

# Nanopublication — Computational Image Analysis - AQC0920

by Arnaud Quercy · B Minor - Research on Harmony - Variations 9 · 2025











## Claim 1: Computational Image Analysis - AQC0920

K-means clustering analysis [3] (10 colors) performed on artwork B Minor [1] - Research on Harmony - Variations 9 (AQC0920) [2] by Arnaud Quercy [2] on 2025-12-11. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

### CONTEXT

Analysis performed according to MMIDS-CMP-2025 [3] includes four metric categories: (1) Color distribution via k-means (10 colors), (2) Texture analysis using Haralick features, (3) Brightness and contrast measurements, (4) Spatial pattern characterization. Source image [5]: 2016x2016 pixels. Analysis date: 2025-12-11.

### COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1		EC8234 24.7	orange	peru
2		595549 23.6	yellow-orange	dark brown
3		F48D43 13.0	orange	coral
4		6F6C5E 11.5	yellow	dimgray
5		8FB371 11.2	yellow-green	darkseagreen
6		D4D15D 7.3	yellow	ochre
7		EFB671 4.0	orange	sandybrown
8		D8D6C6 1.7	yellow	lightgray
9		B7CA1F 1.7	yellow	yellowgreen
10		322615 1.3	yellow-orange	very dark gray

### Color Families:

Family	%
orange	41.7
yellow-orange	24.9
yellow	22.2
yellow-green	11.2

### TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.161
Mean Local Roughness	0.025
Roughness Uniformity	0.029
Edge Density	0.092
Mean Gradient Magnitude	0.19
Gradient Variance	0.075
Gradient Smoothness	0.0
Directional Coherence	0.013
Pattern Complexity	0.118
Pattern Repetition	1.0

### Metric Value

Detail Frequency Ratio	0.674
Spatial Variation	0.103
Texture Consistency	0.512

### BRIGHTNESS & CONTRAST ANALYSIS

### Metric Value

Mean Brightness	0.546
Brightness Variance	0.161
Brightness Uniformity	0.706
Brightness Skewness	-0.316
Brightness Entropy	6.804
Rms Contrast	0.161
Michelson Contrast	1.0
Weber Contrast	0.563
Mean Local Contrast	0.027
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.482
Shadow Percentage	11.346
Midtone Percentage	69.765
Highlight Percentage	18.889
Shadow Clipping	0.002
Highlight Clipping	0.0
Tonal Balance	0.0
Fine Contrast	0.013
Medium Contrast	0.033
Coarse Contrast	0.042
Multiscale Contrast Ratio	0.321
Edge Contrast	0.19
Contrast Clustering	0.488

### SPATIAL DISTRIBUTION ANALYSIS

### Metric Value

Spatial Coherence	0.754
Color Clustering	0.534
Color Transition Smoothness	0.512
Transition Uniformity	0.491
Sharp Transition Ratio	0.1
Transition Directionality	0.023
Mean Saturation	0.474
Saturation Variance	0.074
Low Saturation Ratio	0.374
Medium Saturation Ratio	0.251
High Saturation Ratio	0.375
Saturation Clustering	0.999
Hue Concentration	0.908

Metric	Value
Complementary Balance	0.0
Analogous Dominance	0.998
Temperature Bias	0.755

## 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 Multimodal Institute's computational imaging systems.

## REFERENCES

- [1] Arnaud Quercy (2025). B Minor - Research on Harmony - Variations 9 — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0920.html>
- [2] Quercy, A. (2025). Untitled - Gallery. [https://artquamanima.com/en/artworks/2025/11/b-minor-research-on-harmony-variations-9\\_ih7.html](https://artquamanima.com/en/artworks/2025/11/b-minor-research-on-harmony-variations-9_ih7.html)

[3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 h  
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## 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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