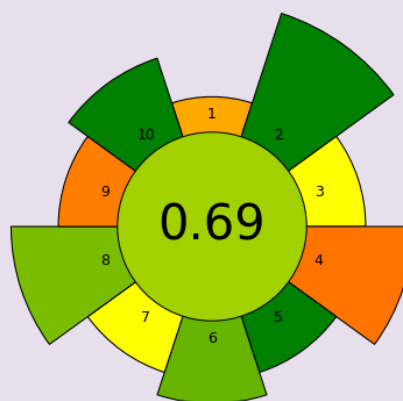


AGREEprep

Analytical Greenness Metric for Sample Preparation

24/12/2024 06:48:23

Report



Non-derivative method

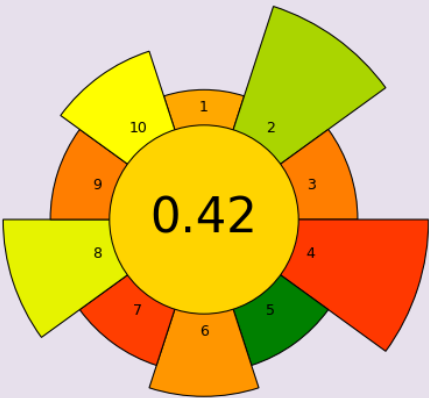
#	Criterion		Score	Weight
1.	Sample preparation placement:	On site	0.33	1
2.	Hazardous materials:	0 [g or mL]	1.00	5
3.	Sustainability, renewability, and reusability of materials:	Materials are not sustainable or renewable, but are used SEVERAL TIMES	0.50	2
4.	Waste:	12 [g or mL]	0.23	4
5.	Size economy of the sample	Mass or volume of the sample: Not set [g or mL]	1.00	2
6.	Sample throughput:	30 [samples/h]	0.80	3
7.	Integration and automation	Sample prep. steps: 2 steps or fewer, Semi-automated systems	0.50	2
8.	Energy consumption:	25 [W]	0.76	4
9.	Post-sample preparation configuration for analysis:	Liquid chromatography, gas chromatography with quadrupole detection, etc.	0.25	2
10.	Operator's safety:	No hazards or no exposure	1.00	3

AGREEprep

Analytical Greenness Metric for Sample Preparation

24/12/2024 06:57:03

Report



AQC derivatization method

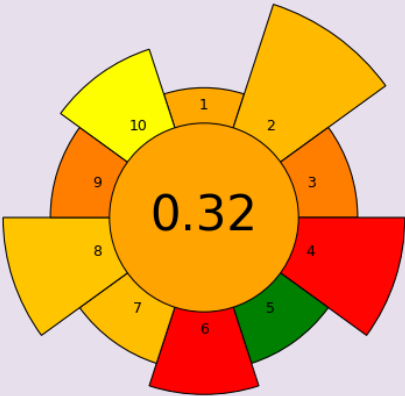
#	Criterion		Score	Weight
1.	Sample preparation placement:	On site	0.33	1
2.	Hazardous materials:	0.1 [g or mL]	0.67	5
3.	Sustainability, renewability, and reusability of materials:	25-50% of reagents and materials are sustainable or renewable	0.25	2
4.	Waste:	25 [g or mL]	0.11	5
5.	Size economy of the sample	Mass or volume of the sample: 0.001 [g or mL]	1.00	2
6.	Sample throughput:	3.53 [samples/h]	0.30	3
7.	Integration and automation	Sample prep. steps: 5 steps, Semi-automated systems	0.13	2
8.	Energy consumption:	57.5 [W]	0.55	4
9.	Post-sample preparation configuration for analysis:	Liquid chromatography, gas chromatography with quadrupole detection, etc.	0.25	2
10.	Operator's safety:	2 hazards	0.50	3

AGREEp_{rep}

Analytical Greenness Metric for Sample Preparation

24/12/2024 14:31:28

Report



PITC derivatization method

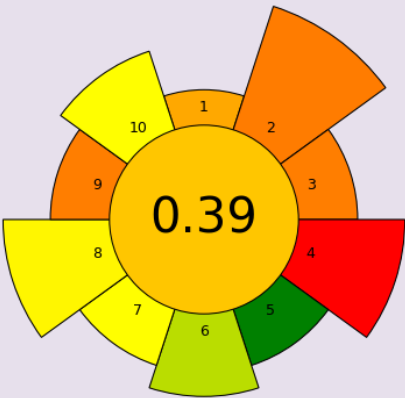
#	Criterion		Score	Weight
1.	Sample preparation placement:	On site	0.33	1
2.	Hazardous materials:	0.8 [g or mL]	0.37	5
3.	Sustainability, renewability, and reusability of materials:	25-50% of reagents and materials are sustainable or renewable	0.25	2
4.	Waste:	47 [g or mL]	0.01	4
5.	Size economy of the sample	Mass or volume of the sample: 0.01 [g or mL]	1.00	2
6.	Sample throughput:	0.85 [samples/h]	0.00	3
7.	Integration and automation	Sample prep. steps: 3 steps, Semi-automated systems	0.38	2
8.	Energy consumption:	107.5 [W]	0.39	4
9.	Post-sample preparation configuration for analysis:	Liquid chromatography, gas chromatography with quadrupole detection, etc.	0.25	2
10.	Operator's safety:	2 hazards	0.50	3

AGREEp^{rep}

Analytical Greenness Metric for Sample Preparation

24/12/2024 14:40:26

Report



OPA derivatization method

#	Criterion		Score	Weight
1.	Sample preparation placement:	On site	0.33	1
2.	Hazardous materials:	1.82 [g or mL]	0.25	5
3.	Sustainability, renewability, and reusability of materials:	25-50% of reagents and materials are sustainable or renewable	0.25	2
4.	Waste:	62 [g or mL]	0.00	4
5.	Size economy of the sample	Mass or volume of the sample: 0.02 [g or mL]	1.00	2
6.	Sample throughput:	15 [samples/h]	0.64	3
7.	Integration and automation	Sample prep. steps: 2 steps or fewer, Semi-automated systems	0.50	2
8.	Energy consumption:	75 [W]	0.48	4
9.	Post-sample preparation configuration for analysis:	Liquid chromatography, gas chromatography with quadrupole detection, etc.	0.25	2
10.	Operator's safety:	2 hazards	0.50	3