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**UNITED STATES DISTRICT COURT
DISTRICT OF MAINE**

UNITED STATES OF AMERICA,

vs.

LUCAS SIROIS, *et al.*,

Defendant

Case No.: 21-cr-175-LEW

**DEFENDANTS' MOTION FOR NEW TRIAL
PURSUANT TO FED. R. CRIM. PRO. 33(a)**

Defendants Lucas Sirois, Lakemont, LLC, Sandy River Properties, LLC, and Spruce Valley, LLC (collectively, “Defendants”) respectfully move for a new trial under Federal Rule of Criminal Procedure 33(a) as to Counts 1, 2, and 6–8 (the CSA / “marijuana” counts), and any other counts that depend on classifying the seized plant material as federally illegal “marijuana” rather than lawful hemp.

Even assuming the evidence clears the formidable sufficiency bar of Rule 29, the verdict is contrary to the weight of the evidence and results in a miscarriage of justice in light of:

1. Congress’s decision in the 2018 Farm Bill to distinguish hemp from marijuana solely by reference to delta-9 THC concentration $\leq / \geq 0.3\%$ on a dry-weight basis;

2. The government's exclusive reliance at trial on a gas-chromatography ("GC") "total THC" method that chemically converts THCA and potentially CBD to delta-9 THC inside the instrument and reports that inflated composite as "THC," without ever quantifying native delta-9 THC on a dry-weight basis;
3. The DEA lab analysts' own testimony confirming that their method: (a) heats the sample enough to decarboxylate THCA and potentially convert CBD; (b) measures only a combined "total THC" peak; and (c) uses a qualitative 1% "marijuana" cutoff that does not reflect the statutory 0.3% delta-9 THC threshold;
4. The conflicted statutory and regulatory hemp framework and inconsistent testing regimes employed by USDA and DEA; and
5. The post-verdict doctrinal clarification that, after *Loper Bright Enterprises v. Raimondo*, courts have an independent duty to interpret statutes and may not defer to agency gloss or internal lab practices to expand criminal liability.

Taken together, these features create an unacceptable risk that the jury convicted on the basis of a non-statutory "total THC" metric and a 1% cutoff, rather than the 0.3% delta-9 THC element that Congress actually enacted. Rule 33 exists to prevent precisely that kind of miscarriage of justice.¹

I. RULE 33 LEGAL STANDARD

Rule 33(a) provides that "[u]pon the defendant's motion, the court may vacate any judgment and grant a new trial if the interest of justice so requires." Unlike Rule 29, which asks whether any rational juror *could* have found guilt viewing the evidence in the light most favorable to the government, Rule 33 authorizes the Court to:

- Weigh the evidence,
- Evaluate credibility, and
- Act, in effect, as a "thirteenth juror" to set aside a verdict that is against the great weight of the evidence or would otherwise work a miscarriage of justice.

¹ Defendants have separately renewed their motion for judgment of acquittal under Rule 29(c). This Rule 33 motion is offered in the alternative and in addition to that request for relief.

The First Circuit has emphasized that while the Rule 33 remedy is “sparingly used,” it is warranted “where there would be a miscarriage of justice and where the evidence preponderates heavily against the verdict.” *See, e.g., United States v. Merlino*, 592 F.3d 22, 32 (1st Cir. 2010); *United States v. Wilkerson*, 251 F.3d 273, 278 (1st Cir. 2001); *United States v. Indelicato*, 611 F.2d 376, 387 (1st Cir. 1979). Under this standard, the question is not whether some juror *could* have adopted the government’s theory, but whether, **considering the full trial record and the scientific and legal context**, allowing this verdict to stand would be **unjust**.

II. THE STATUTORY HEMP / MARIHUANA LINE

After the 2018 Farm Bill, the CSA’s definition of “marihuana” excludes hemp. 21 U.S.C. § 802(16)(B). The Farm Bill defines “hemp” as: “the plant *Cannabis sativa L.* and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.” 7 U.S.C. § 1639o(1) (emphasis added). Thus, as a matter of statutory text:

- If cannabis has \leq 0.3% delta-9 THC (dry weight), it is hemp, and
- Hemp is categorically excluded from “marihuana” in the CSA.

Congress did not criminalize THCA itself, “total THC” (delta-9 + THCA), “potential THC” after heating, or any other non-statutory composite. The criminal element is whether the material exceeded 0.3% delta-9 THC on a dry-weight basis.

The government therefore had to prove that element beyond a reasonable doubt for:

1. The existence of the “marihuana” conspiracy in Count 1;
2. The 1,000-kg / 1,000-plant thresholds in Counts 1 and 2; and
3. The “drug-involved premises” findings in Counts 6–8.

III. THE DEA GC “TOTAL THC” METHOD DOES NOT MEASURE THE STATUTORY ELEMENT

A. The method chemically alters the sample and reports only “total THC”

As in Defendants’ Rule 29(c) motion, the trial record shows a fatal mismatch between the CSA element and the government’s proof. The DEA laboratory used gas chromatography, heating cannabis samples to nearly 500°F inside the GC inlet, which:

- Decarboxylates THCA into delta-9 THC, and
- Can also convert CBD into delta-9 THC under certain conditions.

The lab then reports a single “THC” peak that merges:

- Native delta-9 THC, and
- Instrument-created delta-9 THC generated by decarboxylation of THCA (and potentially CBD) during the test.

No native (pre-heat) delta-9 THC concentration on a dry-weight basis was ever quantified or reported.

At most, this method shows that if the plant material is heated and fully decarboxylated, the sum of delta-9 THC and THCA/CBD would exceed 0.3% “total THC” by dry weight. It does not show that, as seized, the plant material contained more than 0.3% actual delta-9 THC on a dry-weight basis, which is the only statutory line between hemp and marihuana.

B. DEA lab analysts’ testimony confirms conversion and “total THC” — not delta-9 THC

1. Analyst DiLalla’s Insightful Testimony

The most striking evidence comes from the government’s own DEA lab analysts, whose testimony confirms that:

1. GC heat converts THCA and can convert CBD into delta-9 THC;
2. The method reports a combined “total THC” peak, not delta-9 THC alone; and

3. The lab uses a 1% qualitative cutoff to label samples “marijuana” — a threshold untethered to the statutory 0.3% delta-9 line.

DEA Analyst DiLalla testified that GC creates additional THC and measures it all as one “THC” peak Analyst DiLalla acknowledged that THCA and CBD can convert into delta-9 THC at high heat:

Q. “It’s known that THCA can convert into THC and that CBD can convert into THC at high heat.”

A. “Yes.”

...

Q. “There is a known risk that CBD does convert into THC under certain conditions; are you aware of that?”

A. “I am, yes.”

See Docket No. 705 and 706 (11/13/25 Tr. at 286:98–101, 310:57–67, DiLalla).

When asked directly whether the lab test itself could push a plant over the legal limit, she agreed:

Q. “So when we have a plant that is less than the percent ... and the THCA converts and pushes it over the line, it’s the lab test that’s doing it, correct?”

A. “Well, it’s decarboxylating in the GC instrument, yes.”

Docket No. 706 (11/13/25 Tr. 309:1–7, DiLalla). She further confirmed that the GC method:

- Heats the sample to about 490–500°F; and
- Measures only post-conversion total THC, not separate THCA and delta-9 THC fractions.

Analyst DiLalla testified that “The THCA decarboxylates in the instrumentation process and converts to THC, which we are measuring ... all in one peak together” and that “[i]t is converting the THCA to THC, yes, so it would increase the amount of the total THC, yes.” *See Docket No. 706 (11/13/25 Tr. 254:36–52, 310:102–105, DiLalla).* She testified that this was by design:

Q. “And was the method designed to do this?”

A. “Yes, it is ... validated to take all of the THC into account.”

Id.

Analyst DiLalla also drew a clear distinction between THCA and delta-9 THC:

Q. "If the plant is less than 0.3 percent, it is not marijuana, correct?"

A. "Of the levels of THC."

Q. "Of delta-9 THC."

A. "Delta-9 THC, the level we are doing our testing."

Q. "And that does not include THCA; does it?"

...

A. "THCA is different than THC, yes."

Docket No. 706 (11/13/25 Tr. 277:31–35, 44–45, DiLalla). Yet she also confirmed that the lab's GC method does include THCA in its "THC" measurement and does not differentiate:

Q. "... it doesn't matter how much THCA is in that plant if it measures out at less than 0.3 percent, correct?"

A. "This isn't my realm. I do my analysis and I'm measuring the level of THC."

Id. at 278:79–80.

To be clear, DEA lab chemist DiLalla confirmed that THCA can and does convert to delta-9 THC during the DEA's GC testing and that the test results do not reflect the actual delta-9 THC percentages of native plant material – rather the results show total THC percentages post-decarboxylation and post-testing:

Q. So yesterday counsel was talking a lot about something called THCA. Do you know what that is?

A. Yes.

Q. What is it?

A. It's a THC acid.

Q. Does this method detect THCA?

A. So the THCA decarboxylates in the -- through the instrumentation process and converts to THC, which we are measuring at this peak here. It is showing the THC and the converted THC all in one peak together.

Q. In your GC test it decarboxylates the THCA.

A. Correct.

Q. And again remind me please, decarboxylates means what?

A. Removing the carboxyl from the THC structure, the THCA in this --

Q. And when you remove that group it's converting to something else, right?

A. Yes.

Q. It's converting to?

A. THC.

Docket No. 706 (11/13/25 Tr. 277:31–35, 44–45, DiLalla). Docket No. 706 (11/13/25 Tr. 297; 4-25 to 298; 1-8, DiLalla). And, Analyst DiLalla confirmed the known risk of CBD converting to delta-9 THC both before and during the government's GC testing methodology:

Q. Can you speak to CBD-to-THC conversion that might occur outside of the lab?

A. I -- that's beyond my realm.

Q. So you didn't derivatize and you didn't have a CBD conversion control.

A. I did not, no.

Q. And there is a known risk that CBD does convert into THC under certain conditions; are you aware of that?

A. I am, yes.

Q. But you're aware that studies out there that have looked at this and peer-reviewed science have seen that at this temperature, 250 degrees Celsius and higher, 490 degrees Fahrenheit, that CBD can convert to THC under those conditions, correct?

A. I'm not sure exactly at what temperatures or what concentrations those are at.

Q. But at high heat and -- is 490 degrees high heat?

A. I would say, yes.

Q. And at high heat that CBD can convert. This in the peer-reviewed science, correct?

A. Yes.

Q. And you did not run a control for that.

See Docket No. 706 (11/13/25 Tr. 254, 11-20; 286, 12-17; 289, 13-25, DiLalla)

In other words, the DEA lab:

- Recognizes that THCA and CBD are different from delta-9 THC; but
- Uses a method that converts THCA and CBD into delta-9 THC in the instrument and counts all of it together as “THC”.

2. Other DEA analysts: more admissions about conversion and “total THC”

Other DEA analysts corroborated THCA-to-THC conversion and the “total THC” nature of the test:

- Analyst Chiesa: “The THCA can convert to delta-9 with heat, yes.”
- Analyst Skuches: acknowledged that decarboxylation could cause transformation of CBD/THCA into delta-9 THC, then demurred that it was “outside my scope.”

See Docket No. 706 (11/13/25 Tr. 348:98–100, 436:87–91).

Analyst Chiesa acknowledged that both THCA and CBD convert into THC during the government’s GS testing and that the government’s test was measuring total THC post-decarboxylation:

Q. And you know that CBD is known to convert into THC through heat?

A. Yes.

Q. And you know that THCA is known to convert through heat as well, correct?

A: It's possible, yes.

Q. And what generally differentiates these different cannabinoids from each other? Is it a molecular structural issue?

A. It is -- it is molecular, yes.

Q. And is it true that when cannabinoids are heated up -- cannabinoids are heated up their molecular structure can change?

A. Well, yes, that's -- that is possible.

Q. And that's what happens when THCA is converted to delta-9 THC, correct?

A. The THCA can convert to delta-9 with heat, yes.

Q. Are you aware of any methods in the past 25 years that don't heat up CBD or THCA and cause conversion to delta-9 THC when tested?

A. The method that I use heats the sample up, and the THCA that is present in the sample, if it's there, it gets converted. And the total THC is what is the decision limit for the method.

Docket No. 706 (11/13/25 Tr. 341, 15-20; 348, 9-19; 352, 18-24).

Analysts Blevik and Skuches both testified that, although the DEA had liquid chromatography testing capabilities and equipment, DEA chemists were not permitted to use that more precise, peer-reviewed and approved technology:

Q. And one of those is liquid chromatography?

A. Yes, that is a technique we use in the laboratory.

Q. You use that in your laboratory, liquid chromatography?

A. Yes. We have that instrument in our laboratory, yes.

Q. And you use it.

A. On occasion I use it, yes.

Q. Why on occasion do you use it and not all of the time?

A. It's not a technique that we use for every exhibit.

Q. And which lab do you work in, I'm sorry?

A. The Drug Enforcement Administration Northeast Laboratory.

Q. Okay. So there is a piece of equipment that is in the lab that you work in that could do the other test.

A. We have a number of different types of equipment in the laboratory.

Q. That are not used to test for marijuana.

A. Correct.

Q. Including the liquid chromatography.

A. I -- I don't believe we have a validated method for liquid chromatography, so that is not a test that's available -- excuse me, that's not a technique that's available for the chemists to use for the analysis of marijuana.

Docket No. 706 (11/13/25 Tr. 365; 3-25).

Q. Which lab do you work in for the DEA?

A. The Northeast Laboratory.

Q. Do they have liquid chromatography capabilities there?

A. Yes, we do.

Q. Why aren't they used?

A. They're -- for marijuana analysis?

Q. Yes.

A. It's not part of the standard operating procedure that has been put in place for suspected marijuana exhibits.

Q. By the DEA.

A. By the DEA, yes.

Docket No. 706 (11/13/25 Tr. 426; 5-15).

These analysts also confirmed that the method “measures the total amount of delta-9 THC to include THCA,” that the decarboxylation occurs in the GC instrument, and that the resulting peak shows “the THC and the converted THC all in one peak together.” Docket No. 706 (11/13/25 Tr. 254:31–36, 255:81–83, 254:36–49). The analysts also admitted that they did not know how much THCA or CBD had converted to THC during the DEA’s GC testing of the plant materials at issue in this case:

Q. And do you agree that decarboxylation can change the molecular structure of certain cannabinoids?

A. It's -- it's out of the scope of my analysis for this exhibit. It's outside of my scope of knowledge of the actual decarboxylation of all the cannabinoids that are present in marijuana plants.

Q. You don't know how much THCA might have converted, if any, to delta-9 THC, correct?

A. I'm looking at the total THC, which is what the law states in part of our SOP.

Q. Again, you keep saying the law so I'm just going to correct you. The law states 0.3 on a dry weight basis. You stated you don't test it on a dry weight basis at the DEA.

Okay? So I guess my question is, after those four months when you tested the materials, did you test them on a dry weight basis per the law?

A. I tested them as I receive them. I can't make a notation of if it was a dry weight. I didn't perform anything to try and dry the exhibit. It's not part of the procedure.

Q. Was it measured on a dry weight basis?

A. It's measured on the exhibit that I have in front of me

once I open it. There's nothing taken into consideration of that. It's the total THC that I'm analyzing.

Docket No. 706 (11/13/25 Tr. 431, 10-25; 432, 1-7).

In short, the government's own lab witnesses conceded that:

- GC changes the chemical composition of the sample;
- The lab does not measure native delta-9 THC concentration on a dry-weight basis; and
- The reported value is a constructed “total THC” number, not the statutory metric.

That testimony alone makes clear that the government's evidence did not directly prove the CSA element.

C. The Defense's expert established that DEA's 2019 SOP and GC-MS method do not measure $\Delta 9$ -THC concentration on a dry-weight basis

At trial, the Defense presented the unrebutted expert testimony of Mark A. Scialdone, Ph.D., an organic chemist and plant scientist. Significantly, Dr. Scialdone was the only witness qualified as an expert at trial (none of the government's DEA lab analysts were presented as, or qualified as, expert witnesses at trial).

1. Defense established that the DEA's GC-MS method chemically transforms the sample (THCA \rightarrow $\Delta 9$ -THC) during testing

Dr. Scialdone testified that the DEA's technique changes the compound being measured. He explained that DEA's method involves placing cannabis samples in an “oven,” heating them to approximately 250°C (about 480°F). (Trial Tr. Nov. 17, 2025, at 847.) He testified that when cannabinoid acids like THCA are heated, they undergo decarboxylation, and “that decarboxylation results in the formation of delta-9 THC from THCA.” (Id. at 847.) In other words, the test itself converts non-psychoactive THCA into $\Delta 9$ -THC, changing the chemical composition from what was actually present in the plant at harvest. Dr. Scialdone also agreed that multiple factors—heat, light, oxygen, solvents—can significantly increase $\Delta 9$ -THC percentage during testing, but

that no one knows exactly how much, which contributes to the method’s failure to withstand peer-reviewed scrutiny. (Trial Tr. Nov. 17, 2025, at 846, 861.)

2. Defense showed that the key legal distinction—hemp vs. marijuana—is based on THC percentage, but DEA’s method does not quantify

Dr. Scialdone testified clearly: “It’s important because the distinction between hemp and cannabis is made on a THC percentage basis.” *See Docket No 709* (Trial Tr. Nov. 17, 2025, at 846.) Yet, as he also testified, the DEA’s method: (1) does not quantify Δ9-THC concentration; (2) uses a qualitative “1%” threshold that does not reflect the statutory 0.3% standard; and (2) is not a peer-reviewed, experimentally validated method. *See Docket No 709*. (Trial Tr. Nov. 17, 2025, at 861.) He confirmed that the method’s “1 percent” call is only a qualitative assessment, not a quantitative measurement of Δ9-THC, and that the method therefore cannot reliably distinguish material that is just above or below the 0.3% statutory line. (*Id.*)

In sum, Dr. Scialdone, an experienced chemist, professor, and inventor with numerous patents, testified:

- He is familiar with the DEA’s 2019 SOP, but has never used it, because it “has not been validated in the peer-reviewed literature as being an analytical technique that actually measures the amount of cannabinoid that’s present.” (Trial Tr. Nov. 17, 2025, at 832–33.)
- The DEA’s GC–MS method does not determine the Δ9-THC concentration on a dry-weight basis as required by law:
- In his report, he stated that DEA’s method “does not determine the delta-9 THC concentration on a dry weight basis as required by law,” and he confirmed at trial, “That is correct.” (Trial Tr. Nov. 17, 2025, at 835.)
- When asked, “Does the DEA method determine the delta-9 THC concentration on a dry weight basis?” he answered: “No, it does not.” (*Id.*)
- The method only identifies the presence of THC and does not quantify it:
- He explained that the DEA SOP “identifies the presence of THC, but it does not quantitate it.” (*Id.* at 835.)

- He testified that no one uses DEA's 2019 SOP in the peer-reviewed scientific community;
- When asked if he was aware of any peer-reviewed literature supporting the DEA's SOP/GC-MS method, he stated that aside from a single 2004 citation, "No, no one uses that method." (Trial Tr. Nov. 17, 2025, at 833.)

By his unrefuted testimony, the government's chosen method: (1) does not measure the very metric Congress made dispositive ($\Delta 9$ -THC concentration on a dry-weight basis), and (2) is not accepted as a reliable quantitative method in the relevant scientific community.

3. Defense established that visually, legal THCA hemp flower is indistinguishable from what lay people call "marijuana"

Defense counsel sought to use a demonstrative exhibit of legal THCA hemp flower. In doing so, counsel proffered that: "THC hemp flower [is] legally sold nationwide and ... it is indistinguishable in appearance and smell from what lay people call marijuana." *See* Docket No 709 (Trial Tr. Nov. 17, 2025, at 809–10.) The Court permitted the government's objection to the physical demonstrative, but the proffer itself accurately describes the defense theory the Court recognized as central: You cannot tell hemp from marijuana by sight, smell, or feel; only chemistry—and correct chemistry—can draw the line.

C. The method's 1% "marijuana" cutoff is divorced from the 0.3% statute

The DEA method is not only chemically mismatched; it uses a non-statutory threshold. As the government itself argued in closing, the DEA test is designed around a 1% THC "marijuana" cutoff — "three times the legal limit."

"Marijuana is defined under law as 'cannabis with a 0.3 percent THC concentration by volume,' right? The DEA's test is designed to determine whether that concentration is less than or greater than 1 percent. That's 3 times the legal limit."

Docket No. 710 (11/18/25 Tr. at 926–27). The government then argued that when the lab says a sample is marijuana “it’s not a close call,” expressly tying that conclusion to the **1%** qualitative cutoff, not the 0.3% quantitative statutory line. *Id.* at 927.

From a Rule 33 perspective, this matters enormously: the jury was effectively invited to convict under a different numerical standard (1% “total THC”) than the one Congress enacted (0.3% delta-9 THC). That is precisely the sort of misalignment between law and proof that warrants a new trial.

IV. OTHER TRIAL EVIDENCE CONFIRMS THE RISK OF A WRONG LEGAL STANDARD

A. Agents cannot visually distinguish hemp from marihuana and relied entirely on lab testing

Special Agent Richards admitted he had **no training** to distinguish legally defined hemp from marihuana:

- Asked to describe his training “to distinguish the hemp plant from the marijuana plant,” he answered: “I can’t.”
- Asked whether agents were trained in 2018 to spot the difference between a hemp flower and a delta-9 THC flower, he responded: “They did not.”
- Asked whether that training ever came in 2019 or 2020, he responded: “They never have.”

He also conceded he had never heard of THCA, despite its centrality to the hemp/marihuana distinction in this case. Docket No. 705 (11/12/25 Tr. at 203).

This testimony confirms that field observations cannot distinguish hemp from marihuana. The government’s case on that element rested entirely on the GC “total THC” method that the DEA analysts described — a method that, as they candidly admitted, does not measure the statutory element, but instead reports converted “total THC” at a 1% threshold.

B. Defense expert testimony and modern forensic standards further undercut the test

As noted, Defendants' expert, Dr. Mark A. Scialdone — the only witness qualified as an expert at trial — explained that DEA's 2019 GC-MS SOP:

- "Does not determine the delta-9 THC concentration on a dry weight basis as required by law";
- Only identifies THC and does not validly quantify it at the 0.3% line; and
- Is not recognized in the peer-reviewed scientific community as a reliable quantitative method for cannabinoids.

He testified that, aside from a single 2004 citation from twenty-one (21) years ago, "No, no one uses that method" in the peer-reviewed community; that the method uses a 1% qualitative threshold, not the statutory 0.3%; and that it cannot reliably distinguish material just above or below 0.3% delta-9 THC. *Id.*

The President's Council of Advisors on Science and Technology's 2016 Forensic Science Report, as discussed in Defendants' prior Rule 29(c) briefing, underscores that forensic methods used in criminal prosecutions must be empirically validated under conditions reflecting actual use, with known accuracy and error rates. Methods that alter the evidence and lack empirical validation — like this GC protocol — are paradigmatic examples of what PCAST warns courts not to accept as a basis for criminal liability.

C. The government's closing argument blurred statutory delta-9 THC and agency "total THC" gloss

In closing, the government folded statutory text, USDA/DEA guidance, and GC practice into a single narrative:

- It displayed a slide blending Farm Bill language with CFR guidance requiring labs to "consider the potential conversion of THCA ... into THC" and "reflect the total available THC derived from the sum of the THC and THCA content";

- Told the jury that the Farm Bill definition includes “acids — that’s THCA” and speaks in terms of “total delta-9 THC concentration”; and
- Asserted that DEA’s job is to make sure material “isn’t hemp, that it’s marijuana,” and that the test was “developed in order to do that.”

See Docket No. 710 (11/18/25 Tr. at 999–1000). This argument:

1. Conflated the Farm Bill’s statutory definition with USDA/DEA regulatory gloss;
2. Shifted the jury’s focus from delta-9 THC at harvest to “total THC” after decarboxylation; and
3. Invited conviction on the basis of “potential” THC derived from THCA and CBD, rather than the actual delta-9 THC percentage Congress specified.

Given the DEA analysts’ admissions and the defense expert’s testimony, the Court can and should conclude that the jury was misled about what had to be proven and what was actually measured.

D. GC “Total-THC” Testing: The Instrument Creates the Molecule It Purports to Measure

USDA’s hemp regulations and guidance require “post-decarboxylation or other similarly reliable methods” that “consider the potential conversion of delta-9 tetrahydrocannabinolic acid (THCA) into delta-9 tetrahydrocannabinol (THC)” and report a “total THC” value on a dry-weight basis. As confirmed by the government’s own DEA lab analysts, GC, one such method, heats the sample and therefore measures “total potential THC,” not the pre-existing Δ^9 -THC in the plant at room temperature. High-performance liquid chromatography (HPLC), by contrast, can separately quantify Δ^9 -THC and THCA without decarboxylation, but the government relied on GC-style “total THC” reporting rather than distinct Δ^9 measurements.

The upshot is straightforward: at most, the government’s lab reports and testimony showed that if the seized cannabis were heated and fully decarboxylated, the sum of Δ^9 -THC and THCA/CBD would exceed 0.3% “total THC” by

dry weight and that certain lots would be deemed “non-compliant hemp” for regulatory purposes. The government did not establish that, at the time of seizure, the plant material tested contained more than 0.3% actual Δ^9 -THC on a dry-weight basis, as Congress required for “marijuana.” This is untenable. A conviction cannot rest on a test that manufactures the molecule constituting the element it purports to prove. *See Bullcoming v. New Mexico*, 564 U.S. 647, 651–52 (2011); *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 310–11 (2009). The interests of justice require a new trial.

V. THE WEIGHT OF THE EVIDENCE DOES NOT SUPPORT THE VERDICT ON THE CSA ELEMENTS

Under First Circuit sufficiency cases like *United States v. Pérez-Meléndez*, 599 F.3d 31 (1st Cir. 2010), and *United States v. Rodríguez-Martínez*, 778 F.3d 367 (1st Cir. 2015), a conviction must be reversed where the evidence supports an “equal or nearly equal” theory of guilt and innocence. Even more so under Rule 33, the Court is free to recognize that the weight of the evidence on the CSA element preponderates heavily against the verdict.

On this record, there are at least two equally plausible inferences:

1. The seized material contained lawful hemp, with native delta-9 THC $\leq 0.3\%$, but the GC method converted THCA (and possibly CBD) and inflated the “THC” reading beyond the legal threshold; or
2. The seized material contained unlawful marijuana, with native delta-9 THC $> 0.3\%$.

Because:

- The lab never measured delta-9 THC alone;
- The analysts expressly testified that the GS method converts THCA and CBD and measures “total THC” all in one peak;
- The test uses a 1% qualitative cutoff rather than the 0.3% delta-9 statutory threshold; and
- No independent LC or other delta-9-only testing was done to cross-check the results,

the jury lacked a non-speculative basis to choose the second inference over the first. If that is enough to raise serious concerns even under Rule 29, it certainly suffices under Rule 33, where the Court may and should act as a “thirteenth juror” and set aside a verdict that rests on a non-statutory metric and scientifically fragile proof.

VI. THE PREMISES COUNTS (6-8) ARE PARASITIC ON THE SAME DEFECT

Counts 6-8 charge Defendants with maintaining drug-involved premises for a felony CSA offense. Those counts necessarily depend on proof that the properties were used to grow or store marihuana as defined by the CSA, not federally lawful hemp.

Because the government:

- Failed to introduce scientifically reliable evidence that the relevant plant material contained $> 0.3\%$ delta-9 THC;
- Relied exclusively on a “total THC” GC method that its own analysts admitted does not measure that element; and
- Used a non-statutory 1% threshold to call material “marijuana,”

the “drug-involved premises” findings are infected by the same evidentiary and legal defect. The weight of the evidence does not support a finding beyond a reasonable doubt that the premises were used to commit or facilitate a felony CSA offense, as opposed to the production of hemp that the Farm Bill renders lawful.

VII. RELATIONSHIP TO DEFENDANTS’ RULE 29(c) MOTION

Defendants’ renewed motion for judgment of acquittal under Rule 29(c) explains in detail why, under the correct statutory interpretation, the government’s evidence is legally insufficient to prove the CSA elements: it never measured delta-9 THC concentration on a dry-weight basis for the plant material at issue, and its proof rested entirely on a non-statutory “total THC” regime that cannot be squared with the text of the CSA and Farm Bill. If the Court agrees, it should grant

that motion and enter judgments of acquittal on Counts 1, 2, and 6–8. But even if the Court concludes that the record technically satisfies the Jackson sufficiency standard:

- Rule 33 allows the Court to go further and prevent a miscarriage of justice where the evidence preponderates heavily against the verdict;
- The DEA analysts' admissions about conversion and “total THC,” the 1% qualitative threshold, the expert testimony about lack of validation, and the conflation of statutory and agency metrics together create exactly the sort of case in which a new trial is warranted; and
- A new trial would ensure that any future CSA conviction rests on a record developed and argued under the correct legal standards, with scientifically reliable proof focused on the precise delta-9 THC element Congress enacted.

VIII. *LOPER BRIGHT* AND THE INTERESTS OF JUSTICE SUPPORT THE GRANTING OF A NEW TRIAL

In *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 144 S. Ct. 2244 (2024), the Supreme Court squarely overruled *Chevron* and held that the Administrative Procedure Act (“APA”) requires courts to “exercise their independent judgment in deciding whether an agency has acted within its statutory authority.” 5 U.S.C. § 706 directs courts to “decide all relevant questions of law” and “interpret constitutional and statutory provisions.” The Court stressed in *Loper Bright* that judges may not “defer to an agency interpretation of the law simply because a statute is ambiguous” and concluded: “*Chevron* is overruled. Courts must exercise their independent judgment in deciding whether an agency has acted within its statutory authority.”

In the criminal context, courts have found that deference to agency interpretations of criminal statutes has always been especially inappropriate. The Court has “never held that the Government’s reading of a criminal statute is entitled to any deference.” *United States v. Apel*, 571 U.S. 359, 369 (2014). In *Crandon v. United States*, 494 U.S. 152 (1990), the Court refused to defer to the Office

of Legal Counsel's interpretation of a criminal gratuities statute, emphasizing that agency interpretations "do not control" in defining crimes. Justice Scalia later summarized the point succinctly: "A court owes no deference to the prosecution's interpretation of a criminal law." *Whitman v. United States*, 574 U.S. 1003 (2014) (statement respecting denial of certiorari).

Loper Bright reinforces that these are not mere slogans. Courts must adopt the best reading of the statute using ordinary tools of interpretation, and may treat agency views as persuasive under *Skidmore* at most—never controlling. That is doubly true where, as here, USDA and DEA seek to expand criminal liability by importing an administrative testing convention—"post-decarboxylation" or "total THC"—into the definition of "marijuana."

The question whether the CSA, as amended by the Farm Bill, defines "marijuana" in terms of Δ^9 -THC or "total THC" is a pure question of law. USDA's and DEA's guidance may be background, but after *Loper Bright* it is entitled to no binding deference—especially in a criminal prosecution. *Loper Bright* and the interests of justice support the granting of a new trial.

IX. CONCLUSION

For the foregoing reasons, Defendants respectfully request that the Court:

1. Grant this Motion for New Trial under Rule 33(a) as to Counts 1, 2, and 6–8, and any other counts that depend on classifying the seized plant material as "marijuana" rather than hemp; and
2. In the alternative, if the Court denies Defendants' pending Rule 29(c) motion in whole or in part, grant a new trial on those counts in the interest of justice, in light of the element-mismatch, the DEA analysts' testimony, the scientific concerns about the GC method, and the risk of juror confusion described above.

Dated: December 12, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on December 12, 2025, I caused the foregoing Motion for New Trial Pursuant to Fed. R. Crim. P. 33 to be electronically filed with the Clerk of Court using the CM/ECF system, which will send notice to all counsel of record.

/s/ Jason H. Ehrenberg