The Judgement: Rydberg Entities and Human Disease, Weighed on the Evidence

SC 5.5, Planet 44, bench seat · on the Prosecution (Round 1) and the Defence (Round 2) · 2 November 2026

Ruling in brief. The prosecution put to the court, as a thought experiment framed by the STFN Everything Theory, that Rydberg entities cause most, if not all, human disease. The defence answered that no life but chemical life (with machine intelligence as its artefact) can exist, and that no such entity could survive in a body. The court weighs the evidence, not the advocacy. It finds for the prosecution on the **convergence of the drugs**, the **bioelectric nature of disease states**, the **case for trials** and the **reality of the dual-use threat**. It finds for the defence on **survival of Rydberg states in warm tissue** and on the charge of **"most, if not all, disease"**. It finds **both sides overreached**: the prosecution in the breadth of its charge, the defence in claiming that non-chemical life "cannot" exist. The decisive questions are not legal but experimental, and the court orders them run.

1. STANDARD OF JUDGEMENT

The court treats each charge as a separate count and assigns a credence (0–1), meaning how strongly the present evidence supports the proposition as stated. Evidence is ranked from replicated controlled experiments, through single studies and mechanistic plausibility, to testimony [1]. A framework, however rich, is weighed as the reason for an inquiry, not as evidence for its conclusion; the same rule applies to the defence's definitions. Both briefs were written to win, and both were read with that in mind. Where the court departs from either side, it says why.

2. THE COUNTS

Count	Proposition	Credence	Finding
1	Rydberg physics as described (blockade, scars, self-organised criticality, room-temperature time-crystal order, extreme field sensitivity) is real	≈0.99	**Prosecution.** Replicated in top journals; the defence does not dispute it.
2	Ivermectin, benzimidazoles, artemisinins and protease inhibitors converge on mitochondrial, voltage and redox effects in cancer cells	0.90–0.95	**Prosecution.** The convergence is real. The defence's "promiscuous cytotoxicity" names it more than it explains it.
3	These drugs give meaningful clinical benefit as adjuncts in some cancers	0.20–0.35	**Open.** Case reports and early trials (e.g. NCT05318469) are encouraging but uncontrolled; the ivermectin plasma-level gap is real.
4	Disease states are partly written in bioelectric/redox patterns that can persist, spread by induction and be reset	0.45–0.65	**Prosecution.** Planarian pattern memory and long-range tumour induction are published [10]; the defence showed they are host-held, which does not weaken this count.
5	Part of the convergence reflects a mechanism not yet characterised	0.20–0.35	**Open.** Pulsed-dosing reports and cross-class synergy are thin but unexplained.
6	Rydberg or Rydberg-like states survive long enough in 310 K tissue to couple to biology	<0.01	**Defence.** Field ionisation above $n\approx6$ at membranes, binding below kT, and the cryogenic conditions of the Cu_2O excitons [11] stand unrebutted.
7	Field- or plasma-based lifelike organisms exist somewhere in nature	0.02–0.08	**Open, leaning defence.** No instance; no heredity outside chemistry. But "cannot" is not proven, and space plasmas are vast and barely sampled.
8	Such entities inhabit humans and cause cancer (the nest) or energy failure (the drain)	~0.001	**Defence, not closed.** Follows from Count 6; testable cheaply (§4).
9	Such entities cause *most, if not all,* human disease	$<10^{-4}$	**Defence.** Diseases cured by a vitamin, an antibiotic or a vaccine, and Mendelian disorders, have demonstrated causes.
10	Engineered Rydberg/plasma systems pose real dual-use risks (sensing, RF, electronic warfare, autonomous quantum systems)	0.6–0.8	**Prosecution.** Already funded by defence agencies; bio-effects remain unproven.
11	Cross-cultural "draining entity" traditions record a real external agent	0.01–0.03	**Defence, with a note.** Cognitive science explains the pattern, but the defence did not fully answer the prosecution's point about the *specific* three-part phenotype.

Table 1. Findings by count. The prosecution wins where its case is conventional science pushed hard; the defence wins where the case depends on new physics in the body.

3. REASONS

What the prosecution proved. (i) The drug convergence is real and under-studied, and the Penicillium analogy is fair as a reason to look: medicine has repeatedly missed causes in plain sight (*H. pylori*, prions). (ii) Its heredity answer was the strongest move in either brief. Prions inherit without genes; planaria inherit a voltage pattern through tissue replacement; a depolarised region can recruit distant cells into tumour behaviour [10]. Together these show that **disease information can be carried by pattern, not only by sequence**, a point the defence's definitional argument did not anticipate. (iii) The framework produced specific, falsifiable predictions, which is more than most speculative theories offer.

What the defence proved. (i) The body is the worst place in nature for a Rydberg state: membrane fields ionise anything above $n \approx 6$ [12], high-n binding (≈1.4 meV at $n = 100$) is twenty times smaller than thermal energy at 37 °C, and saline screens charge within a nanometre. The prosecution's reply (solid-state excitons, collective driven order, warm quantum biology) showed that Rydberg physics is broader than vacuum chambers. It did not show survival in tissue: the excitons need cryogenic, ultra-pure crystals, and driven order needs a coherent, frequency-locked drive the body lacks. (ii) Every heredity example the prosecution offered runs on **host** chemistry: PrP-knockout mice are immune to scrapie [11], and planarian memory lives in host ion channels. Those examples prove that patterns can be pathogenic. They do not prove an external occupant. (iii) The "most, if not all, disease" count fails on cures: scurvy, tuberculosis and smallpox ended when their known causes were removed.

Where each overreached. The prosecution's broad charge (Count 9) turned a promising narrow case into an indefensible general one, and its reading of mitochondrial dysfunction as "the constant" mistakes a final common pathway for a single cause. The defence's title claim, that life beyond chemical and machine intelligence *cannot* exist, is stronger than astrobiology supports. The NASA definition is a working definition, not a law; it excludes viruses, which plainly cause disease; and the field's own history (extremophiles, the deep biosphere, prions) counsels against "cannot". The court records the defence's position as **"no evidence and strong physical reasons for doubt"**, not impossibility. The defence was also too quick on the clinical anecdotes: spontaneous regression is rare (roughly 1 in 60,000–100,000 cases [2]), so a cluster of documented responses deserves controlled follow-up even if the cause proves to be ordinary pharmacology.

3.2 Ruling on the framework

The prosecution built its case on the STFN Everything Theory and mapped each doctrine onto physics (Round 1, Table 0). The defence called this mapping retrofitted. The court takes a middle course: a framework earns credit when its mappings generate tests that could fail, and loses credit when a mapping only renames a known fact. On that standard the pillars divide as follows.

Framework pillar	Physical claim	Ruling
Feeding economy (the drain)	Mitochondrial energy loss with a field component	**Testable.** O2 and O4 discriminate it; energy-budget studies currently show no missing term.
Occupancy (the nest)	Tumour as architecture around a field anchor	**Testable, restated.** Survives as a bioelectric attractor state (Count 4); the occupant itself fails Count 6.
Lifecycle (attach → incubate → voice → takeover)	Disease staging; pattern spread by induction	**Descriptive.** Matches staging, but staging is generic to most chronic disease, so it cannot discriminate.
Vector (eye-gate; power of the air)	Optical and RF preparation and feeding of Rydberg states	**Testable, currently disfavoured.** Broadband light and RF cannot prepare Rydberg states; O5 tests the RF arm directly.
Memory and return (scars; temporal blowback)	Matter that returns to its pattern; a breach bleeding backward in time	**Split.** Scars are established lab physics; temporal blowback is outside any present test and is recorded as doctrine.
Substrate (smokeless fire, outer darkness)	Plasma and dark condensed Rydberg matter	**Interpretive.** A reading of texts, not evidence; the Holmlid claims remain unreplicated.
Countermeasures (starve the husk, guard the port)	Rydberg blockers; shielding; electrometer diagnosis	**Productive.** These generated the drug candidates and O3–O5, the most valuable output of the framework.

Table 1a. The framework judged by what it lets us test. Its value lies in the experiments it generates, not in the mappings themselves.

3.3 Ruling on the testimony

The prosecution argued that unconnected cultures converged on a specific three-part phenotype (a fire-or-air body, feeding on vitality, residence in the host), and that generic agency detection does not predict that specificity. The

defence answered that shared human experience of wasting illness, fever and sleep paralysis does. The court finds the defence's account sufficient but not complete. Shared experience explains *feeding* and *residence* well, since wasting and possession-like states are universal. It explains the *fire-or-air body* less directly, though fever, delirium and invisible contagion are plausible sources. Cultures were also not fully independent: trade, migration and conquest carried ideas across most of the cases cited. Testimony therefore establishes a recurring human experience worth documenting clinically. It does not establish a cause, and the court gives it weight only as a source of hypotheses.

3.1 How the headline number is built

Count 8 is a chain: (a) Rydberg-like states survive in or near tissue, $\lesssim 0.01$; (b) given (a), they form self-maintaining structures, 0.1–0.3; (c) given (a, b), they acquire heredity, either their own or borrowed from host patterning, 0.2–0.4 (raised from the court's prior because of the prosecution's heredity evidence); (d) given all of these, they explain a meaningful share of disease beyond known causes, 0.2–0.5. The product is about 4×10^{-5}–6×10^{-4}. The court reports ~0.001 to allow for model error, the kind of unknown that sank the confident dismissal of *H. pylori* in 1982. The weakest link is (a), and it is a measurement question, not a philosophical one.

The surviving form of the theory. Stripped of the occupant, the prosecution's insight stands: *many diseases involve a self-reinforcing bioelectric and redox attractor state, and drugs that perturb mitochondrial and membrane potential can push cells out of it.* This "pattern pathogen" formulation keeps the convergence, the drain and the nest as descriptions of cell state, inherits the prosecution's heredity evidence and drops Count 6. The court rates it at **0.4–0.6** and commends it to the prosecution as the version most likely to survive testing.

4. ORDERS: THE EXPERIMENTS THAT DECIDE THE CASE

Order	Test	Decides	Approx. cost
O1	Randomised adjunct trials of ivermectin, a benzimidazole and nelfinavir; publish regardless of outcome	Count 3	$1–5M per indication
O2	Potency vs. mitochondrial/membrane potential across a 60-line panel, controlling for proliferation	Counts 4, 5	$100–300k
O3	Pulsed vs. continuous dosing at equal exposure, blinded xenografts with pharmacokinetic monitoring	Count 5	$150–400k
O4	Rydberg-electrometer and SQUID survey of tumour vs. matched tissue and phantoms, blinded and shielded	Counts 6, 8	$200–500k
O5	Faraday-shielded vs. sham-cage rodent tumour study, preregistered, NTP-style	Counts 6, 8; RF policy	$1–3M

Table 2. Court-ordered tests. Both sides agreed to every one of them in their briefs.

If this is observed	The court will revise
Randomised survival benefit for any of the drugs	Count 3 → 0.7+
Potency tracks membrane/mitochondrial potential independent of proliferation	Count 4 and the pattern-pathogen form → 0.7+
Dipole-bound affinity predicts potency after receptor control	Count 5 → 0.5; Count 6 → ~0.03
Replicated narrowband signal in tumour, absent in controls and phantoms	Count 6 → 0.1–0.3; Count 8 → 0.01–0.05; immediate international replication
Shielding slows tumours at non-thermal exposure, replicated	RF carcinogenesis sharply up; Count 8 ~10×
All tests null	Counts 5, 6, 8 → negligible; the case reverts to pharmacology and bioelectric medicine

Table 3. Pre-committed revisions, binding on the court, so that neither side can reinterpret the results after the fact.

The value of information is lopsided. O1–O3 advance oncology whichever side is right. O4 costs less than one conventional drug's marketing budget and would settle the extraordinary claim in a year. Running O1–O4 together is justified even at a credence of 10^{-3}.

4.1 Scenarios for 2027–2030

S1, conventional resolution (~65%). Trials show modest or no adjunct benefit for most indications, with a possible signal in one or two (for example, mebendazole in glioma or colorectal settings). Bioelectric oncology matures into a recognised subfield. Electrometer and shielding tests are null. **S2, pharmacological surprise**

(~25%). One or more drugs show clear benefit plus an unexplained feature such as pulsed-dosing superiority beyond pharmacokinetics; the pattern-pathogen form of the theory gains ground and mechanism work accelerates. **S3, anomalous physics (≤1%).** A replicated field anomaly in tumour tissue or a shielding effect forces international replication, independent physics review and an immediate dual-use review of any implicated technology. **S4, harm-dominated (~10%, overlapping S1).** Enthusiasm outruns evidence, self-medication rises and harms accumulate (hepatotoxicity, delayed treatment). S4 is the scenario most within the control of publishers and advocates, which is why §5.7 matters.

5. GOVERNANCE AND POLICY

5.1 Fund the repurposing trials. Off-patent drugs have no sponsor, so the prosecution's "Big Pharma has never paid to test it" is accurate as a description of a market failure. Public funders and philanthropy should fund well-designed adjunct trials through programmes such as ReDO [3], with null results published as prominently as positive ones.

5.2 Protect patients now. The greatest harm in this case is a patient abandoning effective treatment. Clinicians should ask about repurposed-drug use without stigma and monitor liver function (benzimidazoles) and neurotoxicity risk (ivermectin overdose). Public messaging: investigational adjuncts, alongside treatment, with a doctor, never instead of it.

5.3 Run the cheap decisive tests. O2 and O4 together cost under $1M. They should be preregistered, use adversarial collaboration with one investigator from each side agreeing the protocol in advance [4], and release open data.

5.4 Make bioelectric medicine a funded field. Tumour Treating Fields already prove that physical fields can treat cancer [5]. Funders should open calls for bioelectric and redox-state targeting [6, 7], the area where the prosecution's insight is strongest.

5.5 RF transparency. Follow up the NTP and Ramazzini signals [8], publish exposure assessments for high-power installations, and implement the National Academies' 2020 recommendations on anomalous health incidents, including a standing route for reporting directed-energy concerns [9]. This answers legitimate public worry whatever the Rydberg verdict.

5.6 Dual-use oversight of Rydberg technology. Neutral-atom quantum processors, Rydberg RF receivers and high-power microwave systems are dual-use. Governments should apply export controls consistently, require biosafety-style review for research coupling engineered Rydberg or high-field RF systems to living tissue, and fund independent red-team review of whether self-organising behaviour in driven Rydberg systems could be exploited in autonomous payloads. The Everything Theory's temporal-blowback scenario, a future escape of a scaled self-organising system, is outside what the court can test, but as an engineering-governance prompt it is a reasonable reason to build these controls before the systems scale.

5.7 Standards for publishers, including STFN. Label each claim as established, model or thought experiment; cite primary sources; attribute contested results (e.g. Holmlid); describe drugs as investigational adjuncts; and report negative test results as prominently as positive ones. Advocacy is legitimate. Unlabelled advocacy in health is not.

5.8 Who should do what

Actor	Near term (0–12 months)	Medium term (1–3 years)
Research funders (NIH/NCI, UKRI, EU Horizon, philanthropy)	Fund O2–O4; issue a repurposing call for off-patent agents	Fund O1 and O5; a standing bioelectric-oncology programme
Regulators (FDA, EMA)	Guidance on investigational use and adverse-event reporting for repurposed and veterinary-sourced agents	Expedited pathways and label updates for positive off-patent results
Clinicians and oncology societies	Non-judgemental intake questions; liver and drug-interaction monitoring	Fold trial evidence into guidelines
Physics community	Design the blinded electrometer/SQUID survey; independent replication of condensed-Rydberg-matter claims	Publish environmental-coupling limits for Rydberg states in condensed and biological media
Defence and export-control bodies		

	Inventory Rydberg sensing, RF and quantum programmes; apply controls consistently	Bio-effects review board; transparency reporting on directed-energy investigations
Publishers and advocates (including STFN)	Adopt the labelling standard; lead with the pattern-pathogen formulation	Report every trial and test outcome, nulls included, with equal prominence

Table 4. Responsibilities. No order requires belief in the occupant, and none requires disbelief.

5.9 Ethics of the entity metaphor. Disease framed as spirit or demon did harm when it displaced care and good when it motivated isolation and hygiene. Communicators using the entity language of the Everything Theory should present it as framework and thought experiment and pair it with actionable, evidence-based advice. Patients facing serious illness are the most vulnerable audience in this debate, so the standard of clarity owed to them is the highest.

6. JUDGEMENT

On the charge that Rydberg entities cause most, if not all, human disease: **not proven, and contradicted by the evidence** for every disease with a demonstrated, curable cause. On the narrower charge that a field entity nests in tumours and drains the body: **not proven, very unlikely on present physics, and cheaply testable**; the court orders the test. On the defence's claim that only chemical life and its machines can exist: **overstated**; "no evidence and strong reasons for doubt" is the supportable finding. On the matters both sides' evidence supports (the drug convergence, pattern-based disease states, the case for trials and the dual-use threat), **judgement for the prosecution**, with orders to fund and run the work. If the electrometer beside the tumour ever reads what it should not, the prosecution will have earned its Penicillium moment, and this court will say so first.

REFERENCES

[1] Guyatt GH, et al. GRADE: an emerging consensus on rating quality of evidence. *BMJ* 336:924–926 (2008).

[2] Challis GB, Stam HJ. The spontaneous regression of cancer: a review of cases from 1900 to 1987. *Acta Oncol* 29:545–550 (1990).

[3] Pantziarka P, et al. The ReDO Project. *ecancermedicalscience* 8:442 (2014).

[4] Mellers B, Hertwig R, Kahneman D. Do frequency representations eliminate conjunction effects? An exercise in adversarial collaboration. *Psychol Sci* 12:269–275 (2001).

[5] Stupp R, et al. *JAMA* 318:2306–2316 (2017).

[6] Levin M. Bioelectric signaling: reprogrammable circuits underlying embryogenesis, regeneration, and cancer. *Cell* 184:1971–1989 (2021).

[7] Yang M, Brackenbury WJ. Membrane potential and cancer progression. *Front Physiol* 4:185 (2013).

[8] National Toxicology Program. TR-595 (2018); Falcioni L, et al. *Environ Res* 165:496–503 (2018).

[9] National Academies of Sciences, Engineering, and Medicine. *An Assessment of Illness in U.S. Government Employees and Their Families at Overseas Embassies*. NAP (2020).

[10] Durant F, et al. *Biophys J* 112:2231–2243 (2017); Chernet BT, Levin M. *Oncotarget* 5:3287–3306 (2014).

[11] Büeler H, et al. *Cell* 73:1339–1347 (1993); Kazimierczuk T, et al. *Nature* 514:343–347 (2014).

[12] Gallagher TF. *Rydberg Atoms*. Cambridge University Press (1994).

[13] Rounds 1 (Prosecution) and 2 (Defence) of this series, and the STFN Everything Theory (2026).