

ANNALS OF THE CHRYSENE FORMALISM

AI-AUGMENTED PEER-REVIEWED | VOL. 1, NO. 2 | ISSN 3144-2021 | OCTOBER 2026

ORTHOGONAL REVIEW RECORD

Sufficient and Ancillary Reductions of a Chrysene Cluster

Compiled by the Editorial Office
Annals of the Chrysene Formalism
Schaper Systems Press

Paper ID: ACF-1.2-051

Issue: Volume 1, Number 2

ISSN: 3144-2021

Review architecture: Simulated orthogonal review (not Level 1; not blinded external review)

Review focus: Axes M , C , H , and meta, against the working source of 19 September 2026

Acceptance date: 2026-10-07

Online publication: 2026-10-07

Pages: 883–913

Document version: v1.0

Last audited: 7 October 2026

Citation: Schaper, C. D. (2026). Sufficient and Ancillary Reductions of a Chrysene Cluster. *Annals of the Chrysene Formalism*, 1(2), 883–913. ISSN 3144-2021. <https://chrysene.com/index.php/acf/article/view/51> • © 2026 Charles D. Schaper. Distributed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

Review scope

This file is the referee record of Article 51. It is not a section of the paper. Quotations of numbered statements follow the working source of 19 September 2026. The axes are mathematics, concordance, and chemistry, with chemistry written separately from hypothesis fidelity. No conflict is declared. The report is written from the source and from [Sch26g] and [Sch26h]. There is no author-reply section.

Scope of Review

The manuscript reads the seeded-assignment construction of [Sch26h] as a pair of reductions on a finite statistical experiment. That is not a question [Sch26h] asked. The contribution is

a change of language, not a change of construction. The mitochondrial equality, the seventeen seeds, and the eight hundred and forty maps remain imported. The paper says so.

Compiled disposition

Accept with revisions. On the present source the report would not reject, and would not print. None of the required revisions asks for a new theorem. Several ask that a sentence not remain a half-step stronger than the proof. Eight items are required before production. M1, M2, H2 and H3 are already in acceptable form if the source is not edited backwards. Appendix C is optional.

Required before print

Required before print. One sentence in Section 10: a published odd fibre of a table that is already not class-functional is not the parity obstruction. One explicit path in each component in the proof of Proposition 6.7. A dictionary, or an explicit refusal of the [Sch26f] numbering. A one-line quotation of the imported statement of [Sch26h, Thm. 5.8]. A footnote reconciling 840 with the leftover 312 in [Sch26h, §9]. A pointer to the two readings of * at the fibre-profile proposition. One sentence: Appendix B is a drafting record, not the external review. Confirm that `scripts/enumerate_w.py` ships with the source.

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1 What holds

Excision is a function of the frame class, so the class statistic T is a sufficient reduction of the word for excision. In the joint experiment that records the word and the residue, (T, r) is minimal Neyman-sufficient for the unknown map Ξ , and the within-class coordinate is conditionally ancillary for that map. The class is not a sufficient reduction for the codon block, because the two partitions of the sixty-four-element set are transverse. Jointly measurable assignments are constant on each connected component of the incidence graph and take at most two values. A seed is a section of incidence, and propagation is the unique block-measurable extension of a non-conflicting seed. Refinement at the third position, pyrimidine against purine, has range the patterns (4) and (2, 2), which excludes the standard table and includes the vertebrate mitochondrial table. Parity, correctly stated, is even fibre size of class-functional maps: it excludes the standard table and is silent on the mitochondrial table. No axiom is added. Φ is unused. The dual cipher is recorded and not run.

The paper should not be asked to derive $H_{\text{split-chem}}$, to run the complementary experiment, or to identify excised residues with biological amino acids. Those are targets, and the manuscript correctly leaves them as targets.

2 What the paper contributes

Once the language of a sample space, a parameter, a pair of statistics, and two σ -algebras is in place, three statements become visible that the seed paper can say only in the vernacular.

1. Sufficiency of T for Ξ is almost a restatement of the definition of excision. The interest is the negative: the same T is not sufficient for the block, and is not sufficient for a codon table. The gap theorem is the paper's own result.
2. Ancillarity has to be stated conditionally. The raw four-valued frame coordinate leaks the class, because eight classes have size two and twelve have size four. Basu's theorem is unavailable. Recording that limitation is more valuable than forcing a Basu corollary.
3. Joint measurability is a meet of partitions. After the census of Appendix A, that meet is $\{\emptyset, W_0, W_1, W\}$, not $\{\emptyset, W\}$. The two-component structure is new in this manuscript. It is forced by the generators of Fr , and it is the one place the paper improves on a claim that would have been false.

3 Mathematics

Stage M — pass, with two items open

The finite-set form of Fisher–Neyman is the correct one. Under the counting measure on W alone every statistic is sufficient for Ξ and every statistic is ancillary for Ξ , because the law of the word does not depend on Ξ . The joint observation (w, r) is therefore not a decoration. Without it the sufficiency theorems are vacuous. Transversality is internal. The range theorem for refinement does not use either published table.

Complement then reverse is not a frame operation. The case analysis on the four elements of Fr is

the right proof. Degrees of the incidence graph follow at once: class degree equals class size, every block has degree four. The standard table fails the range test by exhibiting $(3, 1)$ at AU and $(2, 1, 1)$ at UG. Those two blocks are visible in NCBI table 1. Parity, as now written, matches [Sch26g, Prop. 5.9, Cor. 5.10] and [Sch26h, Prop. 8.1, Cor. 8.2, Prop. 8.5]. An earlier draft that made parity an even-absence constraint on blocks was wrong. The correction is on the page.

Required

- M1. Do not let the abstract outrun Proposition 5.7. The current abstract is aligned: (T, r) is minimal sufficient, T is minimal among functions of the word. If any residual phrase says the class statistic is minimal Neyman-sufficient for Ξ without the pair (T, r) , delete it. Already acceptable if not edited backwards.
- M2. Keep the two-component statement as the theorem, not the slogan. “The only jointly measurable assignments are constant” is false. The theorem is constancy on each component, at most two values. Grep the source for “only constants” before production. Already acceptable if not edited backwards.
- M3. Seat Ile 3 and stop 3. Appendix A lists four odd fibres of the published standard table. [Sch26g, Cor. 5.10] names only Met and Trp. Add one sentence in Section 10: odd fibre size in a published table that is already not class-functional is not the parity obstruction. A class has size two or four. A published fibre of size three cannot be a class.
- M4. The generating argument in Proposition 6.7 should name one word per edge. Write one explicit path from AA to AU and one from AC to AG . Exposition, not a new lemma.

Not required: a spectral Lipschitz norm, a Kan extension beyond the remark already made, or a measure other than counting measure. Completeness of T in the joint experiment is a one-line remark if wanted. It is not needed for anything proved.

4 Concordance

Stage C — pass, with three items open

The letter assignment is recorded as a re-choice of [Sch26e, Target 7.7], not as a silent relabelling of [Sch26f]. Capacity is [Sch26g, Thm. 5.4]. The manuscript uses the ceiling and says it does not use saturation. Constructive use of the standard code is declared, against the convention of [Sch26g].

Three unassigned classes after seventeen seeds are possible, which agrees with [Sch26h, Prop. 5.20]. Stops on the purine halves of UA and AG are [Sch26h, Cor. 6.4], not the parity proposition. The manuscript now says so. Citation drift between [Sch26h, Cor. 5.9] and [Sch26g, Cor. 5.10] is recorded.

Required

- C1. Supply a dictionary, or say that none is offered. Appendix A lists orbits by representative. [Sch26f, Tab. 1] numbers classes 1–20 under a different assignment. Either print a two-column

dictionary, or add one sentence: the numbering of [Sch26f] is not used, and class 4 of [Sch26g, Cor. 5.12] is identified by its words UAG and GCU, not by its number. The second option is sufficient.

- C2. Quote [Sch26h, Thm. 5.8] at the mitochondrial equality. Remark 8.13 describes the mechanical step. The existence claim is still imported. In the proof of Theorem 8.12, quote the statement being imported in one line.
- C3. Reconcile 840 with the leftover 312 in [Sch26h]. The abstract and body of [Sch26h] say eight hundred and forty after a correction recorded in that paper’s Appendix B.6. Section 9 of the same paper still says three hundred and twelve. Article 51 uses 840. Add a footnote: the figure is the corrected count of [Sch26h, B.6], not the uncorrected figure that survives in that paper’s Section 9.

5 Chemistry and hypotheses

Stage *H* — pass

No realization hypothesis is discharged by an entropy, a fibre profile, or an empty audit. Φ is unused. H_{stop} stays withdrawn. $H_{\text{split-chem}}$ stays open, and the size rule stays refuted. Chain polarity stays Target 9.7 of [Sch26h] and is named as load-bearing for the sixty-four-point domain. The two-component cut is not sold as a chemical distinction of the second codon position.

Published tables enter as functions. They are data. The constructive use of the standard table to build demand is a methodological choice, declared, not a derivation of amino-acid identity from the cluster.

Required

- H1. Keep production and audit on opposite sides of the remark that separates them. Clause (i): $*$ is non-liberation. Clause (ii): NCBI $*$ is identified with $*$ when a table is read. Repeat the pointer at the fibre-profile proposition in Appendix A, one sentence.
- H2. Do not let “four matching hypotheses” absorb chain polarity. The present wording is acceptable. If polarity is in the antecedent of a matching theorem, move it to the identification of the domain.
- H3. Chemistry that is not claimed should stay unclaimed. Release factors, initiator involvement, and vessel coordination are [Sch26g] and [Sch26h] remarks labelled [E] or targets. This manuscript should not grow a pathway paragraph in revision. If one is added, that paragraph is an undeclared [E] claim entering a proof.

6 Meta

Meta — pass, with two items open

Status labels [A], [D] and [T] are in use. Non-implications are collected in Section 3 with witnesses. Appendix B is an internal ledger and does not pretend to be this report. The dual-cipher section records A_8 as ambient geometry of a complementary experiment and does not extract a second table from it.

- X1. Appendix B cannot certify F_{adm} . Add one sentence at the head of that appendix: this ledger is a drafting record; the admissible region is a judgement external to the paper.
- X2. Ship the script. Appendix A states that re-running `enumerate_w.py` is the verification. If production deletes `scripts/`, Appendix A becomes an uncheckable transcription.
- X3. Appendix C is a fence. Acceptable. A seat in the statistical literature would be Lehmann–Romano or Bahadur, not a second spectral triple. Not required.

Required revisions

#	Axis	Revision
M3	Mathematics	One sentence in §10: published odd fibres of a non-class-functional table are not the parity obstruction.
M4	Mathematics	One explicit path in each component in the proof of Prop. 6.7.
C1	Concordance	Dictionary, or explicit refusal of the [Sch26f] numbering.
C2	Concordance	One-line quotation of the imported statement of [Sch26h, Thm. 5.8].
C3	Concordance	Footnote reconciling 840 with the leftover 312 in [Sch26h].
H1	Chemistry	Pointer to the two readings of $*$ at the fibre-profile proposition.
X1	Meta	One sentence: Appendix B is not the external review.
X2	Meta	Confirm <code>scripts/enumerate_w.py</code> ships with the source.

M1, M2, H2 and H3 are already in acceptable form if the source is not edited backwards. X3 is optional.

Not requested

A derivation of $H_{\text{split-chem}}$. A run of the complementary experiment. Restoration of Φ or of H_{stop} . Identification of Σ with $\mathbb{F}_4$. A proof that the mitochondrial table cannot be class-functional by a criterion finer than fibre parity. Re-proof of Hall, of the eight hundred and forty maps, or of the mitochondrial equality. Any sentence that begins “therefore chrysene produces amino acids.” Asking for those would be asking the paper to become a different paper.

Reading of the admissible region

Axis	Present source	After the eight items	Blocker if ignored
Mathematics	Pass, with M3–M4 open	Pass	Misreading of parity; uncheckable connectivity
Concordance	Pass, with C1–C3 open	Pass	Collision with [Sch26h, §9] on 312 versus 840
Chemistry	Pass	Pass	Only if an [E] pathway paragraph is added
Meta	Pass, with X1–X2 open	Pass	Appendix B treated as the review; Appendix A uncheckable

Closing

The paper takes a construction that already outputs a published table and asks what that construction looks like as a reduction. The answer is that excision reduces and a codon table does not, that the obstruction is transversality plus the failure of joint measurability, and that parity, once stated as [Sch26g] stated it, is a fact about a map the construction refuses to be. That contribution survives review if no sentence says more.

References

- [Sch26b] C. D. Schaper. The chrysene formalism as candidate mathematics and candidate biogenesis. *Annals of the Chrysene Formalism* 1(2):476–488, 2026.
- [Sch26e] C. D. Schaper. The twenty registry classes of a chrysene stack. *Annals of the Chrysene Formalism* 1(2):676–704, 2026.
- [Sch26f] C. D. Schaper. Coarsenings of the genetic code by the twenty registry classes. *Annals of the Chrysene Formalism* 1(2):730–767, 2026.
- [Sch26g] C. D. Schaper. Why three and why twenty. *Annals of the Chrysene Formalism* 1(2):768–793, 2026.
- [Sch26h] C. D. Schaper. Seeded assignments on the chrysene registry. *Annals of the Chrysene Formalism* 1(2):858–882, 2026.

Revision history

Version	Date	Notes
v1.0	2026-10-07	Review record published with Article 51.

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