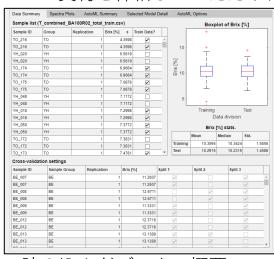
分析評価 66

可視-近赤外スペクトルの自動解析ソフトウエア

- クリックだけで、初心者でも簡単に検量線を構築 -

成果の特徴

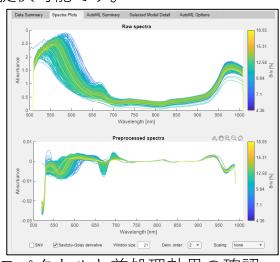
- 可視-近赤外スペクトルを用いた検量線作成を全自動を行うソフトウエアです。
- データの読み込み、データ分割(検量線作成・評価、クロスバリデーション)、 スペクトル前処理方法と変数選択の最適化、線形回帰モデルの構築、解析結果の 保存といった全ての作業をクリック操作のみで行なえます。
- 可視-近赤外スペクトル以外にも、スペクトル状のデータであれば適用できます。
- ライセンス契約を締結していただければご提供可能です。



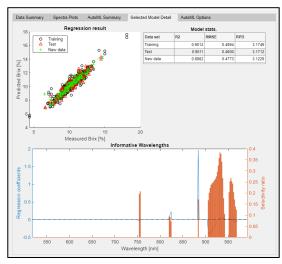
読み込んだデータの概要

Data Summary Spe	ctra Plots AutoML Summ	ary Selected Model De	tail AutoML Options	
Meta-model List (sele	cted model: red italic fon	t)		
Model ID	Preprocessing	Learner	CV Error	Test Error
LASSO111532_pp009	9	LASSO	0.3893	0.5513
LASSO111534_pp025	25	LASSO	0.3935	4.9811e+12
LASSO111534_pp039	39	LASSO	0.4016	0.5133
LASSO111534_pp035	35	LASSO	0.4077	0.5105
LASSO111534_pp001	1	LASSO	0.4136	0.6356
LASSO111534_pp031	31	LASSO	0.4139	0.5783
PLSR111528_pp022	22	PLSR	0.4601	0.4600
PLSR111527_pp018	18	PLSR	0.4682	0.5177
PLSR111525_pp010	10	PLSR	0.5072	0.6709
PLSR111527_pp014	14	PLSR	0.5151	0.7231
LASSO111533_pp027 Detail of the Selected Preprocessing options	Meta-model	LASSO Window size	0.5226	0.6578
Detail of the Selected	Meta-model Derivative	Window size	Deriv. order	Scaling
Detail of the Selected Preprocessing options SNV	Meta-model Derivative	Window size	Deriv. order	Scaling 2 Autoscale
Detail of the Selected Preprocessing options SNV	Meta-model Derivative prparameters (model with minim	Window size	Deriv. order	Scaling 2 Autoscale
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner	Meta-model Derivative Proparameters (model with minim	Window size 2 um CV error; yellow backgou Test Error	Deriv. order	Scaling 2 Autoscale red italic font) #LV
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR	Meta-model Derivative Proparameters (model with minim CV Error 0.5225	Window size 2 um CV error: yellow backgou Test Error 0.5437	Deriv. order 11 nd/ bold font, selected model: #Non-zero coeff.	Scaling 2 Autoscale red italic font) #LV 4
Detail of the Selected Perprocessing options SNV Models accuracy and hype Leaner PLSR PLSR	Meta-model Derivative Perparameters (model with minim CV Error 0.5225 0.5530	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709	Deriv. order 1 di bold font, selected model: #Non-zero coeff. 39 38	Scaling 2 Autoscale red italic font) #LV 4 4
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR	Meta-model Derivative Perivative CV Error 0.5225 0.5530 0.5594	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6679	Deriv. order 11 add bold font, selected model: #Non-zero coeff. 39 38	Scaling 2 Autoscale red italic font) #LV 4 4 4
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR	Meta-model Derivative Parameters (model with minim CV Error 0.5225 0.5530 0.5569 0.5569	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6670 0.6701	Derix, order 1 Derix, order 1 Derix, order 10 Derix, selected model: #Non-zero coeff. 39 38 37 37	Scaling 2 Autoscale red flatic font) #LV 4 4 4 4 4
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative Derivative CV Error 0.5225 0.5530 0.5598 0.5598 0.5722	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6709 0.6701 0.7408	Derix, order 11 #Non-zero coeff. 39 37 36 35	Scaling 2 Autoscale red italic font) #LV 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative CV Error 0.5222 0.5590 0.5590 0.4867	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6679 0.6701 0.7408	Deriv. order 11 11 12 13 14 15 15 15 16 16 16 16 16	Scaling 2 Autoscate red stalic font) #LV 4 4 4 5
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative Derivative CV Error 0 5229 0 5530 0 5594 0 5722 0 4807 0 4518	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6579 0.6701 0.7408 0.4606 0.4616	Deriv. order 1 Plont PNon-zero coeff. 38 37 36 35 34 33	Scaling 2 Autoscale red italic font) #LV 4 4 4 4 5 5
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative □ CV Error 0.5225 0.5539 0.5594 0.5594 0.4607 0.4418 1.2245	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6679 0.6701 0.7408 0.4600 0.4616 1.3350	Deriv. order 1 ms ms ms ms ms ms ms m	Scaling 2 Autoscale red flalic font) #LV 4 4 4 4 5 5 5 2
Detail of the Selected Preprocessing options SNV Models accuracy and hypet Leaner PLSR PLSR PLSR PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative ✓ CV Error 0.5225 0.5530 0.5540 0.5722 0.4667 0.4918 1.2228	Window size 2 2 um CV error yellow backgou Test Error 0.5437 0.5709 0.6701 0.7400 0.4816 0.4816 1.3350	Deriv. order 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Scaling 2 Autocate red falls font) #LV 4 4 4 4 5 5 2 2
Detail of the Selected Preprocessing options SNV Models accuracy and hype Leaner PLSR PLSR PLSR PLSR PLSR PLSR	Meta-model Derivative □ CV Error 0.5225 0.5539 0.5594 0.5594 0.4607 0.4418 1.2245	Window size 2 um CV error: yellow backgou Test Error 0.5437 0.5709 0.6679 0.6701 0.7408 0.4600 0.4616 1.3350	Deriv. order 1 ms ms ms ms ms ms ms m	Scaling 2 Autoscale red flalic font) #LV 4 4 4 4 5 5 5 2

様々な前処理条件・変数で 作成した検量線のリスト



スペクトルと前処理効果の確認



検量線による推定結果と 重要な波長条件

参考

蔦 瑞樹 (2020) N2SA FullAuto (NARO NIR Spectral Analyzer Full Automatic), 農研機構職務作成プログラム, 機構-R04



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