

Nanopublication – Computational Image Analysis –
AQC0651

by Arnaud Quercy · B Major – Research on Harmony – Variation 1 · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0651

K-means clustering (10 colors) performed on artwork B Major – Research on Harmony – Variation 1 (AQC0651) ^[1] by Arnaud Quercy ^[2] on 2025-10-03, according to IDS-CMP-2025 ^[3]. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

CONTEXT

Analysis performed according to IDS-CMP-2025 ^[3] includes four metric categories: (a) Color distribution via k-means (10 colors), (b) Texture analysis using Haralick features, (c) Brightness and contrast measurements, (d) Spatial pattern characterization. Source image: 2009x3013 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		93CA44	20.1	yellow-green	yellowgreen
2		4C4454	15.4	violet	dusty mauve
3		3D3741	15.3	red-violet	dusty mauve
4		5BAD4E	12.4	yellow-green	mediumseagreen
5		2C2827	12.3	gray	very dark gray
6		A7D559	8.4	yellow-green	ochre
7		625966	6.3	red-violet	dusty mauve
8		E7E5D8	4.8	yellow	white
9		0E1008	3.0	black	black
10		878383	1.9	gray	gray
11		5D4710	0.3	yellow-orange	russet [Accent]

Color Families:

Family	%
yellow-green	40.9
red-violet	21.6
violet	15.4
gray	14.2
yellow	4.8
black	3.0
yellow-orange	0.3

Accent Colors:

Hex	Family	Name	Chroma
5D4710	yellow-orange	russet	34.1

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.235
Mean Local Roughness	0.021
Roughness Uniformity	0.028
Edge Density	0.085
Mean Gradient Magnitude	0.181
Gradient Variance	0.086
Gradient Smoothness	0.0
Directional Coherence	0.014
Pattern Complexity	0.108
Pattern Repetition	1.0
Detail Frequency Ratio	0.62
Spatial Variation	0.167
Texture Consistency	0.523

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.441
Brightness Variance	0.235
Brightness Uniformity	0.468
Brightness Skewness	0.237
Brightness Entropy	7.386
Rms Contrast	0.235
Michelson Contrast	1.0
Weber Contrast	0.77
Mean Local Contrast	0.024
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.655
Shadow Percentage	46.351
Midtone Percentage	26.803
Highlight Percentage	26.846
Shadow Clipping	0.034
Highlight Clipping	0.013
Tonal Balance	0.004
Fine Contrast	0.011
Medium Contrast	0.031
Coarse Contrast	0.053
Multiscale Contrast Ratio	0.208
Edge Contrast	0.181
Contrast Clustering	0.477

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.722
Color Clustering	0.687
Color Transition Smoothness	0.505
Transition Uniformity	0.378
Sharp Transition Ratio	0.1
Transition Directionality	0.014
Mean Saturation	0.387
Saturation Variance	0.053
Low Saturation Ratio	0.48
Medium Saturation Ratio	0.488
High Saturation Ratio	0.032
Saturation Clustering	0.998
Hue Concentration	0.389
Complementary Balance	0.142
Analogous Dominance	0.616
Temperature Bias	0.098

Methodology

This analysis employs standardized computational methods for objective image characterization. Color extraction uses k-means clustering algorithm. Texture analysis applies Haralick feature extraction. Brightness metrics include mean, variance, and distribution analysis. Spatial patterns are characterized through coherence and clustering measurements. All methods are deterministic and reproducible. Analysis performed by Ideamorphic Studies' computational imaging systems.

REFERENCES

[1] Quercy, A. (2024). B Major - Research on Harmony - Variation 1 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0651.html>

[2] Quercy, A. (2025). ORCID <https://orcid.org/0009-0000-2662-7790>

[3] Quercy, A. (2026). Computational Image Analysis Standard. <https://ideamorphism.org/en/measurements/2025/09/ids-cmp-2025-computational-image-analysis-standard-5dq9.html>

EPISTEMIC PROFILE

Claim type	computational analysis
Voice	third person
Epistemic status	empirical measurement
Methodology	computational analysis
Certainty	high

CHECKSUM (SHA-256)

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