

Supplementary Information

Toward a Decorative Grammar of Chinese Lacquerware in the National Palace Museum Taipei

This file contains the reliability and sensitivity results cited in the main text, together with a motif-to-motif summary of recurrent role-contextualized configurations (Table S4). All methodological procedures, including the third-party adjudication protocol, are reported in the main manuscript Methods section.

Table S1 Reliability and robustness summary

Measure	Result
QC objects	72
Motif-set Jaccard	0.6531
Relation-triplet Jaccard	0.3140
Role Gwet AC1	0.6971
Confidence weighted kappa	0.0815
Major disagreement burden	51/72 = 70.8%
Negative-control gate	12/12 PASS/CLOSED
Reliability gate	HOLD
Exclude adjudicated Spearman rho	0.9842
Confidence_FINAL=HIGH subset (N=107), Spearman rho	0.9185

Table S2 N=509 versus N=497 sensitivity

Measure	N=509	N=497	Difference / result
Objects	509	497	-12
Motif classes	71	71	0
Motif object-presences	2,229	2,223	-6
Mean motif richness	4.379	4.473	+0.094
Relation triplets	2,054	2,048	-6
Mean relation richness	4.035	4.121	+0.085
Motif prevalence Spearman rho	1.000	0.999975	Top-10 identical
Maximum absolute prevalence change			1.174 percentage points

The 12 excluded pre-specified negative controls were BC071, BC089, BC098, BC106, BC109, BC157, BC223, BC261, BC307, BC310, BC352 and BC418.

Table S3 Final 72-object pre-adjudication reliability metrics

Measure	Result	Interpretation
Planned QC objects	72	Pre-specified total
Available QC objects	72	Complete
Motif-set Jaccard	0.6531	Mean across 72 objects
Relation-triplet Jaccard	0.3140	Mean across 72 objects
Role raw agreement	0.7525	202 matched motif-role pairs
Role Cohen's kappa	0.6645	Pre-adjudication
Role Gwet AC1	0.6971	Pre-adjudication
Relation-type Jaccard	0.5480	Mean across 72 objects
Relation-type presence agreement	0.7806	Binary presence
Relation-type Cohen's kappa	0.4621	Pre-adjudication
Confidence weighted kappa	0.0815	202 paired ratings
Major disagreement objects	51	51/72
Minor disagreement objects	5	5/72

Exact objects	16	16/72
Negative controls	12/12; motif FP 1/12; relation FP 1/12	PASS/CLOSED
FORM not equal MOTIF consistency	PASS	No systematic form-to-motif error; isolated BC352 conflict retained
Cross-batch drift	YES	Late-batch motif/relation instability
Final reliability gate	HOLD	Reliability/drift criteria unmet

Motif-to-motif recurrent configurations

After excluding COMPOSITION and REGION targets, the ten most frequent complete motif-to-motif role-contextualized configurations are reported in Table S4. Counts are object-level and each configuration contributes at most once per object.

Table S4. Most recurrent motif-to-motif role-contextualized configurations and sensitivity to exclusion of adjudicated objects. Counts and support are shown together for readability.

Configuration	Full corpus N (support)	Non-adjudicated N (support)
CLOUD[STRUCTURAL] - SURROUNDS -> DRAGON[PRIMARY]	48 (9.4%)	42 (9.3%)
FIGURE_GROUP[PRIMARY] - ADJACENT_TO -> PAVILION[SECONDARY]	26 (5.1%)	26 (5.7%)
FIGURE_GROUP[PRIMARY] - ADJACENT_TO -> PINE[SECONDARY]	22 (4.3%)	22 (4.9%)
FIGURE_GROUP[PRIMARY] - ADJACENT_TO -> MOUNTAIN_ROCK[SECONDARY]	18 (3.5%)	18 (4.0%)
FOLIAGE_SCROLL[STRUCTURAL] - OVERLAPS -> FLOWER_GENERIC[PRIMARY]	16 (3.1%)	15 (3.3%)
FOLIAGE_SCROLL[STRUCTURAL] - SURROUNDS -> PEONY[PRIMARY]	16 (3.1%)	14 (3.1%)
CLOUD[SECONDARY] - ADJACENT_TO -> DRAGON[PRIMARY]	15 (2.9%)	15 (3.3%)
FOLIAGE_SCROLL[STRUCTURAL] - SURROUNDS -> FLOWER_GENERIC[PRIMARY]	13 (2.6%)	12 (2.6%)
FOLIAGE_SCROLL[STRUCTURAL] - SURROUNDS -> FIGURE_GROUP[PRIMARY]	11 (2.2%)	11 (2.4%)
MOUNTAIN_ROCK[STRUCTURAL] - SURROUNDS -> FIGURE_GROUP[PRIMARY]	11 (2.2%)	11 (2.4%)

The motif-to-motif ordering is led by CLOUD[STRUCTURAL]-SURROUNDS->DRAGON[PRIMARY] (48/509, 9.4%), and the leading configurations remain similar after adjudicated objects are excluded. These counts are descriptive and do not replace the pre-adjudication reliability metrics in Tables S1 and S3.

Figure S1 Robustness sensitivity

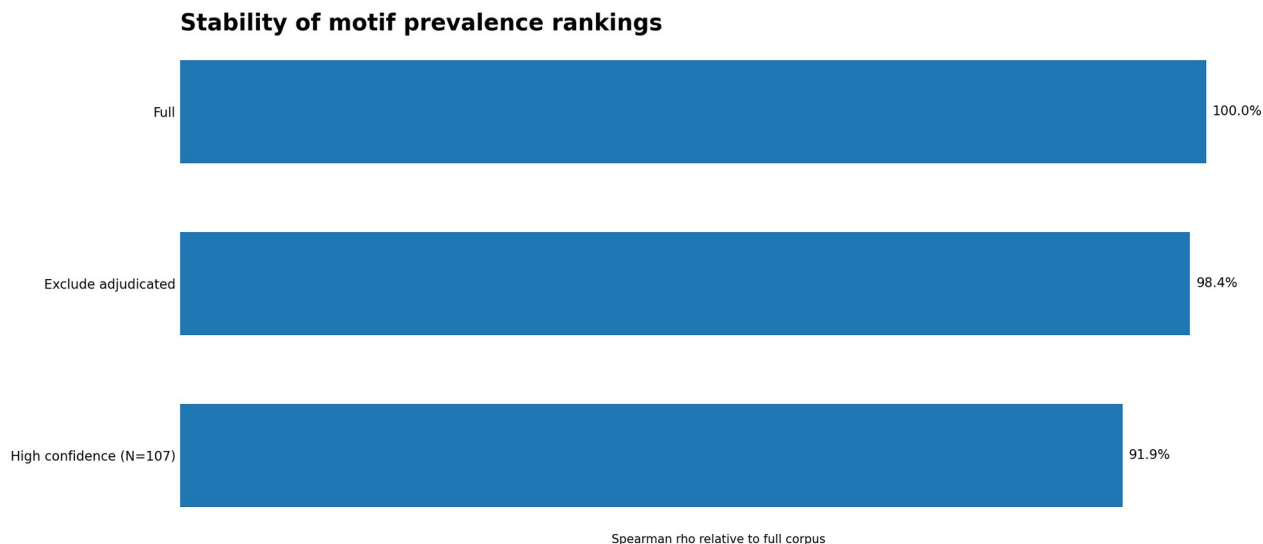


Figure S1. Spearman rank correlations comparing full-corpus motif prevalence with the exclusion-of-adjudicated sensitivity set and the exact Confidence_FINAL=HIGH subset (N=107).

Supplementary interpretation note

The adjudicated master supports descriptive collection-scale analysis, but the HOLD status of the independent reliability gate must remain visible in interpretation. Robustness of aggregate motif and relation structures does not erase coder disagreement in exact motif and relation assignments. Primary chronological inference is restricted to Ming and Qing objects; motif-specific results are reported with Holm and Benjamini-Hochberg sensitivity adjustment, while period effects remain exploratory because the collection is chronologically uneven.