

Nanopublication – Computational Image Analysis – AQC1049

by Arnaud Quercy · Watercolor Study in D Minor No. 1 · 2026



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC1049

K-means clustering (10 colors) performed on artwork Watercolor Study in D Minor No. 1 (AQC1049) [1] by Arnaud Quercy [2] on 2026-07-13, 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: 1725x2300 pixels. Analysis date: 2026-07-13.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		BD7646	15.7	orange	peru
2		482B49	14.7	red-violet	dusty mauve
3		180B10	14.2	red	black
4		89350E	13.3	orange	russet
5		B66C3B	13.1	orange	burnt sienna
6		583958	8.5	red-violet	dusty mauve
7		381D37	8.3	red-violet	very dark purple
8		9F5424	8.1	orange	burnt sienna
9		76505A	4.0	red	dimgray
10		CBBCBC	0.1	red-orange	silver

Color Families:

Family	%
orange	50.2
red-violet	31.4
red	18.2
red-orange	0.1

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.158
Mean Local Roughness	0.013
Roughness Uniformity	0.011
Edge Density	0.012
Mean Gradient Magnitude	0.097
Gradient Variance	0.021
Gradient Smoothness	0.0
Directional Coherence	0.006
Pattern Complexity	0.132
Pattern Repetition	1.0
Detail Frequency Ratio	0.606
Spatial Variation	0.115
Texture Consistency	0.514

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.311
Brightness Variance	0.158
Brightness Uniformity	0.491
Brightness Skewness	-0.031
Brightness Entropy	6.938
Rms Contrast	0.158
Michelson Contrast	1.0
Weber Contrast	0.857
Mean Local Contrast	0.013
Contrast Uniformity	0.058
Dynamic Range	0.965
Effective Dynamic Range	0.478
Shadow Percentage	58.303
Midtone Percentage	41.597
Highlight Percentage	0.1
Shadow Clipping	0.0
Highlight Clipping	0.0
Tonal Balance	0.0
Fine Contrast	0.009
Medium Contrast	0.016
Coarse Contrast	0.025
Multiscale Contrast Ratio	0.343
Edge Contrast	0.097
Contrast Clustering	0.486

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.763
Color Clustering	0.588
Color Transition Smoothness	0.728
Transition Uniformity	0.832
Sharp Transition Ratio	0.1
Transition Directionality	0.008
Mean Saturation	0.599
Saturation Variance	0.035
Low Saturation Ratio	0.022
Medium Saturation Ratio	0.714
High Saturation Ratio	0.264
Saturation Clustering	0.998
Hue Concentration	0.77
Complementary Balance	0.0
Analogous Dominance	0.636
Temperature Bias	0.784

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. (2026). Watercolor Study in D Minor No. 1 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC1049.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

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