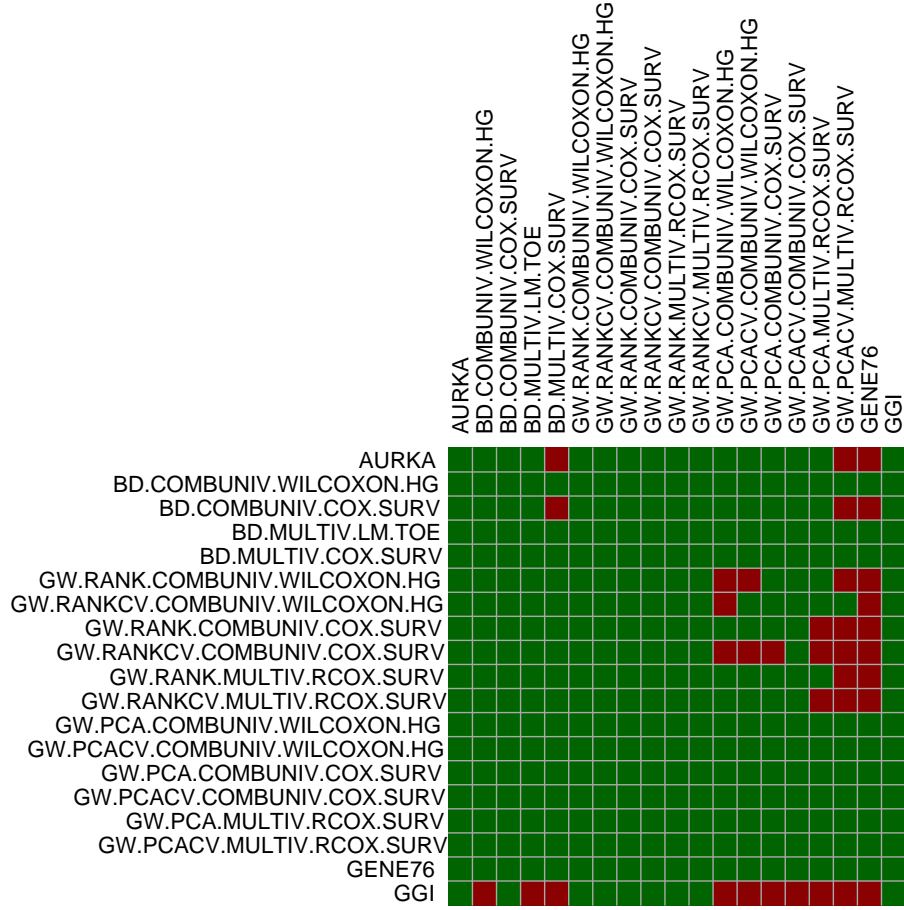
### 1.21.2 Test Set

**Concordance Index for Risk Score** The following foresplot shows the concordance indices and their confidence interval for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row

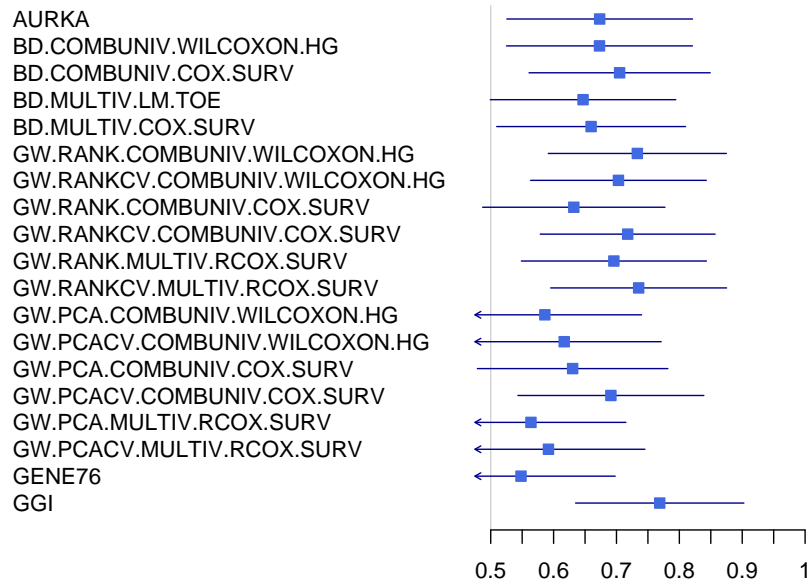
against the method in column. A green box represents no significant superiority (Student t test p-value  $\geq 0.05$ ) of the method in row against the method in column.



The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value  $< 0.05$ ) of the method in row against AURKA.

	concordance.index
AURKA	0.637
BD.COMBUNIV.WILCOXON.HG	0.629
BD.COMBUNIV.COX.SURV	0.638
BD.MULTIV.LM.TOE	0.622
BD.MULTIV.COX.SURV	0.598
GW.RANK.COMBUNIV.WILCOXON.HG	0.653
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.64
GW.RANK.COMBUNIV.COX.SURV	0.637
GW.RANKCV.COMBUNIV.COX.SURV	0.654
GW.RANK.MULTIV.RCOX.SURV	0.63
GW.RANKCV.MULTIV.RCOX.SURV	0.639
GW.PCA.COMBUNIV.WILCOXON.HG	0.579
GW.PCACV.COMBUNIV.WILCOXON.HG	0.588
GW.PCA.COMBUNIV.COX.SURV	0.594
GW.PCACV.COMBUNIV.COX.SURV	0.598
GW.PCA.MULTIV.RCOX.SURV	0.591
GW.PCACV.MULTIV.RCOX.SURV	0.566
GENE76	0.557
GGI	0.67

**Concordance Index for Risk Group** The following foresplot shows the concordance indices and their confidence interval for each method :



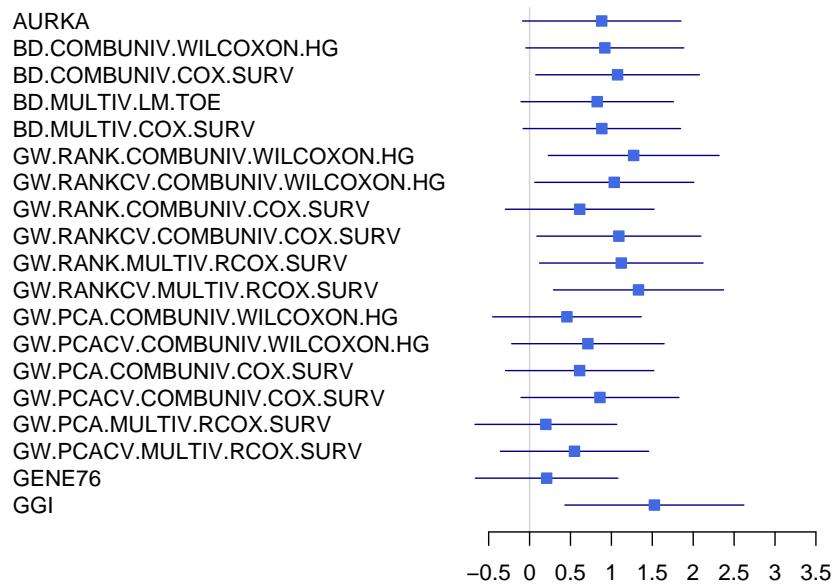
The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row against the method in column. A green box represents no significant superiority (Student t test p-value  $\geq 0.05$ ) of the method in row against the method in column.

	AURKA	BD.COMBUNIV.WILCOXON.HG	BD.COMBUNIV.COX.SURV	BD.MULTIV.LM.TOE	BD.MULTIV.COX.SURV	GW.RANK.COMBUNIV.WILCOXON.HG	GW.RANKCV.COMBUNIV.WILCOXON.HG	GW.RANK.COMBUNIV.COX.SURV	GW.RANKCV.COMBUNIV.COX.SURV	GW.RANK.MULTIV.RCOX.SURV	GW.RANKCV.MULTIV.RCOX.SURV	GW.PCA.COMBUNIV.WILCOXON.HG	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.COMBUNIV.COX.SURV	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.MULTIV.RCOX.SURV	GW.PCACV.MULTIV.RCOX.SURV	GENE76	GGI
AURKA																			
BD.COMBUNIV.WILCOXON.HG																			
BD.COMBUNIV.COX.SURV																			
BD.MULTIV.LM.TOE																			
BD.MULTIV.COX.SURV																			
GW.RANK.COMBUNIV.WILCOXON.HG																			
GW.RANKCV.COMBUNIV.WILCOXON.HG																			
GW.RANK.COMBUNIV.COX.SURV																			
GW.RANKCV.COMBUNIV.COX.SURV																			
GW.RANK.MULTIV.RCOX.SURV																			
GW.RANKCV.MULTIV.RCOX.SURV																			
GW.PCA.COMBUNIV.WILCOXON.HG																			
GW.PCACV.COMBUNIV.COX.SURV																			
GW.PCA.COMBUNIV.COX.SURV																			
GW.PCACV.COMBUNIV.COX.SURV																			
GW.PCA.MULTIV.RCOX.SURV																			
GW.PCACV.MULTIV.RCOX.SURV																			
GENE76																			
GGI																			

The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	concordance.index
AURKA	0.673
BD.COMBUNIV.WILCOXON.HG	0.673
BD.COMBUNIV.COX.SURV	<b>0.705</b>
BD.MULTIV.LM.TOE	0.647
BD.MULTIV.COX.SURV	0.66
GW.RANK.COMBUNIV.WILCOXON.HG	0.733
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.703
GW.RANK.COMBUNIV.COX.SURV	0.632
GW.RANKCV.COMBUNIV.COX.SURV	0.718
GW.RANK.MULTIV.RCOX.SURV	0.696
GW.RANKCV.MULTIV.RCOX.SURV	0.735
GW.PCA.COMBUNIV.WILCOXON.HG	0.586
GW.PCACV.COMBUNIV.WILCOXON.HG	0.617
GW.PCA.COMBUNIV.COX.SURV	0.63
GW.PCACV.COMBUNIV.COX.SURV	0.691
GW.PCA.MULTIV.RCOX.SURV	0.564
GW.PCACV.MULTIV.RCOX.SURV	0.592
GENE76	0.548
GGI	<b>0.769</b>

**Hazard Ratio for Risk Group** The following foresplot shows the hazard ratios and their confidence interval for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (Student t test p-value < 0.05) of the method in row against the method in column. A green box represents no significant superiority (Student t test p-value >= 0.05) of the method in row against the method in column.

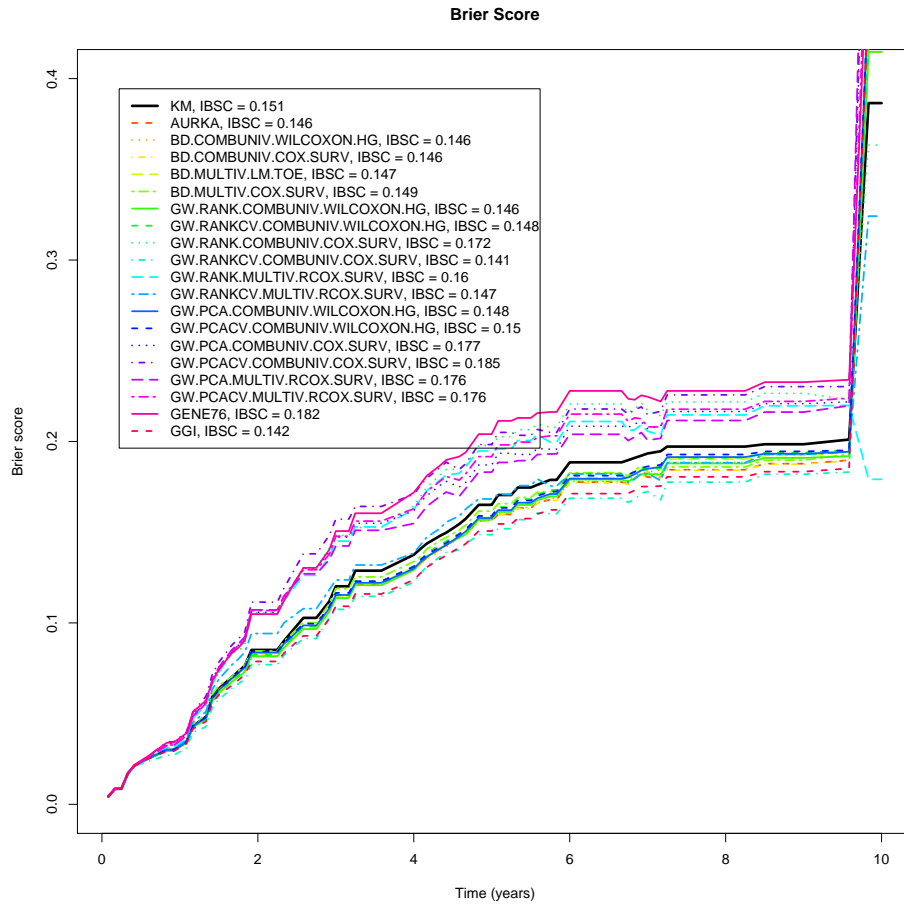
	AURKA	BD.COMBUNIV.WILCOXON.HG	BD.COMBUNIV.COX.SURV	BD.MULTIV.LM.TOE	BD.MULTIV.COX.SURV	GW.RANK.COMBUNIV.WILCOXON.HG	GW.RANKCV.COMBUNIV.WILCOXON.HG	GW.RANK.COMBUNIV.COX.SURV	GW.RANKCV.COMBUNIV.COX.SURV	GW.RANK.MULTIV.RCOX.SURV	GW.RANKCV.MULTIV.RCOX.SURV	GW.PCA.COMBUNIV.WILCOXON.HG	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.COMBUNIV.COX.SURV	GW.PCACV.COMBUNIV.COX.SURV	GW.PCA.MULTIV.RCOX.SURV	GW.PCACV.MULTIV.RCOX.SURV	GENE76	GGI
AURKA																			
BD.COMBUNIV.WILCOXON.HG																			
BD.COMBUNIV.COX.SURV																			
BD.MULTIV.LM.TOE																			
BD.MULTIV.COX.SURV																			
GW.RANK.COMBUNIV.WILCOXON.HG																			
GW.RANKCV.COMBUNIV.WILCOXON.HG																			
GW.RANK.COMBUNIV.COX.SURV																			
GW.RANKCV.COMBUNIV.COX.SURV																			
GW.RANK.MULTIV.RCOX.SURV																			
GW.RANKCV.MULTIV.RCOX.SURV																			
GW.PCA.COMBUNIV.WILCOXON.HG																			
GW.PCACV.COMBUNIV.COX.SURV																			
GW.PCA.COMBUNIV.COX.SURV																			
GW.PCACV.COMBUNIV.COX.SURV																			
GW.PCA.MULTIV.RCOX.SURV																			
GW.PCACV.MULTIV.RCOX.SURV																			
GENE76																			
GGI																			

The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.

	HR
AURKA	1.84
BD.COMBUNIV.WILCOXON.HG	1.89
BD.COMBUNIV.COX.SURV	<b>2.11</b>
BD.MULTIV.LM.TOE	1.77
BD.MULTIV.COX.SURV	1.84
GW.RANK.COMBUNIV.WILCOXON.HG	2.42
GW.RANKCV.COMBUNIV.WILCOXON.HG	2.05
GW.RANK.COMBUNIV.COX.SURV	1.53
GW.RANKCV.COMBUNIV.COX.SURV	2.13
GW.RANK.MULTIV.RCOX.SURV	2.18
GW.RANKCV.MULTIV.RCOX.SURV	2.52
GW.PCA.COMBUNIV.WILCOXON.HG	1.37
GW.PCACV.COMBUNIV.WILCOXON.HG	1.64
GW.PCA.COMBUNIV.COX.SURV	1.53
GW.PCACV.COMBUNIV.COX.SURV	1.82
GW.PCA.MULTIV.RCOX.SURV	1.15
GW.PCACV.MULTIV.RCOX.SURV	1.46
GENE76	1.16
GGI	<b>2.88</b>

**Brier Score for Risk Score** The following figure shows the Brier score w.r.t. the time for each method :





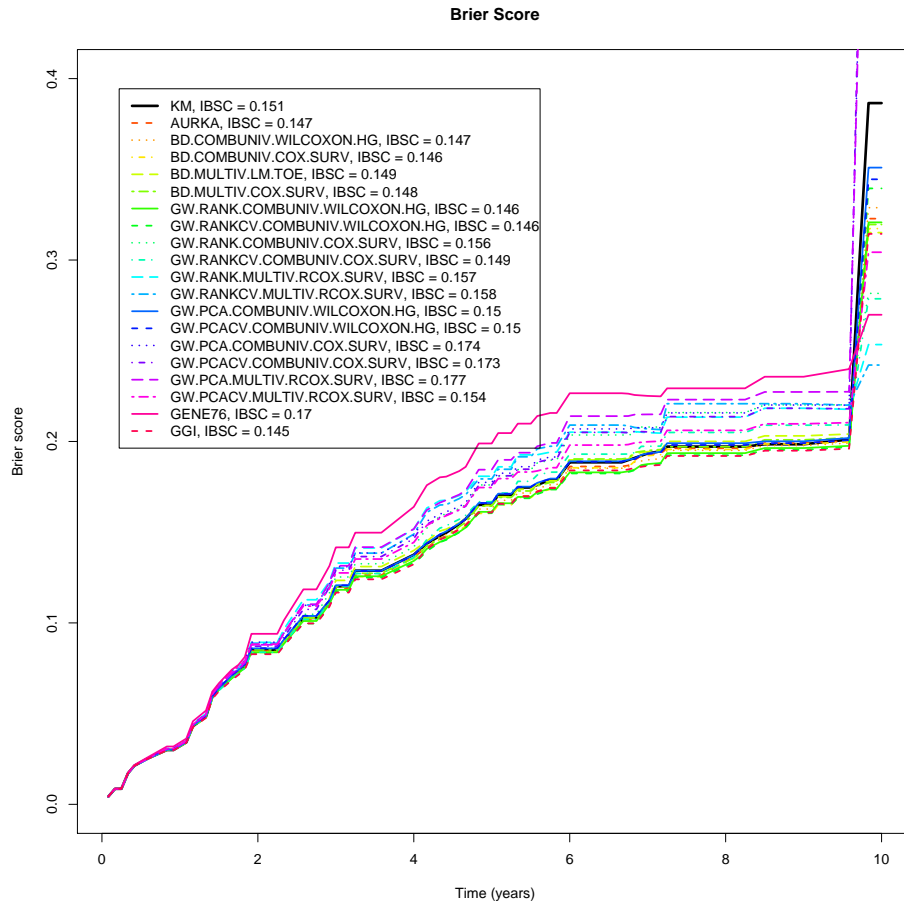
The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.

[illegible]

The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value  $< 0.05$ ) of the method in row against AURKA.

	IBSC
KM	0.151
AURKA	<b>0.146</b>
BD.COMBUNIV.WILCOXON.HG	0.146
BD.COMBUNIV.COX.SURV	0.146
BD.MULTIV.LM.TOE	0.147
BD.MULTIV.COX.SURV	0.149
GW.RANK.COMBUNIV.WILCOXON.HG	0.146
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.148
GW.RANK.COMBUNIV.COX.SURV	0.172
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.141</b>
GW.RANK.MULTIV.RCOX.SURV	0.16
GW.RANKCV.MULTIV.RCOX.SURV	0.147
GW.PCA.COMBUNIV.WILCOXON.HG	0.148
GW.PCACV.COMBUNIV.WILCOXON.HG	0.15
GW.PCA.COMBUNIV.COX.SURV	0.177
GW.PCACV.COMBUNIV.COX.SURV	0.185
GW.PCA.MULTIV.RCOX.SURV	0.176
GW.PCACV.MULTIV.RCOX.SURV	0.176
GENE76	0.182
GGI	<b>0.142</b>

**Brier Score for Risk Group** The following figure shows the Brier score w.r.t. the time for each method :

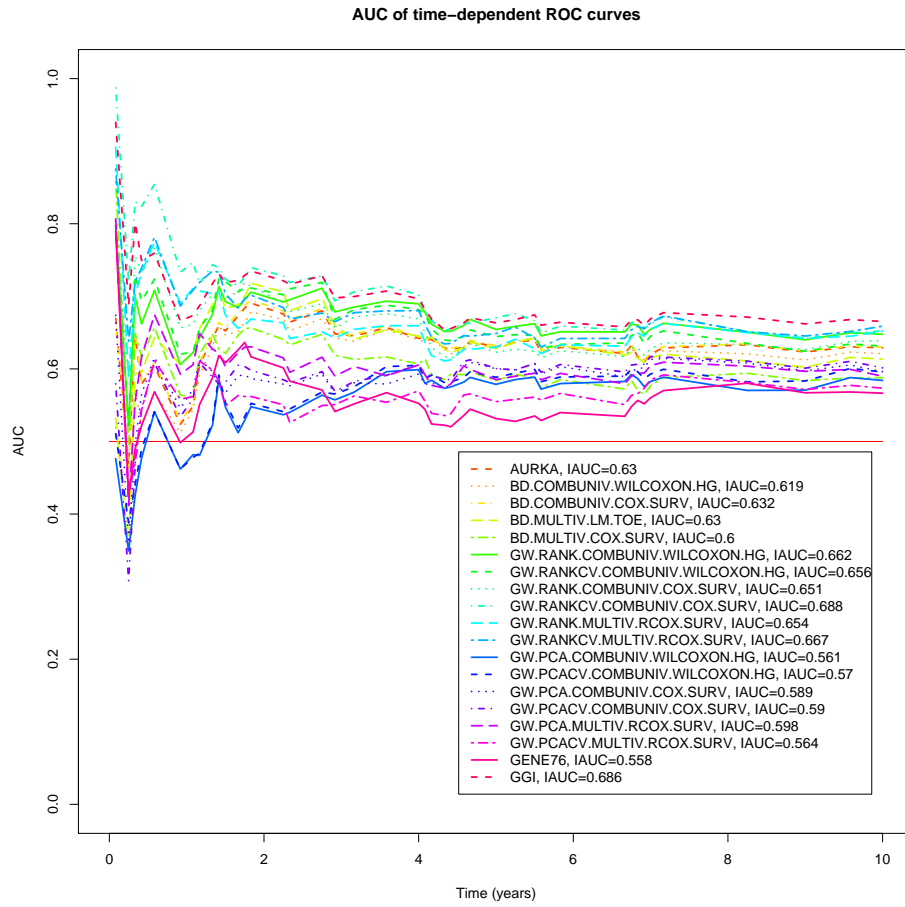


The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.

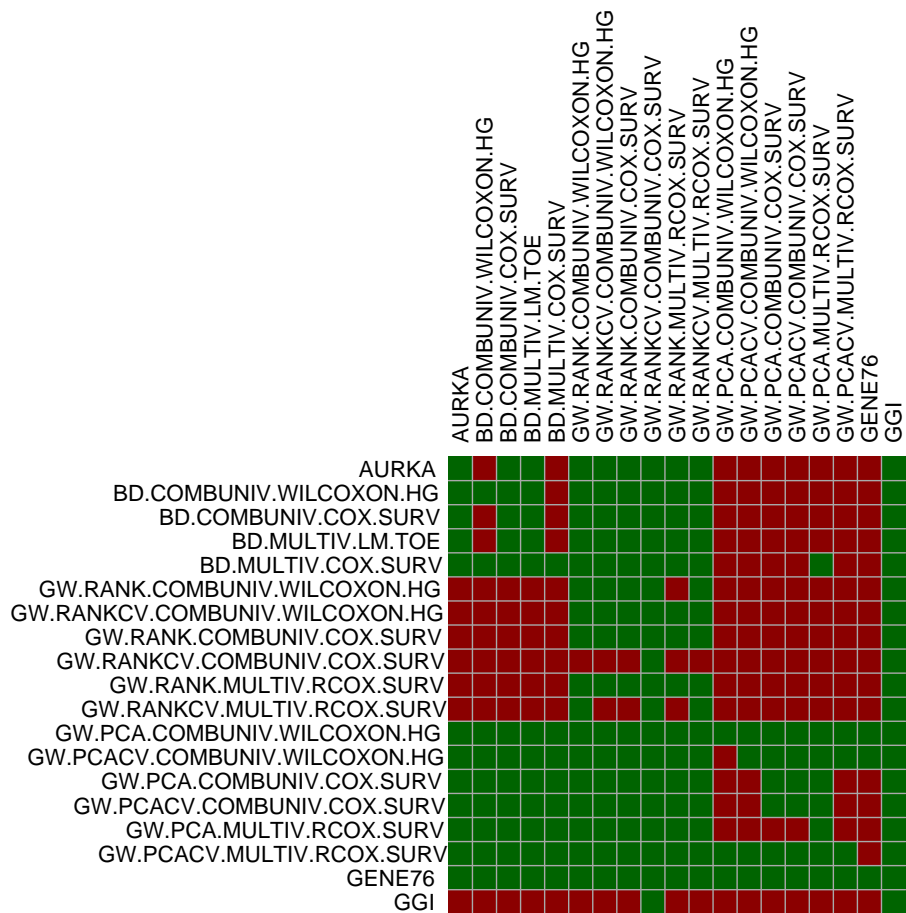


	IBSC
KM	0.151
AURKA	<b>0.147</b>
BD.COMBUNIV.WILCOXON.HG	0.147
BD.COMBUNIV.COX.SURV	0.146
BD.MULTIV.LM.TOE	0.149
BD.MULTIV.COX.SURV	0.148
GW.RANK.COMBUNIV.WILCOXON.HG	<b>0.146</b>
GW.RANKCV.COMBUNIV.WILCOXON.HG	<b>0.146</b>
GW.RANK.COMBUNIV.COX.SURV	0.156
GW.RANKCV.COMBUNIV.COX.SURV	0.149
GW.RANK.MULTIV.RCOX.SURV	0.157
GW.RANKCV.MULTIV.RCOX.SURV	0.158
GW.PCA.COMBUNIV.WILCOXON.HG	0.15
GW.PCACV.COMBUNIV.WILCOXON.HG	0.15
GW.PCA.COMBUNIV.COX.SURV	0.174
GW.PCACV.COMBUNIV.COX.SURV	0.173
GW.PCA.MULTIV.RCOX.SURV	0.177
GW.PCACV.MULTIV.RCOX.SURV	0.154
GENE76	0.17
GGI	<b>0.145</b>

**Time-Dependent ROC Curves for Risk Score** The following figure shows the evolution of the AUC of the time-dependent ROC curves with respect to the time for each method :



The following figure shows the pairwise comparison between the different methods. A red box represents a significant superiority (paired Wilcoxon rank sum test p-value  $< 0.05$ ) of the method in row against the method in column. A green box represents no significant superiority (paired Wilcoxon rank sum test p-value  $\geq 0.05$ ) of the method in row against the method in column.



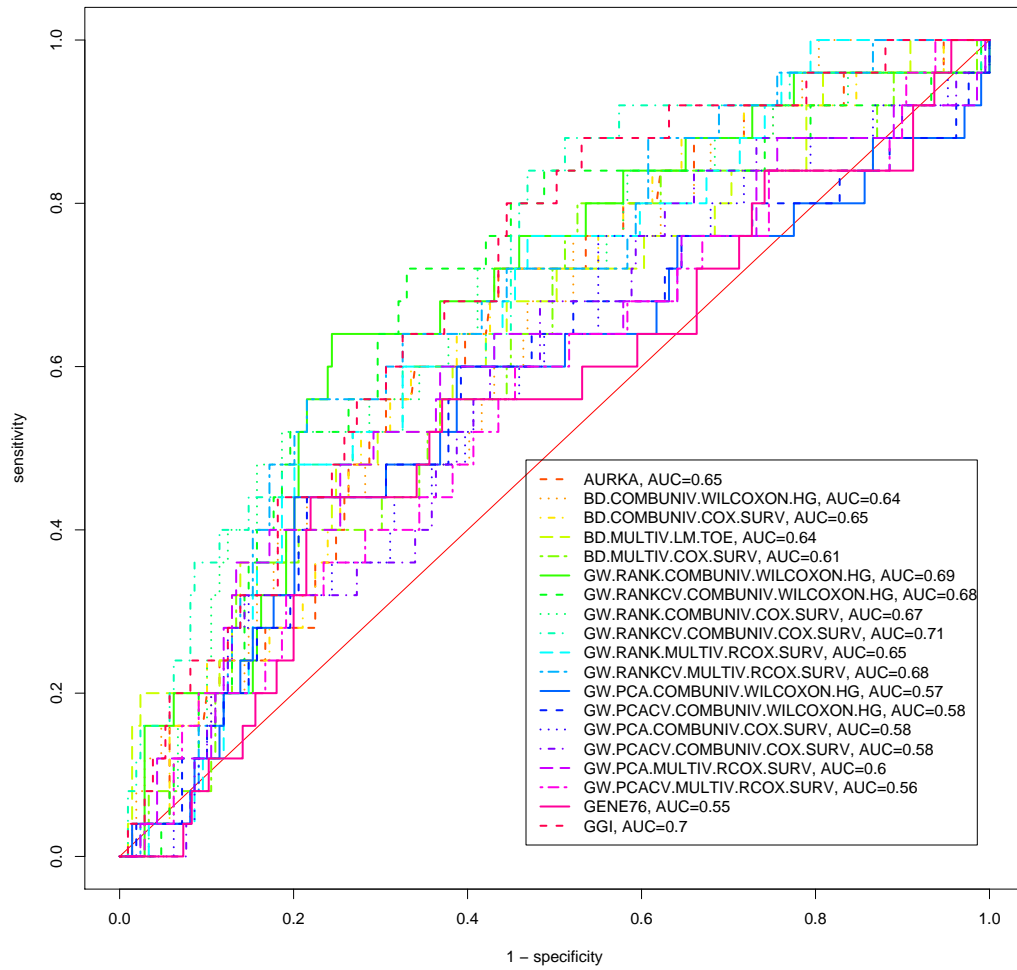
The following table shows the comparison between the different methods and AURKA. A text in bold represents a significant superiority (Student t test p-value < 0.05) of the method in row against AURKA.



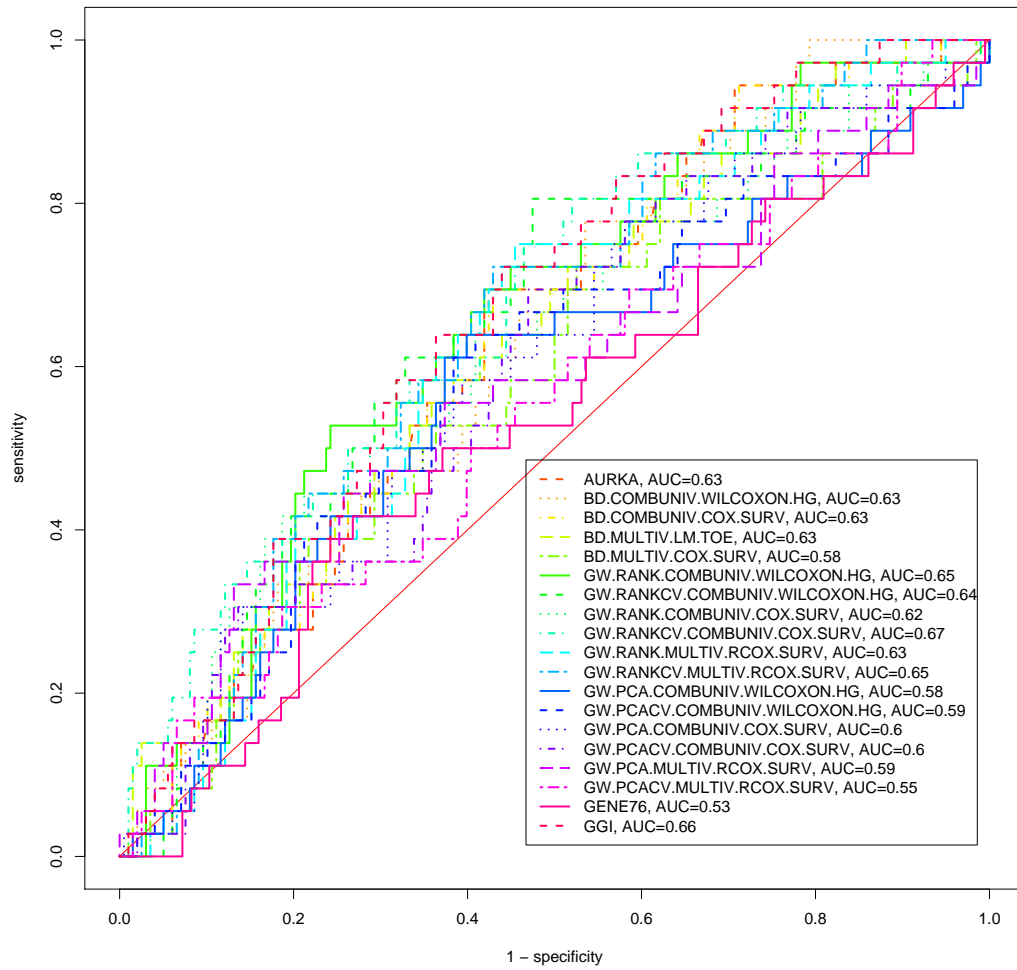
	IAUC
AURKA	0.63
BD.COMBUNIV.WILCOXON.HG	0.619
BD.COMBUNIV.COX.SURV	0.632
BD.MULTIV.LM.TOE	0.63
BD.MULTIV.COX.SURV	0.6
GW.RANK.COMBUNIV.WILCOXON.HG	<b>0.662</b>
GW.RANKCV.COMBUNIV.WILCOXON.HG	<b>0.656</b>
GW.RANK.COMBUNIV.COX.SURV	<b>0.651</b>
GW.RANKCV.COMBUNIV.COX.SURV	<b>0.688</b>
GW.RANK.MULTIV.RCOX.SURV	<b>0.654</b>
GW.RANKCV.MULTIV.RCOX.SURV	<b>0.667</b>
GW.PCA.COMBUNIV.WILCOXON.HG	0.561
GW.PCACV.COMBUNIV.WILCOXON.HG	0.57
GW.PCA.COMBUNIV.COX.SURV	0.589
GW.PCACV.COMBUNIV.COX.SURV	0.59
GW.PCA.MULTIV.RCOX.SURV	0.598
GW.PCACV.MULTIV.RCOX.SURV	0.564
GENE76	0.558
GGI	<b>0.686</b>

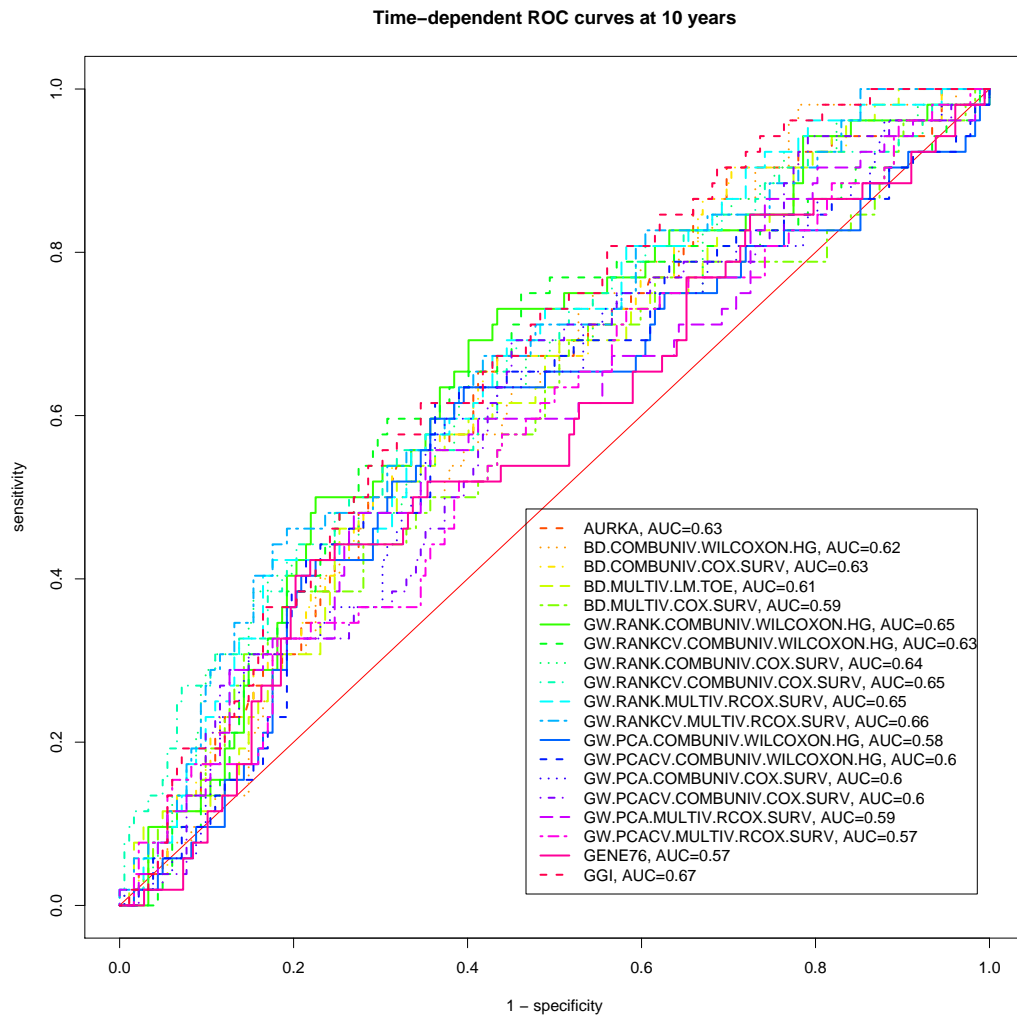
The following figure shows the time-dependent ROC curves and their corresponding AUC for each method :

Time-dependent ROC curves at 3 years



Time-dependent ROC curves at 5 years





The following table shows the specificity for a given sensitivity of 90% at some points in time:

	years.3	years.5	years.10
AURKA	0.282	0.293	0.302
BD.COMBUNIV.WILCOXON.HG	0.249	0.258	0.269
BD.COMBUNIV.COX.SURV	0.282	0.293	0.297
BD.MULTIV.LM.TOE	0.211	0.217	0.225
BD.MULTIV.COX.SURV	0.129	0.131	0.121
GW.RANK.COMBUNIV.WILCOXON.HG	0.273	0.227	0.214
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.206	0.212	0.154
GW.RANK.COMBUNIV.COX.SURV	0.249	0.162	0.247
GW.RANKCV.COMBUNIV.COX.SURV	0.426	0.268	0.242
GW.RANK.MULTIV.RCOX.SURV	0.258	0.242	0.280
GW.RANKCV.MULTIV.RCOX.SURV	0.311	0.247	0.220
GW.PCA.COMBUNIV.WILCOXON.HG	0.029	0.091	0.115
GW.PCACV.COMBUNIV.WILCOXON.HG	0.038	0.116	0.115
GW.PCA.COMBUNIV.COX.SURV	0.134	0.217	0.137
GW.PCACV.COMBUNIV.COX.SURV	0.100	0.232	0.225
GW.PCA.MULTIV.RCOX.SURV	0.110	0.141	0.198
GW.PCACV.MULTIV.RCOX.SURV	0.100	0.106	0.121
GENE76	0.088	0.088	0.090
GGI	0.368	0.308	0.313

The following table shows the sensitivity of the methods in leaving 33% of the patients in the low-risk group at some points in time:

	years.3	years.5	years.10
AURKA	0.840	0.806	0.769
BD.COMBUNIV.WILCOXON.HG	0.800	0.806	0.788
BD.COMBUNIV.COX.SURV	0.880	0.833	0.788
BD.MULTIV.LM.TOE	0.760	0.778	0.750
BD.MULTIV.COX.SURV	0.840	0.806	0.788
GW.RANK.COMBUNIV.WILCOXON.HG	0.840	0.833	0.808
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.840	0.806	0.788
GW.RANK.COMBUNIV.COX.SURV	0.840	0.778	0.750
GW.RANKCV.COMBUNIV.COX.SURV	0.920	0.861	0.808
GW.RANK.MULTIV.RCOX.SURV	0.800	0.806	0.808
GW.RANKCV.MULTIV.RCOX.SURV	0.880	0.861	0.827
GW.PCA.COMBUNIV.WILCOXON.HG	0.760	0.750	0.750
GW.PCACV.COMBUNIV.WILCOXON.HG	0.760	0.778	0.788
GW.PCA.COMBUNIV.COX.SURV	0.760	0.778	0.750
GW.PCACV.COMBUNIV.COX.SURV	0.800	0.806	0.769
GW.PCA.MULTIV.RCOX.SURV	0.760	0.722	0.712
GW.PCACV.MULTIV.RCOX.SURV	0.720	0.722	0.750
GENE76	0.720	0.722	0.750
GGI	0.920	0.861	0.846

The following table shows the specificity of the methods in leaving 33% of the patients in the low-risk group at some points in time:

	years.3	years.5	years.10
AURKA	0.349	0.354	0.357
BD.COMBUNIV.WILCOXON.HG	0.344	0.354	0.363
BD.COMBUNIV.COX.SURV	0.354	0.359	0.363
BD.MULTIV.LM.TOE	0.340	0.348	0.352
BD.MULTIV.COX.SURV	0.349	0.354	0.363
GW.RANK.COMBUNIV.WILCOXON.HG	0.349	0.359	0.368
GW.RANKCV.COMBUNIV.WILCOXON.HG	0.349	0.354	0.363
GW.RANK.COMBUNIV.COX.SURV	0.349	0.348	0.352
GW.RANKCV.COMBUNIV.COX.SURV	0.359	0.364	0.368
GW.RANK.MULTIV.RCOX.SURV	0.344	0.354	0.368
GW.RANKCV.MULTIV.RCOX.SURV	0.354	0.364	0.374
GW.PCA.COMBUNIV.WILCOXON.HG	0.340	0.343	0.352
GW.PCACV.COMBUNIV.WILCOXON.HG	0.340	0.348	0.363
GW.PCA.COMBUNIV.COX.SURV	0.340	0.348	0.352
GW.PCACV.COMBUNIV.COX.SURV	0.344	0.354	0.357
GW.PCA.MULTIV.RCOX.SURV	0.340	0.338	0.341
GW.PCACV.MULTIV.RCOX.SURV	0.335	0.338	0.352
GENE76	0.332	0.335	0.348
GGI	0.354	0.359	0.374