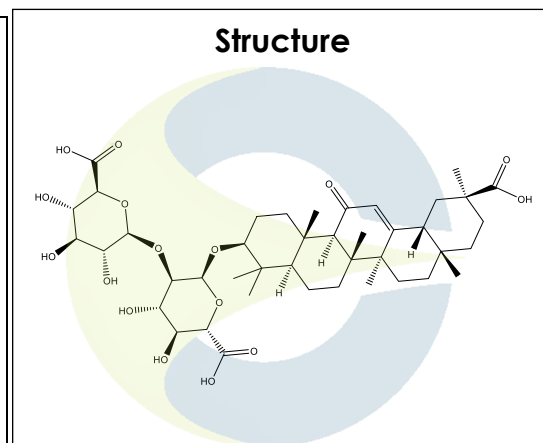


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<b>PRODUCT NAME</b>	Glycyrrhizic acid
<b>PART NUMBER</b>	00007375
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00007375-143
<b>REPORT NUMBER</b>	CDXA-RSS-9905-00
<b>SAMPLE NUMBER</b>	CDXP-22-00670
<b>DATE OF SAMPLE</b>	08/03/2022
<b>DATE OF REPORT</b>	09/06/2022



<b>CHEMICAL NAMES</b>	(3β,20β)-20-carboxy-11-oxo-30-norolean-12-en-3-yl 2-O-β-D-glucopyranuronosyl-α-D-glucopyranosiduronic acid; 18β-Glycyrrhizic acid; Glycyrrhetic acid glycoside; Glycyrrhizin
<b>CHEMICAL FORMULA</b>	C <sub>42</sub> H <sub>62</sub> O <sub>16</sub>
<b>MOLECULAR WEIGHT (MW)</b>	822.93
<b>CHEMICAL FAMILY</b>	Triterpenes
<b>CAS NUMBER</b>	[1405-86-3]
<b>EC#(EINECS)</b>	215-785-7
<b>RTECS</b>	MD2025000

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	95.4%
HPLC	0.700.10.2.METH22	≥ 90%	99.8%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	Acetonitrile – 13400 ppm
Water	0.700.12.37	NA	3.1%
Appearance	NA	NA	White powder

\*Testing performed at an ISO 17025 accredited subcontracted laboratory.  
 ADJUSTED PURITY: 95.4% IS BASED ON (100 - 1.3 SOLVENTS - 3.1 WATER) X 99.8% HPLC

**STORAGE CONDITIONS**

<b>STORAGE</b>	Room Temperature in a dry place.
<b>EXPIRATION DATE</b>	08/2027 under the above conditions.

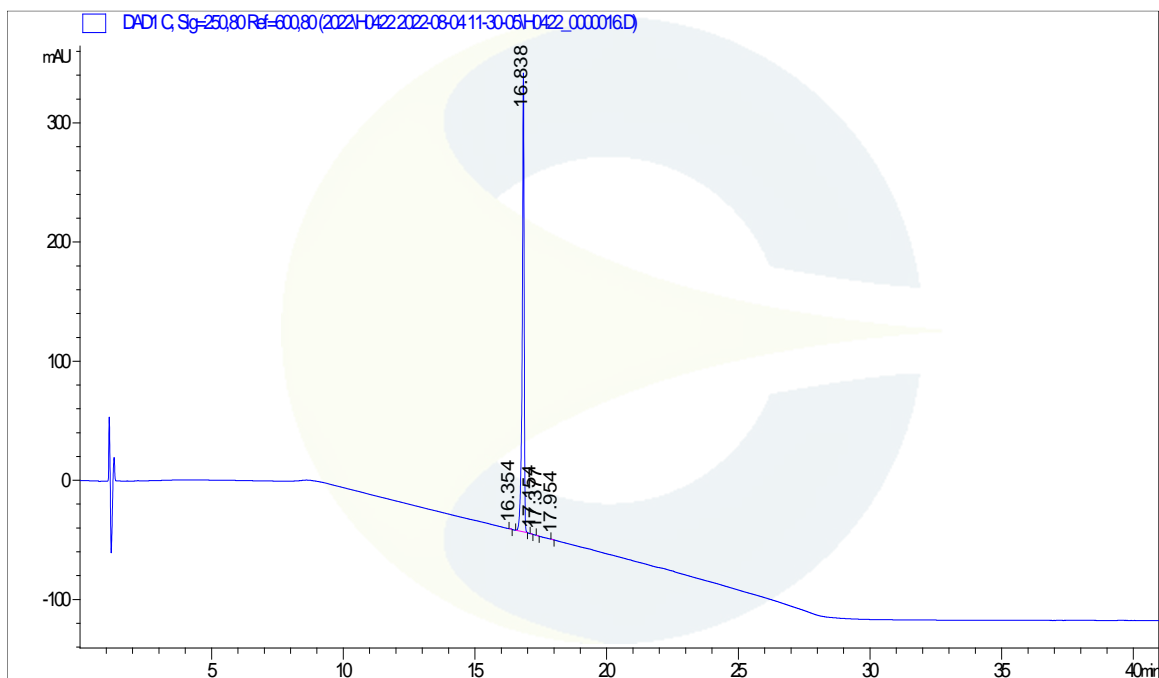
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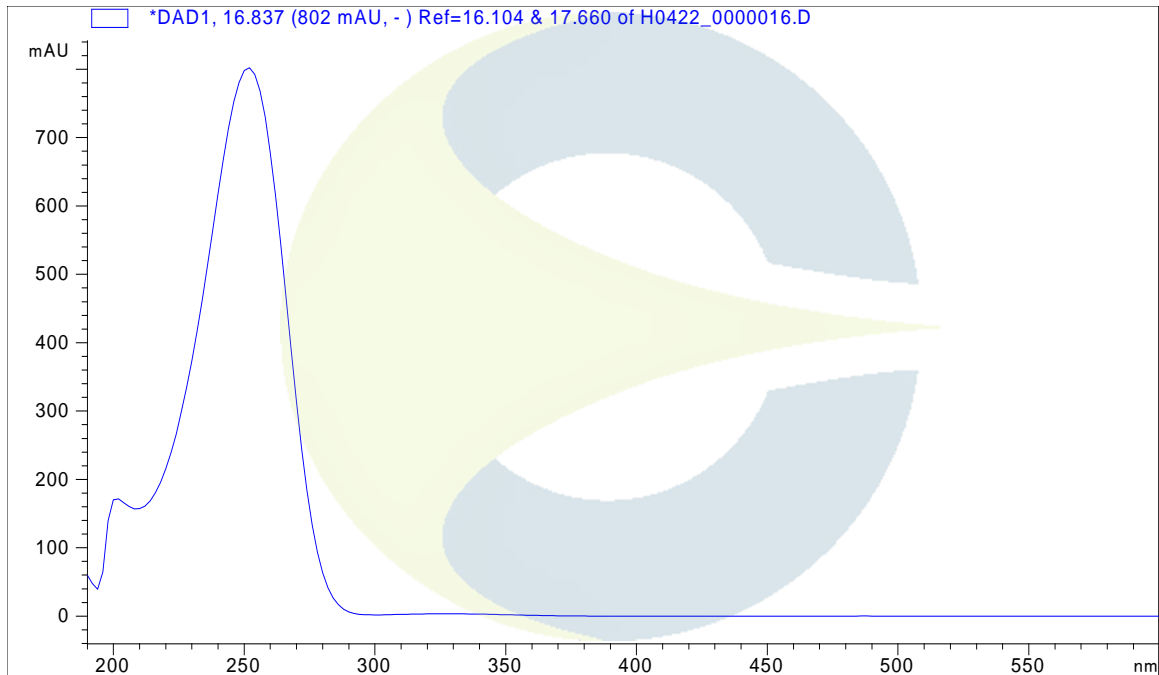
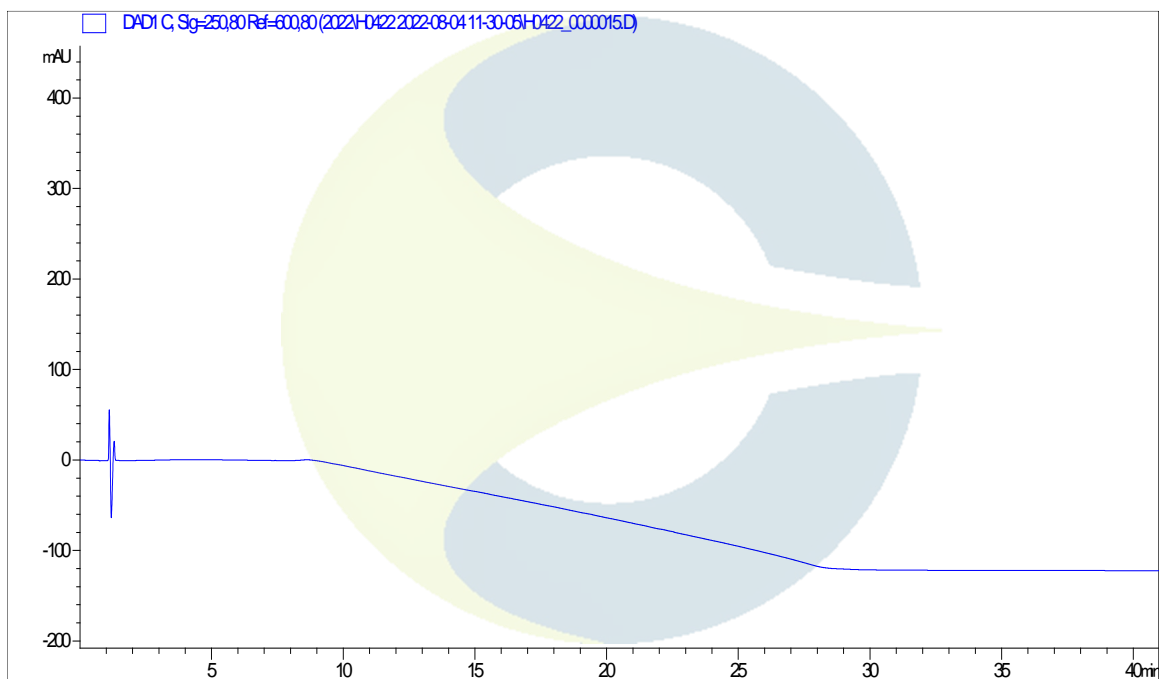
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**ANALYTICAL CONDITIONS**

<b>INSTRUMENT</b>	AGILENT 1260 HPLC UV-VIS (DAD): AB-SCIEX 6600 TRIPLE TOF
<b>COLUMN</b>	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
<b>MOBILE PHASE</b>	A - 0.1% Trifluoroacetic acid in Ultrapure water, B - Acetonitrile; Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 15 minutes, then decreasing to 5% B over 1 minute.
<b>COLUMN TEMP.</b>	60 °C
<b>FLOW RATE</b>	0.4 mL/minute
<b>INJECTION VOL.</b>	2.0 µL
<b>INJECTION CONC.</b>	1.0 mg/mL in Methanol
<b>DETECTION</b>	250 ± 40 nm

**HPLC CHROMATOGRAM OF GLYCYRRHIZIC ACID (CDXP-22-00670)**


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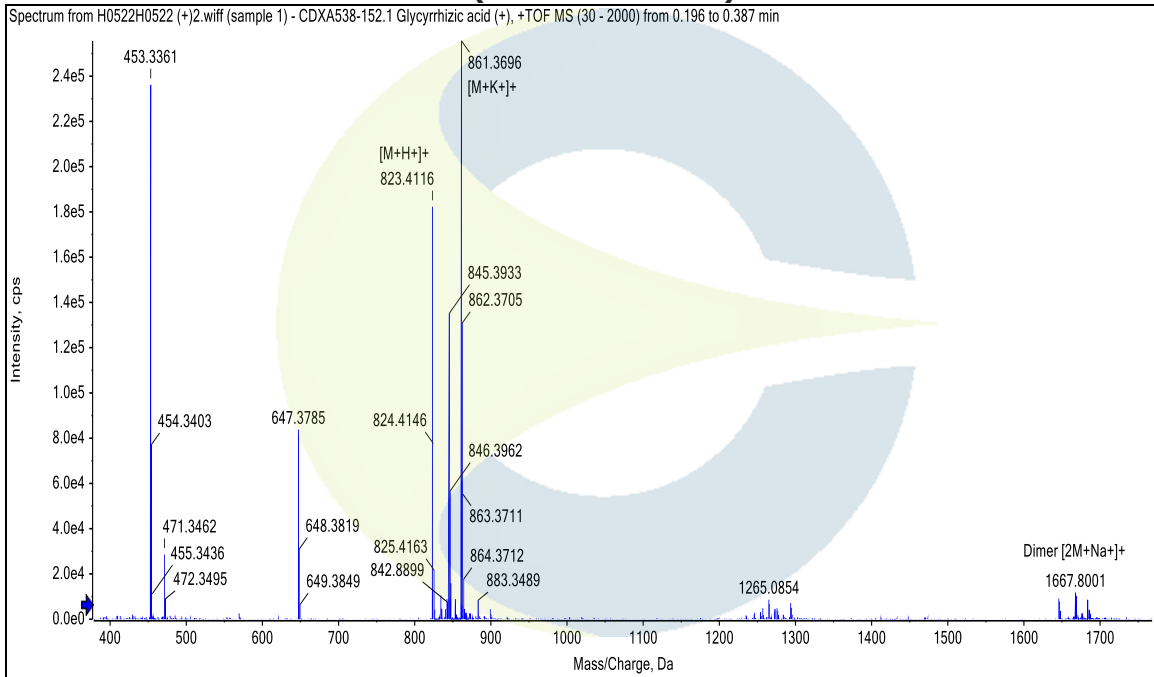
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**UV SPECTRUM AT RT = 16.8 MINUTES**

**HPLC CHROMATOGRAM OF DILUENT BLANK**


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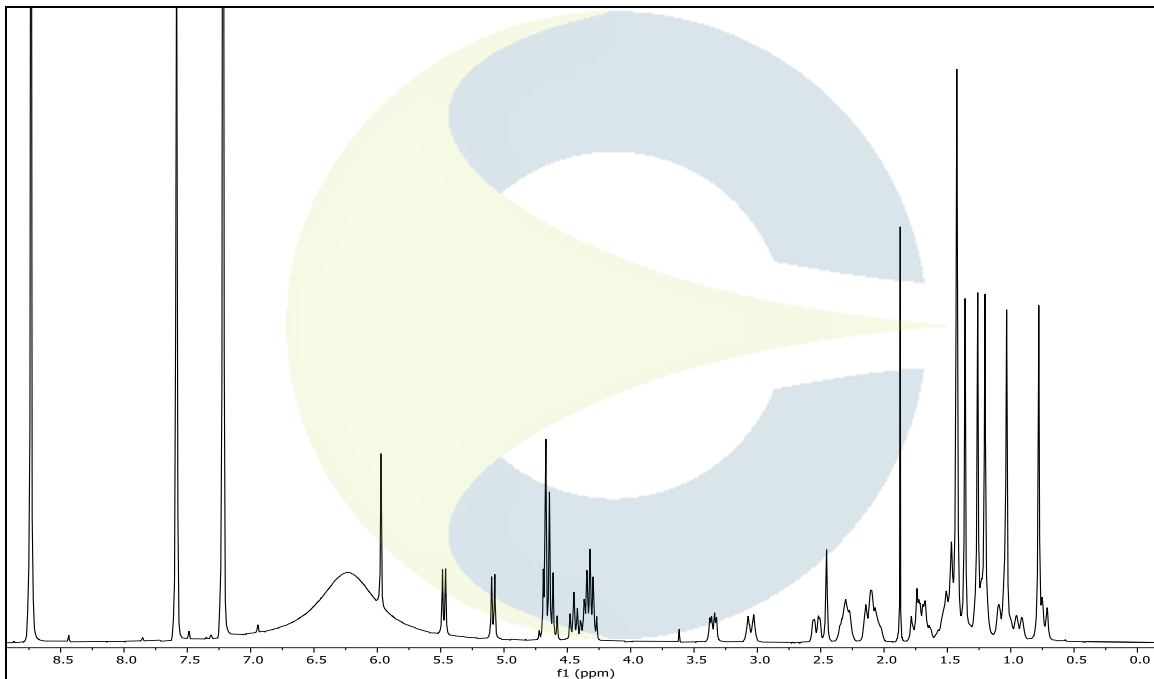
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**MASS SPECTRUM OF GLYCYRRHIZIC ACID (CDXP-22-00670)**



**<sup>1</sup>H-NMR SPECTRUM OF GLYCYRRHIZIC ACID (CDXP-22-00670) IN PYRIDINE-d<sub>5</sub>**



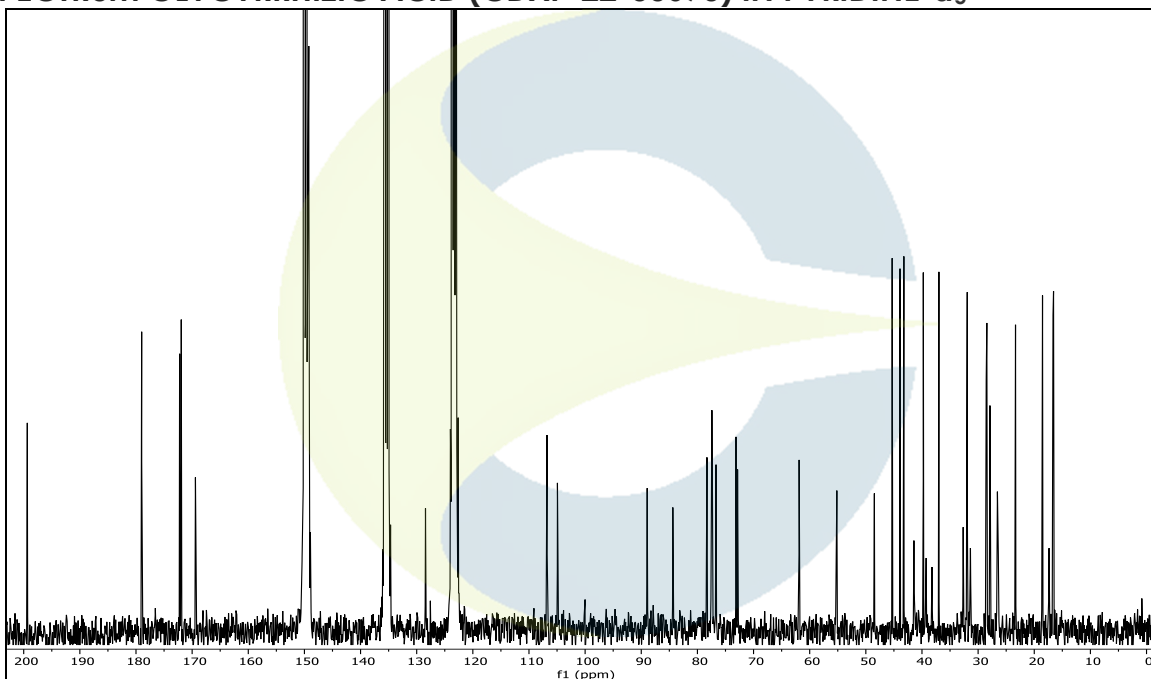
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## Certificate of Analysis

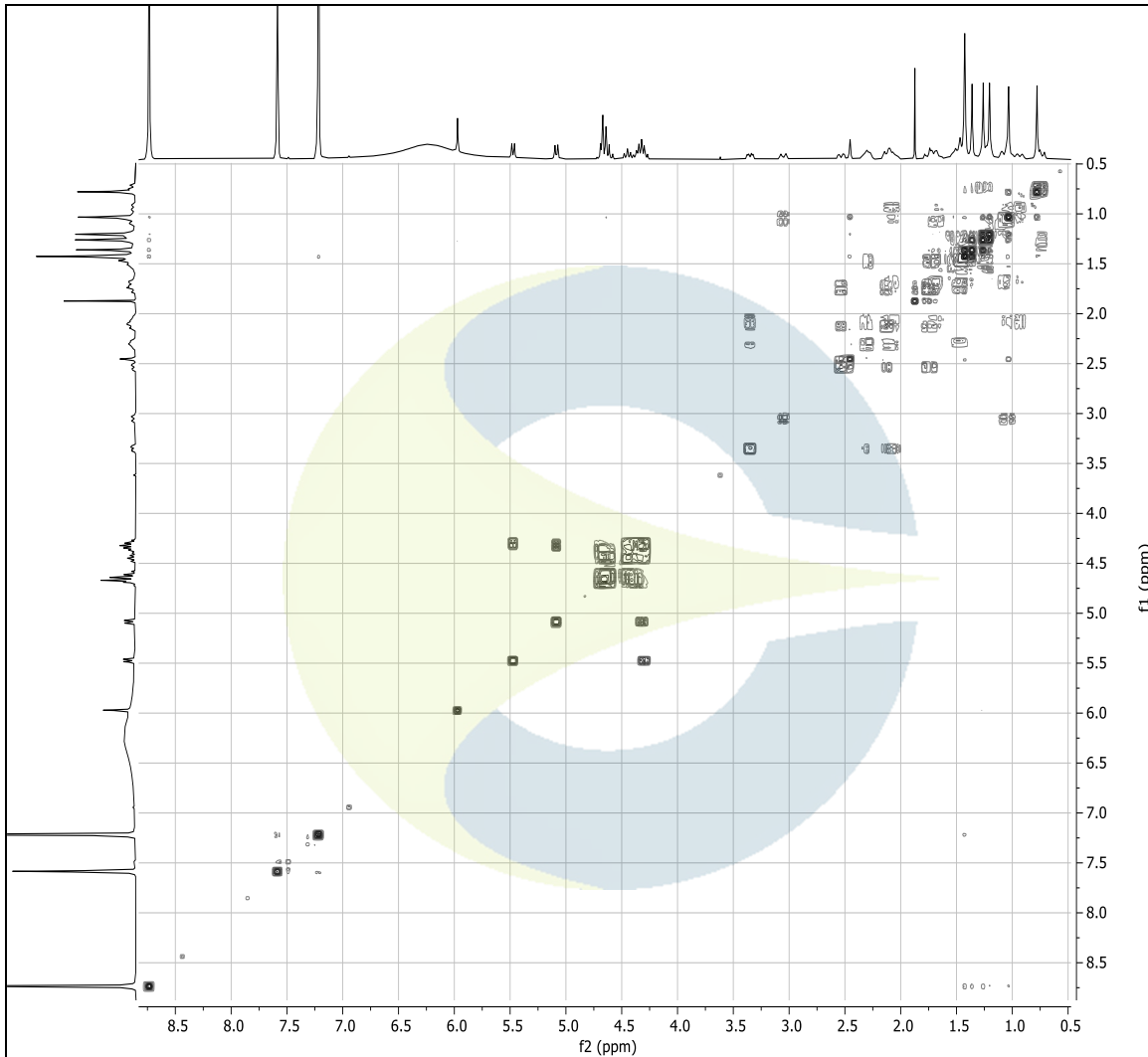
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**<sup>13</sup>C-NMR SPECTRUM GLYCYRRHIZIC ACID (CDXP-22-00670) IN PYRIDINE-d<sub>5</sub>**

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**COSY-NMR SPECTRUM OF GLYCYRRHIZIC ACID (CDXP-22-00670) IN PYRIDINE-*d*<sub>5</sub>**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	09/06/2022	New report

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