

Supplementary Materials File S1

Equation (S1)

Scheme: weka.classifiers.meta.Bagging -P 100 -S 1 -num-slots 1 -I 10 -W
weka.classifiers.trees.REPTree -- -M 2 -V 0.001 -N 3 -S 1 -L -1 -I 0.0
Relation: CN-main
Instances: 32
Attributes: 7
pH.
VDS (mgL-1)
T
Initial CN (mgL-1)
Ammonia (mgL-1)
Cl (mgL-1)
RCN (mgL-1)
Test mode: split 66.0% train, remainder test
Bagging with 10 iterations and base learner
weka.classifiers.trees.REPTree -M 2 -V 0.001 -N 3 -S 1 -L -1 -I 0.0

Equation (S2)

Scheme: weka.classifiers.meta.RandomCommittee -S 1 -num-slots 1 -I 10 -W
weka.classifiers.trees.RandomTree -- -K 0 -M 1.0 -V 0.001 -S 1
Relation: Cyanor-main
Instances: 32
Attributes: 7
pH.
VDS (mgL-1)
T
Initial CN (mgL-1)
Ammonia (mgL-1)
Cl (mgL-1)
RCN (mgL-1)
Test mode: split 80.0% train, remainder test
=== Classifier model (full training set) ===
All the base classifiers:
RandomTree
Initial CN (mgL-1) < 6.25
| Initial CN (mgL-1) < 3.75

| | Cl (mgL-1) < 2.02
| | | Ammonia (mgL-1) < 0.79: 1.61 (2/0)
| | | Ammonia (mgL-1) >= 0.79
| | | | Ammonia (mgL-1) < 0.88: 1.42 (2/0)
| | | | Ammonia (mgL-1) >= 0.88: 1.31 (1/0)
| | Cl (mgL-1) >= 2.02
| | | pH. < 6.3: 1.08 (2/0)
| | | pH. >= 6.3: 0.96 (1/0)
| Initial CN (mgL-1) >= 3.75
| | VDS (mgL-1) < 154.5
| | | Cl (mgL-1) < 2.76
| | | | pH. < 5.6
| | | | | Cl (mgL-1) < 1.31: 4.26 (1/0)
| | | | | Cl (mgL-1) >= 1.31
| | | | | pH. < 5.25: 3.71 (1/0)
| | | | | pH. >= 5.25: 3.96 (1/0)
| | | | pH. >= 5.6: 2.95 (1/0)
| | | Cl (mgL-1) >= 2.76
| | | | Cl (mgL-1) < 3: 2.33 (1/0)
| | | | Cl (mgL-1) >= 3
| | | | | Cl (mgL-1) < 3.41: 1.48 (1/0)
| | | | | Cl (mgL-1) >= 3.41
| | | | | VDS (mgL-1) < 149
| | | | | | Ammonia (mgL-1) < 0.6: 1.12 (1/0)
| | | | | | Ammonia (mgL-1) >= 0.6: 1.01 (2/0)
| | | | | VDS (mgL-1) >= 149: 1.22 (2/0)
| | VDS (mgL-1) >= 154.5
| | | T < 17.5: 4.21 (1/0)
| | | T >= 17.5: 4.52 (1/0)
Initial CN (mgL-1) >= 6.25

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| Cl (mgL-1) < 4.95
| | pH. < 6.2: 1.35 (1/0)
| | pH. >= 6.2: 1.58 (1/0)
| Cl (mgL-1) >= 4.95
| | Cl (mgL-1) < 5.95
| | | pH. < 5.1: 0.86 (1/0)
| | | pH. >= 5.1
| | | | T < 13.75: 0.58 (1/0)
| | | | T >= 13.75: 0.7 (3/0)
| | Cl (mgL-1) >= 5.95: 0.19 (4/0)

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Size of the tree : 43

RandomTree

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Cl (mgL-1) < 1.72
| Initial CN (mgL-1) < 3.75
| | Cl (mgL-1) < 1.38
| | | pH. < 5.6 : 1.46 (1/0)
| | | pH. >= 5.6 : 1.61 (1/0)
| | Cl (mgL-1) >= 1.38 : 1.31 (1/0)
| Initial CN (mgL-1) >= 3.75
| | T < 18.75
| | | Cl (mgL-1) < 1.02 : 4.52 (1/0)
| | | Cl (mgL-1) >= 1.02
| | | | T < 15.5 : 3.96 (1/0)
| | | | T >= 15.5 : 4.23 (2/0)
| | T >= 18.75 : 3.71 (1/0)
Cl (mgL-1) >= 1.72
| Cl (mgL-1) < 4.95
| | Ammonia (mgL-1) < 0.66
| | | Cl (mgL-1) < 4.03

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| | | | T < 17 : 1.08 (3/0)
| | | | T >= 17 : 0.96 (1/0)
| | | Cl (mgL-1) >= 4.03
| | | | pH. < 5.75 : 1.35 (1/0)
| | | | pH. >= 5.75 : 1.19 (1/0)
| | Ammonia (mgL-1) >= 0.66
| | | Ammonia (mgL-1) < 0.8
| | | | Cl (mgL-1) < 3.45
| | | | | Initial CN (mgL-1) < 3.75 : 1.61 (1/0)
| | | | | Initial CN (mgL-1) >= 3.75
| | | | | VDS (mgL-1) < 147.5 : 2.33 (1/0)
| | | | | VDS (mgL-1) >= 147.5 : 2.95 (1/0)
| | | | Cl (mgL-1) >= 3.45
| | | | | pH. < 5.95 : 0.98 (1/0)
| | | | | pH. >= 5.95 : 1.58 (1/0)
| | | Ammonia (mgL-1) >= 0.8
| | | | Ammonia (mgL-1) < 0.87
| | | | | Cl (mgL-1) < 2.55 : 1.39 (1/0)
| | | | | Cl (mgL-1) >= 2.55 : 1.48 (1/0)
| | | | Ammonia (mgL-1) >= 0.87
| | | | | pH. < 5.95 : 1.05 (1/0)
| | | | | pH. >= 5.95 : 1.25 (1/0)
| Cl (mgL-1) >= 4.95
| | Cl (mgL-1) < 5.95
| | | pH. < 5.1 : 0.86 (1/0)
| | | pH. >= 5.1
| | | | VDS (mgL-1) < 150 : 0.7 (3/0)
| | | | VDS (mgL-1) >= 150 : 0.58 (1/0)
| | Cl (mgL-1) >= 5.95 : 0.19 (4/0)

Size of the tree : 47

RandomTree

=====

Cl (mgL-1) < 1.72

| Initial CN (mgL-1) < 3.75

| | pH. < 5.05 : 1.31 (1/0)

| | pH. >= 5.05

| | | VDS (mgL-1) < 152.5 : 1.61 (1/0)

| | | VDS (mgL-1) >= 152.5 : 1.46 (1/0)

| Initial CN (mgL-1) >= 3.75

| | Cl (mgL-1) < 1.31

| | | Ammonia (mgL-1) < 0.56 : 4.52 (1/0)

| | | Ammonia (mgL-1) >= 0.56 : 4.24 (2/0)

| | Cl (mgL-1) >= 1.31

| | | VDS (mgL-1) < 146 : 3.71 (1/0)

| | | VDS (mgL-1) >= 146 : 3.96 (1/0)

Cl (mgL-1) >= 1.72

| T < 19.75

| | Initial CN (mgL-1) < 6.25

| | | Cl (mgL-1) < 2.02

| | | | T < 17.25 : 1.39 (1/0)

| | | | T >= 17.25 : 1.61 (1/0)

| | | Cl (mgL-1) >= 2.02

| | | | pH. < 6.3

| | | | T < 18.5

| | | | | Initial CN (mgL-1) < 3.75 : 1.08 (2/0)

| | | | | Initial CN (mgL-1) >= 3.75

| | | | | | Cl (mgL-1) < 3.42 : 1.48 (1/0)
 | | | | | | Cl (mgL-1) >= 3.42 : 1.22 (2/0)
 | | | | | T >= 18.5 : 0.98 (1/0)
 | | | | pH. >= 6.3
 | | | | | VDS (mgL-1) < 136 : 1.12 (1/0)
 | | | | | VDS (mgL-1) >= 136 : 1 (2/0)
 | | Initial CN (mgL-1) >= 6.25
 | | | Ammonia (mgL-1) < 0.57
 | | | | T < 16.75
 | | | | | VDS (mgL-1) < 152.5 : 0.2 (2/0)
 | | | | | VDS (mgL-1) >= 152.5 : 0.58 (1/0)
 | | | | T >= 16.75 : 0.69 (1/0)
 | | | Ammonia (mgL-1) >= 0.57
 | | | | Cl (mgL-1) < 4.95
 | | | | | VDS (mgL-1) < 155 : 1.35 (1/0)
 | | | | | VDS (mgL-1) >= 155 : 1.58 (1/0)
 | | | | Cl (mgL-1) >= 4.95
 | | | | | VDS (mgL-1) < 140.5
 | | | | | | T < 16 : 0.74 (1/0)
 | | | | | | T >= 16 : 0.86 (1/0)
 | | | | | VDS (mgL-1) >= 140.5
 | | | | | | Ammonia (mgL-1) < 0.66 : 0.66 (1/0)
 | | | | | | Ammonia (mgL-1) >= 0.66 : 0.17 (2/0)
 | T >= 19.75
 | | T < 21.25 : 2.33 (1/0)
 | | T >= 21.25 : 2.95 (1/0)

Size of the tree : 51

RandomTree

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pH. < 6.05

| Cl (mgL-1) < 1.19

| | VDS (mgL-1) < 161 : 4.23 (2/0)

| | VDS (mgL-1) >= 161 : 4.52 (1/0)

| Cl (mgL-1) >= 1.19

| | Cl (mgL-1) < 1.72

| | | Initial CN (mgL-1) < 3.75

| | | | Ammonia (mgL-1) < 0.88 : 1.46 (1/0)

| | | | Ammonia (mgL-1) >= 0.88 : 1.31 (1/0)

| | | Initial CN (mgL-1) >= 3.75

| | | | pH. < 5.25 : 3.71 (1/0)

| | | | pH. >= 5.25 : 3.96 (1/0)

| | Cl (mgL-1) >= 1.72

| | | T < 20.5

| | | | T < 13.75 : 0.58 (1/0)

| | | | T >= 13.75

| | | | | Cl (mgL-1) < 1.98 : 1.61 (1/0)

| | | | | Cl (mgL-1) >= 1.98

| | | | | Cl (mgL-1) < 4.95

| | | | | | pH. < 5.25

| | | | | | pH. < 5.1 : 0.98 (1/0)

| | | | | | pH. >= 5.1 : 1.1 (1/0)

| | | | | | pH. >= 5.25

| | | | | | Cl (mgL-1) < 2.7 : 1.05 (1/0)

| | | | | | Cl (mgL-1) >= 2.7

| | | | | | | pH. < 5.75

| | | | | | | pH. < 5.4 : 1.48 (1/0)

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| | | | | | | | | pH. >= 5.4 : 1.35 (1/0)
| | | | | | | | | pH. >= 5.75 : 1.22 (2/0)
| | | | | | Cl (mgL-1) >= 4.95 : 0.86 (1/0)
| | | T >= 20.5 : 2.95 (1/0)
pH. >= 6.05
| Cl (mgL-1) < 5.05
| | T < 19.25
| | | VDS (mgL-1) < 142.5
| | | | Ammonia (mgL-1) < 0.6 : 1.12 (1/0)
| | | | Ammonia (mgL-1) >= 0.6 : 1 (2/0)
| | | VDS (mgL-1) >= 142.5
| | | | Ammonia (mgL-1) < 0.77 : 1.6 (2/0)
| | | | Ammonia (mgL-1) >= 0.77 : 1.39 (1/0)
| | T >= 19.25 : 2.33 (1/0)
| Cl (mgL-1) >= 5.05
| | Ammonia (mgL-1) < 0.88
| | | Cl (mgL-1) < 5.8 : 0.68 (2/0)
| | | Cl (mgL-1) >= 5.8 : 0.19 (4/0)
| | Ammonia (mgL-1) >= 0.88 : 0.74 (1/0)

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Size of the tree : 47

RandomTree

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pH. < 6.05
| T < 14.25
| | pH. < 5.65
| | | VDS (mgL-1) < 150 : 1.1 (1/0)

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| | | VDS (mgL-1) >= 150 : 0.58 (1/0)
| | pH. >= 5.65 : 1.19 (1/0)
| T >= 14.25
| | Initial CN (mgL-1) < 3.75
| | | VDS (mgL-1) < 138 : 1.05 (1/0)
| | | VDS (mgL-1) >= 138
| | | | pH. < 5.05 : 1.31 (1/0)
| | | | pH. >= 5.05
| | | | | pH. < 5.4 : 1.46 (1/0)
| | | | | pH. >= 5.4 : 1.61 (1/0)
| | Initial CN (mgL-1) >= 3.75
| | | VDS (mgL-1) < 154.5
| | | | Cl (mgL-1) < 2.96
| | | | | pH. < 5.6
| | | | | T < 18
| | | | | | pH. < 5.25 : 4.26 (1/0)
| | | | | | pH. >= 5.25 : 3.96 (1/0)
| | | | | T >= 18 : 3.71 (1/0)
| | | | | pH. >= 5.6 : 2.95 (1/0)
| | | | Cl (mgL-1) >= 2.96
| | | | | pH. < 5.15
| | | | | Initial CN (mgL-1) < 6.25 : 0.98 (1/0)
| | | | | Initial CN (mgL-1) >= 6.25 : 0.86 (1/0)
| | | | | pH. >= 5.15
| | | | | pH. < 5.4 : 1.48 (1/0)
| | | | | pH. >= 5.4
| | | | | T < 18.5 : 1.25 (1/0)
| | | | | T >= 18.5 : 1.35 (1/0)
| | | VDS (mgL-1) >= 154.5
| | | | VDS (mgL-1) < 161 : 4.21 (1/0)

- | | | VDS (mgL-1) >= 161 : 4.52 (1/0)
- pH. >= 6.05
- | Initial CN (mgL-1) < 6.25
- | | T < 19.25
- | | | VDS (mgL-1) < 142.5
- | | | | Ammonia (mgL-1) < 0.6 : 1.12 (1/0)
- | | | | Ammonia (mgL-1) >= 0.6 : 1 (2/0)
- | | | VDS (mgL-1) >= 142.5
- | | | | pH. < 6.2 : 1.61 (1/0)
- | | | | pH. >= 6.2 : 1.39 (1/0)
- | | T >= 19.25 : 2.33 (1/0)
- | Initial CN (mgL-1) >= 6.25
- | | VDS (mgL-1) < 155.5
- | | | Cl (mgL-1) < 5.8 : 0.7 (3/0)
- | | | Cl (mgL-1) >= 5.8 : 0.19 (4/0)
- | | VDS (mgL-1) >= 155.5 : 1.58 (1/0)

Size of the tree : 51

RandomTree

=====

- Cl (mgL-1) < 1.72
- | Initial CN (mgL-1) < 3.75
- | | Cl (mgL-1) < 1.38
- | | | pH. < 5.6 : 1.46 (1/0)
- | | | pH. >= 5.6 : 1.61 (1/0)
- | | Cl (mgL-1) >= 1.38 : 1.31 (1/0)
- | Initial CN (mgL-1) >= 3.75

- | | Cl (mgL-1) < 1.31
- | | | Ammonia (mgL-1) < 0.56 : 4.52 (1/0)
- | | | Ammonia (mgL-1) >= 0.56 : 4.24 (2/0)
- | | Cl (mgL-1) >= 1.31
- | | | pH. < 5.25 : 3.71 (1/0)
- | | | pH. >= 5.25 : 3.96 (1/0)
- Cl (mgL-1) >= 1.72
- | T < 19.75
- | | Cl (mgL-1) < 5.15
- | | | VDS (mgL-1) < 156.5
- | | | | pH. < 5.1
- | | | | | Initial CN (mgL-1) < 6.25 : 0.98 (1/0)
- | | | | | Initial CN (mgL-1) >= 6.25 : 0.86 (1/0)
- | | | | pH. >= 5.1
- | | | | | Initial CN (mgL-1) < 3.75
- | | | | | | pH. < 6.3 : 1.08 (2/0)
- | | | | | | pH. >= 6.3 : 0.96 (1/0)
- | | | | | Initial CN (mgL-1) >= 3.75
- | | | | | | Ammonia (mgL-1) < 0.73
- | | | | | | | Cl (mgL-1) < 4.55
- | | | | | | | VDS (mgL-1) < 146.5
- | | | | | | | | VDS (mgL-1) < 137 : 1.12 (1/0)
- | | | | | | | | VDS (mgL-1) >= 137 : 1.03 (1/0)
- | | | | | | | | VDS (mgL-1) >= 146.5 : 1.19 (1/0)
- | | | | | | | Cl (mgL-1) >= 4.55 : 1.35 (1/0)
- | | | | | | Ammonia (mgL-1) >= 0.73
- | | | | | | | Ammonia (mgL-1) < 0.87 : 1.48 (1/0)
- | | | | | | | Ammonia (mgL-1) >= 0.87 : 1.25 (1/0)
- | | | VDS (mgL-1) >= 156.5
- | | | | Ammonia (mgL-1) < 0.79 : 1.6 (2/0)

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| | | | Ammonia (mgL-1) >= 0.79 : 1.39 (1/0)
| | Cl (mgL-1) >= 5.15
| | | Cl (mgL-1) < 5.95
| | | | pH. < 5.75 : 0.58 (1/0)
| | | | pH. >= 5.75 : 0.7 (3/0)
| | | Cl (mgL-1) >= 5.95 : 0.19 (4/0)
| T >= 19.75
| | pH. < 6.1 : 2.95 (1/0)
| | pH. >= 6.1 : 2.33 (1/0)

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Size of the tree : 47

RandomTree

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pH. < 6.05
| T < 14.25
| | Initial CN (mgL-1) < 6.25
| | | pH. < 5.6 : 1.1 (1/0)
| | | pH. >= 5.6 : 1.19 (1/0)
| | Initial CN (mgL-1) >= 6.25 : 0.58 (1/0)
| T >= 14.25
| | Cl (mgL-1) < 1.19
| | | VDS (mgL-1) < 161 : 4.23 (2/0)
| | | VDS (mgL-1) >= 161 : 4.52 (1/0)
| | Cl (mgL-1) >= 1.19
| | | VDS (mgL-1) < 143.5
| | | | T < 16
| | | | | pH. < 5.15 : 1.31 (1/0)

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| | | | | pH. $\geq 5.15 : 1.48$ (1/0)
| | | | | T ≥ 16
| | | | | VDS (mgL-1) $< 136.5 : 1.05$ (1/0)
| | | | | VDS (mgL-1) $\geq 136.5 : 0.86$ (1/0)
| | | VDS (mgL-1) ≥ 143.5
| | | | Cl (mgL-1) < 3.19
| | | | | Ammonia (mgL-1) < 0.83
| | | | | | pH. < 5.6
| | | | | | | pH. $< 5.25 : 3.71$ (1/0)
| | | | | | | pH. $\geq 5.25 : 3.96$ (1/0)
| | | | | | | pH. ≥ 5.6
| | | | | | | T $< 19.75 : 1.61$ (1/0)
| | | | | | | T $\geq 19.75 : 2.95$ (1/0)
| | | | | Ammonia (mgL-1) $\geq 0.83 : 1.46$ (1/0)
| | | | Cl (mgL-1) ≥ 3.19
| | | | | VDS (mgL-1) $< 148 : 0.98$ (1/0)
| | | | | VDS (mgL-1) ≥ 148
| | | | | | pH. $< 5.75 : 1.35$ (1/0)
| | | | | | pH. $\geq 5.75 : 1.25$ (1/0)
pH. ≥ 6.05
| T < 19.75
| | Cl (mgL-1) < 5.05
| | | Ammonia (mgL-1) < 0.64
| | | | Ammonia (mgL-1) $< 0.6 : 1.12$ (1/0)
| | | | Ammonia (mgL-1) $\geq 0.6 : 1$ (2/0)
| | | Ammonia (mgL-1) ≥ 0.64
| | | | pH. $< 6.2 : 1.61$ (1/0)
| | | | pH. ≥ 6.2
| | | | | Ammonia (mgL-1) $< 0.77 : 1.58$ (1/0)
| | | | | Ammonia (mgL-1) $\geq 0.77 : 1.39$ (1/0)

- | | Cl (mgL-1) >= 5.05
- | | | Ammonia (mgL-1) < 0.88
- | | | | Cl (mgL-1) < 5.8 : 0.68 (2/0)
- | | | | Cl (mgL-1) >= 5.8 : 0.19 (4/0)
- | | | Ammonia (mgL-1) >= 0.88 : 0.74 (1/0)
- | T >= 19.75 : 2.33 (1/0)

Size of the tree : 51

RandomTree

=====

Initial CN (mgL-1) < 6.25

- | Cl (mgL-1) < 1.19
- | | VDS (mgL-1) < 161 : 4.23 (2/0)
- | | VDS (mgL-1) >= 161 : 4.52 (1/0)
- | Cl (mgL-1) >= 1.19
- | | pH. < 5.8
- | | | Initial CN (mgL-1) < 3.75
- | | | | T < 16.25
- | | | | | VDS (mgL-1) < 145 : 1.31 (1/0)
- | | | | | VDS (mgL-1) >= 145 : 1.1 (1/0)
- | | | | T >= 16.25
- | | | | | T < 18 : 1.61 (1/0)
- | | | | | T >= 18 : 1.46 (1/0)
- | | | Initial CN (mgL-1) >= 3.75
- | | | | Cl (mgL-1) < 2.96
- | | | | | VDS (mgL-1) < 150
- | | | | | pH. < 5.25 : 3.71 (1/0)

| | | | | pH. $\geq 5.25 : 3.96$ (1/0)
| | | | | VDS (mgL-1) $\geq 150 : 2.95$ (1/0)
| | | | Cl (mgL-1) ≥ 2.96
| | | | | pH. $< 5.15 : 0.98$ (1/0)
| | | | | pH. $\geq 5.15 : 1.48$ (1/0)
| | pH. ≥ 5.8
| | | T < 19.25
| | | | pH. < 6.45
| | | | | Cl (mgL-1) < 2.05
| | | | | VDS (mgL-1) $< 156 : 1.61$ (1/0)
| | | | | VDS (mgL-1) $\geq 156 : 1.39$ (1/0)
| | | | | Cl (mgL-1) ≥ 2.05
| | | | | pH. $< 5.95 : 1.05$ (1/0)
| | | | | pH. $\geq 5.95 : 1.22$ (2/0)
| | | | pH. ≥ 6.45
| | | | | pH. $< 6.75 : 0.99$ (2/0)
| | | | | pH. $\geq 6.75 : 1.12$ (1/0)
| | | T $\geq 19.25 : 2.33$ (1/0)
Initial CN (mgL-1) ≥ 6.25
| Cl (mgL-1) < 4.95
| | T $< 18 : 1.58$ (1/0)
| | T $\geq 18 : 1.35$ (1/0)
| Cl (mgL-1) ≥ 4.95
| | Ammonia (mgL-1) < 0.86
| | | Cl (mgL-1) < 5.95
| | | | VDS (mgL-1) $< 150 : 0.68$ (2/0)
| | | | VDS (mgL-1) $\geq 150 : 0.58$ (1/0)
| | | Cl (mgL-1) $\geq 5.95 : 0.19$ (4/0)
| | Ammonia (mgL-1) ≥ 0.86
| | | T $< 16 : 0.74$ (1/0)

| | | T >= 16 : 0.86 (1/0)

Size of the tree : 49

RandomTree

=====

Cl (mgL-1) < 1.72

| Initial CN (mgL-1) < 3.75

| | pH. < 5.05 : 1.31 (1/0)

| | pH. >= 5.05

| | | T < 17.75 : 1.61 (1/0)

| | | T >= 17.75 : 1.46 (1/0)

| Initial CN (mgL-1) >= 3.75

| | Cl (mgL-1) < 1.31

| | | Ammonia (mgL-1) < 0.56 : 4.52 (1/0)

| | | Ammonia (mgL-1) >= 0.56 : 4.24 (2/0)

| | Cl (mgL-1) >= 1.31

| | | pH. < 5.25 : 3.71 (1/0)

| | | pH. >= 5.25 : 3.96 (1/0)

Cl (mgL-1) >= 1.72

| T < 19.75

| | Cl (mgL-1) < 5.15

| | | pH. < 5.25

| | | | Ammonia (mgL-1) < 0.78

| | | | pH. < 5.1 : 0.98 (1/0)

| | | | pH. >= 5.1 : 1.1 (1/0)

| | | | Ammonia (mgL-1) >= 0.78 : 0.86 (1/0)

| | | pH. >= 5.25


```

| | | | Ammonia (mgL-1) < 0.67
| | | | | VDS (mgL-1) < 145.5
| | | | | | Ammonia (mgL-1) < 0.6 : 1.12 (1/0)
| | | | | | Ammonia (mgL-1) >= 0.6 : 1 (2/0)
| | | | | VDS (mgL-1) >= 145.5
| | | | | | pH. < 5.75 : 1.35 (1/0)
| | | | | | pH. >= 5.75 : 1.19 (1/0)
| | | | Ammonia (mgL-1) >= 0.67
| | | | | VDS (mgL-1) < 136.5 : 1.05 (1/0)
| | | | | VDS (mgL-1) >= 136.5
| | | | | | T < 17.75
| | | | | | | Ammonia (mgL-1) < 0.79 : 1.6 (2/0)
| | | | | | | Ammonia (mgL-1) >= 0.79
| | | | | | | | Initial CN (mgL-1) < 3.75 : 1.39 (1/0)
| | | | | | | | Initial CN (mgL-1) >= 3.75 : 1.48 (1/0)
| | | | | | T >= 17.75 : 1.25 (1/0)
| | Cl (mgL-1) >= 5.15
| | | Cl (mgL-1) < 5.95
| | | | VDS (mgL-1) < 150 : 0.7 (3/0)
| | | | VDS (mgL-1) >= 150 : 0.58 (1/0)
| | | Cl (mgL-1) >= 5.95 : 0.19 (4/0)
| T >= 19.75
| | pH. < 6.1 : 2.95 (1/0)
| | pH. >= 6.1 : 2.33 (1/0)

```

Size of the tree : 47

RandomTree

=====

Initial CN (mgL-1) < 6.25

| Cl (mgL-1) < 1.19

| | VDS (mgL-1) < 161 : 4.23 (2/0)

| | VDS (mgL-1) >= 161 : 4.52 (1/0)

| Cl (mgL-1) >= 1.19

| | Cl (mgL-1) < 1.72

| | | Initial CN (mgL-1) < 3.75

| | | | pH. < 5.05 : 1.31 (1/0)

| | | | pH. >= 5.05

| | | | | pH. < 5.6 : 1.46 (1/0)

| | | | | pH. >= 5.6 : 1.61 (1/0)

| | | Initial CN (mgL-1) >= 3.75

| | | | T < 16.75 : 3.96 (1/0)

| | | | T >= 16.75 : 3.71 (1/0)

| | Cl (mgL-1) >= 1.72

| | | Ammonia (mgL-1) < 0.66

| | | | Ammonia (mgL-1) < 0.6 : 1.14 (3/0)

| | | | Ammonia (mgL-1) >= 0.6 : 1 (2/0)

| | | Ammonia (mgL-1) >= 0.66

| | | | Ammonia (mgL-1) < 0.8

| | | | | T < 19.75

| | | | | T < 18.25 : 1.61 (1/0)

| | | | | T >= 18.25 : 0.98 (1/0)

| | | | | T >= 19.75

| | | | | pH. < 6.1 : 2.95 (1/0)

| | | | | pH. >= 6.1 : 2.33 (1/0)

| | | | Ammonia (mgL-1) >= 0.8

| | | | | VDS (mgL-1) < 136.5 : 1.05 (1/0)

| | | | | VDS (mgL-1) >= 136.5

| | | | | Ammonia (mgL-1) < 0.87
 | | | | | VDS (mgL-1) < 153.5 : 1.48 (1/0)
 | | | | | VDS (mgL-1) >= 153.5 : 1.39 (1/0)
 | | | | | Ammonia (mgL-1) >= 0.87 : 1.25 (1/0)
 Initial CN (mgL-1) >= 6.25
 | VDS (mgL-1) < 156
 | | Cl (mgL-1) < 5.95
 | | | T < 18.5
 | | | | pH. < 5.1 : 0.86 (1/0)
 | | | | pH. >= 5.1
 | | | | | pH. < 5.75 : 0.58 (1/0)
 | | | | | pH. >= 5.75 : 0.7 (3/0)
 | | | T >= 18.5 : 1.35 (1/0)
 | | Cl (mgL-1) >= 5.95 : 0.19 (4/0)
 | VDS (mgL-1) >= 156 : 1.58 (1/0)

Equation (S3)

Scheme: weka.classifiers.functions.MultilayerPerceptron -L 0.3 -M 0.2 -N 500 -V 0 -S 0 -E 20 -H a

Relation: Cyanor-main

Instances: 32

Attributes: 7

pH.

VDS (mgL-1)

T

Initial CN (mgL-1)

Ammonia (mgL-1)

Cl (mgL-1)

RCN (mgL-1)

Test mode: split 80.0% train, remainder test

=== Classifier model (full training set) ===

Linear Node 0

Inputs Weights

Threshold 2.122096662853943

Node 1 -1.21940036894971

Node 2 -1.5562208818852796

Node 3 -1.8044694585121488

Sigmoid Node 1

Inputs Weights

Threshold -0.9054362837728036

Attrib pH. 0.09039865963932807

Attrib VDS (mgL-1) -0.07139478682658817

Attrib T 0.029243922598960335

Attrib Initial CN (mgL-1) -2.370088586517672

Attrib Ammonia (mgL-1) -0.1052728481230243

Attrib Cl (mgL-1) -0.10280078432456362

Sigmoid Node 2

Inputs Weights

Threshold 1.7820448584204795

Attrib pH. -0.19930194262713585

Attrib VDS (mgL-1) -0.13549759769716443

Attrib T -0.1564064521942965

Attrib Initial CN (mgL-1) -2.330258762433901

Attrib Ammonia (mgL-1) -0.09697410569766182

Attrib Cl (mgL-1) 2.033070540154397

Sigmoid Node 3

Inputs Weights

Threshold -0.12968913690319772

Attrib pH. 0.1758683944140249

Attrib VDS (mgL-1) -0.5324652145020334

Attrib T 0.027430190200114363

Attrib Initial CN (mgL-1) 1.4727980840879717

Attrib Ammonia (mgL-1) 0.6885823588986271

Attrib Cl (mgL-1) 2.952000268488757

Class

Input

Node 0