

Roar Vapor LLC

367 Vann Drive
Jackson, TN 38305

Carbonyl Assay
Samples Received 9/22/2014

Product Name
Skruff's Riddler

Analysis Report
(0914-170)

HPLC Analysis For
Diacetyl
2,3-Pentanedione (aka: Acetyl Propionyl)



Enthalpy Analytical, Inc.

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800-1 Capitola Drive Durham, NC 27713-4385



Company:	Roar Vapor LLC
Sample Condition:	Samples received in good condition.
Notes:	Chain of custody verified.

Method / Parameter	Analyte(s)
HPLC Analysis	Diacetyl
	2,3-Pentanedione <i>(aka: Acetyl Propionyl)</i>

Summary of Method:

An aliquot of e-liquid and/or e-liquid flavors is derivatized with 2,4-dinitrophenylhydrazine (DNPH). After the derivitization reaction is complete, samples are neutralized with pyridine and analyzed via HPLC with a UV detector.

In this analysis, the limit of detection is 0.572 ug/mL for 'Diacetyl' and 0.601 ug/mL for '2,3-Pentanedione'.

Company	Roar Vapor LLC	# Samples	1
Analyst	WG	Sample(s) Received	9/22/2014
Parameters	HPLC Analysis	Client Project:	na
Job #	0914-170		

Enthalpy Code	Sample Name	Batch	Diacetyl (ug/mL)	2,3-Pentanedione (ug/mL)
0914-170-110	Skruff's Riddler	N/A	Not Detected	Not Detected

QC Notes:

The compounds of interest Diacetyl and 2,3-Pentanedione were not detected above the minimum detection limit.

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized.

This analytical report was prepared in Portable Document Format (.PDF) and contains 2 pages.

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