

Additional file 2

Table 1 – Core rules from the first iteration of the stabilization procedure.

Rule ID <sup>a</sup>	NB-hypo	INSS Stage	MYCN Status	Age at diagnosis (Years)	Predicted Outcome	Stability <sup>b</sup>
A1.1	IF ( – )	–	–	< 1	THEN Good	0.94
A1.2	IF ( High )	{2, 3, 4}	normal	≥ 1	THEN Poor	0.8
A1.3	IF ( High )	{3, 4}	–	≥ 1	THEN Poor	1
A1.4	IF ( Low )	{1, 2, 3, 4s}	normal	–	THEN Good	1
A1.5	IF ( – )	{1, 2, 4s}	amplified	–	THEN Good	0.8
A1.6	IF ( – )	{1, 4s}	normal	–	THEN Good	1
A1.7	IF ( – )	{4}	amplified	≥ 1	THEN Poor	1

<sup>a</sup> The Rule ID is composed by the A (additional file), followed by the table number, a dot and the rule number.

<sup>b</sup> Stability is the fraction of the occurrences of a given rule in a 5 rounds of 10 fold cross validations.

**Table 2 – Classification rules of the second iteration on a purged 155 patients' dataset**

Rule ID <sup>a</sup>	NB-hypo	INSS Stage	MYCN Status	Age at diagnosis (Years)	Predicted Outcome	Covering <sup>b</sup> (%)	Error <sup>c</sup> (%)	Fisher pvalue <sup>d</sup>	Stability <sup>e</sup>	
<b>A2.1</b>	IF ( _	{4}	_	≥ 1	)THEN	Poor	89	4	<0.001	1
<b>A2.2</b>	IF ( High	{2, 3, 4}	_	≥ 1	)THEN	Poor	86	3	<0.001	1
<b>A2.3</b>	IF ( Low	_	normal	_	)THEN	Good	89	0	<0.001	1
<b>A2.4</b>	IF ( _	{1, 2, 4s}	_	_	)THEN	Good	74	0	<0.001	0.9
<b>A2.5</b>	IF ( _	_	_	< 1	)THEN	Good	72	0	<0.001	0.88

<sup>a</sup> The Rule ID is composed by the A that indicate a rule in an additional file, followed by the table number, a dot and the rule number.

<sup>b</sup> Covering is the fraction of examples in the training set that verify the rule and belong to the target class.

<sup>c</sup> Error is the fraction of examples in the training set that satisfy the rule and do not belong to the target class.

<sup>d</sup> Fisher p-value quantifies the statistical significance of the rule.

<sup>e</sup> Stability measures the fraction of the occurrences of a given rule in a 5 rounds of 10 fold cross validations.

**Table 3 – Core rules from the second iteration of the stabilization procedure.**

<b>Rule ID<sup>a</sup></b>	<b>NB-hypo</b>	<b>INSS Stage</b>	<b>MYCN Status</b>	<b>Age at diagnosis (Years)</b>	<b>Predicted Outcome</b>	<b>Stability<sup>b</sup></b>	
<b>A3.5</b>	<i>IF</i> ( _	{4}	_	≥ 1	) <i>THEN</i>	Poor	1
<b>A3.2</b>	<i>IF</i> ( High	{2, 3, 4}	_	≥ 1	) <i>THEN</i>	Poor	1
<b>A3.3</b>	<i>IF</i> ( Low	_	normal	_	) <i>THEN</i>	Good	1
<b>A3.4</b>	<i>IF</i> ( _	{1, 2, 4s}	normal	_	) <i>THEN</i>	Good	1
<b>A3.1</b>	<i>IF</i> ( _	_	_	< 1	) <i>THEN</i>	Good	0.78

<sup>a</sup> The Rule ID is composed by the A (additional file), followed by the table number, a dot and the rule number.

<sup>b</sup> Stability is the fraction of the occurrences of a given rule in a 5 rounds of 10 fold cross validations.