

Table S1: Designs of experiments

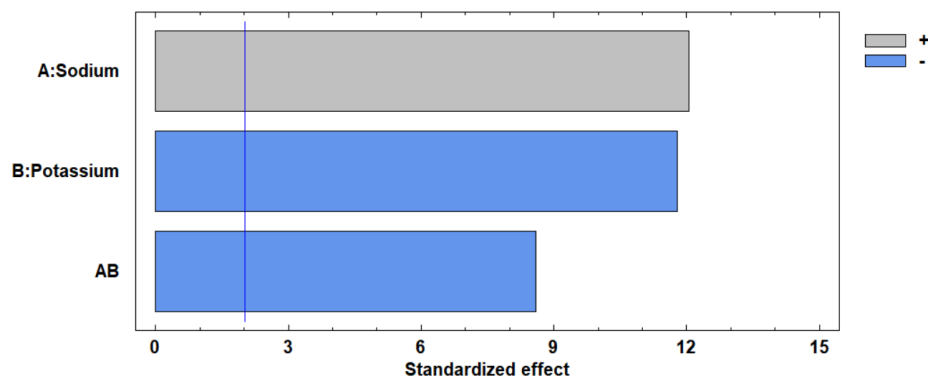
Design of Experiments 1

Model	Fraction Peak 2	Area1/Area2	Height1/Height2	FractA/FractH
Transformation	none	none	none	none
Model d.f.	3	3	3	3
P-value	0.0000	0.0000	0.0000	0.0000
Error d.f.	45	45	45	45
Std. error	0.105356	657.355	243.04	0.346926
R-squared	88.85	64.35	74.38	75.89
Adj. R-squared	87.86	61.18	72.10	73.74

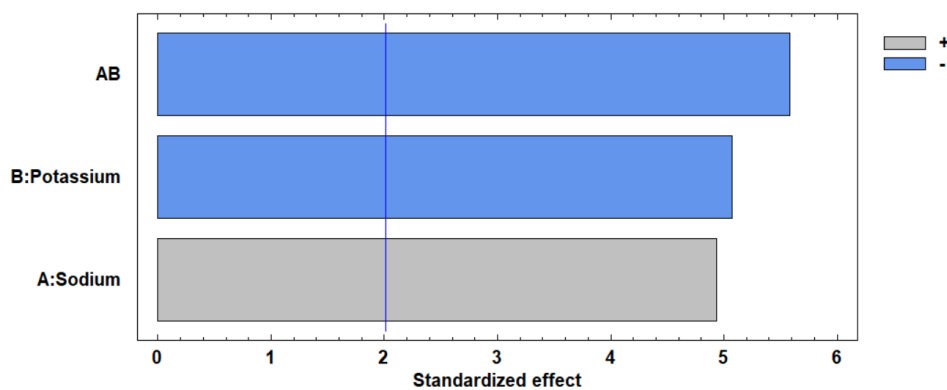
				Power at	Power at	Power at
Coefficient	Standard Error	VIF	Ri-Squared	SN = 0.5	SN = 1.0	SN = 2.0
A	0.2	1.0	0.0	23.14%	68.67%	99.83%
B	0.2	1.0	0.0	23.14%	68.67%	99.83%
AB	0.282842	1.0	0.0	13.92%	40.92%	93.31%

alpha = 5.0%, sigma estimated from total error with 45 d.f.

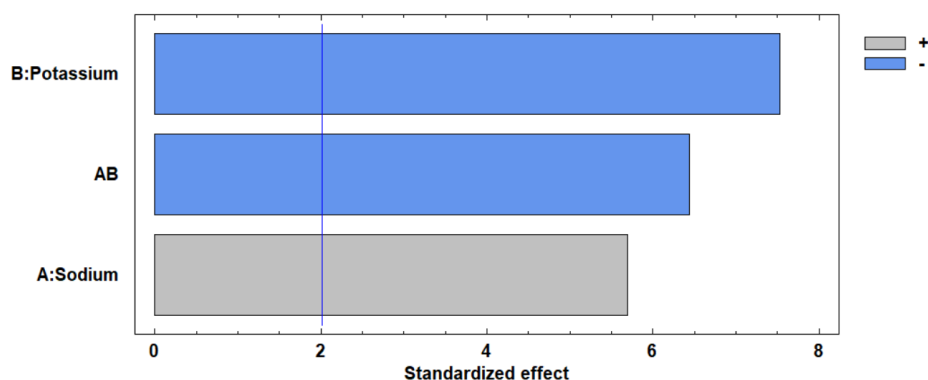
Standardized Pareto Chart for Fraction Peak 2



Standardized Pareto Chart for Area1/Area2



Standardized Pareto Chart for Height1/Height2



Design of Experiments 2

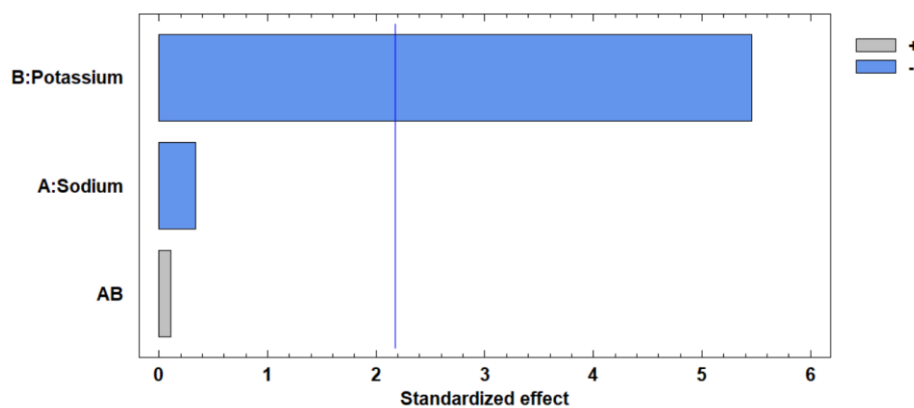
Step 4: Analysis of the experimental results

Model	RAK_Area	RANa_Area	Conc_ratio
Transformation	none	none	none
Model d.f.	3	3	3
P-value	0.0014	0.0265	0.0000
Error d.f.	12	12	12
Std. error	0.0219425	0.00568864	0.0000120876
R-squared	71.40	52.32	100.00
Adj. R-squared	64.25	40.40	100.00

				Power at	Power at	Power at
Coefficient	Standard Error	VIF	Ri-Squared	SN = 0.5	SN = 1.0	SN = 2.0
A	0.335409	1.0	0.0	10.56%	27.89%	78.13%
B	0.33541	1.0	0.0	10.56%	27.89%	78.13%
AB	0.449999	1.0	0.0	8.06%	17.60%	53.32%

alpha = 5.0%, sigma estimated from total error with 12 d.f.

Standardized Pareto Chart for RAK_Area



Standardized Pareto Chart for RANa_Area

