FORM 4   UNITED STATES SECURITES AND EXCHANGE COMMISSION Wathingtow. Dc. 2049     Other is form 4 of Point Description 100:   STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP Listended average building of section 100; of the Source of 1940   Statement of Communication (Section 300; of the Investment Company Act of 1940)   Statement of Source of the Source of 1940     1: Name and Address of Raporting Person*   Check the source of the Source of Source of the Source of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Section 300; of the Investment of Company Act of 1940   Sectin 1940; of the Investment o	SEC For	m 4															
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Hayden Michael R IONIS PHARMACEUTICALS INC [ IONS] (Check all applicable)   (Last) (First) (Middle)   2855 GAZELLE COURT 4. If Amendment, Date of Garliest Transaction (Month/Day/Year) 6. Individual or Joint/Group Fling (Check Applicable)   (Street) CARLSBAD CA 92010   (City) (State) (Zp)   Rule 10b5-1(c) Transaction Indication Form field by More than One Reporting Person Form field by More than One Reporting Person Form field by More than One Reporting Person   Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 5. Amount of Beneficially Owned   1. Title of Security (Instr. 3) 2. Transaction Date 2. Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible Securities Acquired (A) or Disposed of (D) referse 5. Amount of Beneficially Owned (e.g., puts, calls, warrants, options, convertible Securities Call (instr. 4) 5. Amount of Beneficially Owned (e.g., puts, calls, warrants, options, convertible Securities Derivative Security Security (instr. 3) 5. Amount of Beneficially Owned (e.g., puts, calls, warrants, options, convertible Securities Derivative Security	Section 16. Form 4 or Form 5 obligations may continue. See					Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934									Estimated average burden		
Last)   (First)   (Middle)   07/01/2024   Image: Constraint of the second secon													(Check all applicable)				
(Street) CARLSBAD CA 92010 Form filed by One Reporting Person Form filed by More than One Reporting Person   (City) (State) (Zip) Rule 10b5-1(c) Transaction Indication Form filed by More than One Reporting Person   Table 1 - Non-Derivative Securities Acquired, Disposed of (D) (Instr. 3, 4 and 5) Bate S. Amount of Base (Instr. 4) <td colspan="3"></td> <td>(Middle)</td> <td></td> <td colspan="7"></td> <td></td> <td colspan="3"></td>				(Middle)													
CARLSBAD CA 92010 Form filed by More than One Reporting Person   (City) (State) (Zip) Rule 10b5-1(c) Transaction Indication   Image: Check this box to indicate that a transaction was made pursuant to a outract, instruction or written plan that is intended to satisfy   Table 1 - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned   1. Title of Security (Instr. 3) 2. Transaction Date for the difference conditions of Nue 1025-1(c) Code (Instr. 3) 3. Transaction Date for the difference conditions of Nue 1025-1(c) Securities Acquired (A) or Date for the difference conditions of Nue 1025-1(c) Securities Acquired (A) or Transaction (B) (D) (Instr. 3, 4 and 5) 5. Amount of Date for the difference conditions of Nue 1025-1(c) Securities Acquired (A) or Transaction (B) (D) (Instr. 4, 4 and 5) 5. Amount of Date for the difference conditions of Nue 1025-1(c) Securities Acquired (A) or Transaction (B) (D) (Instr. 4, 4 and 5) 5. Amount of Date for the difference conditions of Nue 1025-1(c) Securities (Instr. 4) (D) (Instr. 4) 5. Date Securities for the difference Securities Securities Securities Securities Securities (Instr. 4) 5. Securities (S) Securities						Line)											
Construction <th< td=""><td colspan="3"></td><td>92010</td><td></td><td colspan="8">Form filed</td><td colspan="3">d by More than One Reporting</td></th<>				92010		Form filed								d by More than One Reporting			
Image: conditions of Rule 1006-1(c). See Instruction 10.     Table 1 - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned     1. Title of Security (Instr. 3)   2. Transaction Date   2. Transaction (Month/Day/Year)   3. Transaction (Month/Day/Year)   3. Transaction (Month/Day/Year)   4. Securities Acquired (A) or Code (Instr. 3)   5. Amount of Securities (Instr. 3)   5. Amount of Securities (Instr. 4)   6. Ownership Form: Direct Beneficially (Instr. 4)   6. Ownership Form: Direct Beneficially (Instr. 4)   7. Nature of Securities (Instr. 4)     1. Title of Derivative (Instr. 3)   3. Transaction Date   3. Transaction (Instr. 4)   6. Ownership Form: Direct Beneficially (Instr. 4)   7. Title of Beneficially (Instr. 4)   6. Ownership Form: Direct Beneficially (Instr. 4)   10. Owner Form: Direct Beneficially (Instr. 4)   10. Owner	(City) (State) (			(Zip)		Rule 10b5-1(c) Transaction Indication											
1. Title of Security (Instr. 3) 2. Transaction Date (Month/Day/Year) 2. Deemed Execution Date, (Month/Day/Year) 3. Transaction, (Month/Day/Year) 3. Transaction, (Month/Day/Year) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 3, 4 and 5) 5. Amount of Disposed Of (D) (Instr. 4)																	
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$ \frac{1}{10000000000000000000000000000000000$	1. Title of Security (Instr. 3)				Date		Execution Date, if any		, Transaction Disposed O Code (Instr.				Securities Beneficially Owned Following		Form: Direct (D) or Indirect	Indirect Beneficial Ownership	
$ \frac{(e.g., puts, calls, warrants, options, convertible securities)}{1. Title of Derivative Security} \left( 1. Since Security (Instr. 3) (Instr. 4) \right) \\ \frac{1}{2} \left( 1. Since Security (Instr. 3) (Instr. 4) \right) \\ \frac{1}{2} \left( 1. Since Security (Instr. 4) $									Code V	Amount			Transaction(s)		ľ	(iiisu. 4)	
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Non- Qualified StockS47.11O7/01/2024O7/01/2024AA <th< td=""><td>Derivative Security</td><td colspan="3">erivative Conversion Date ecurity or Exercise (Month/Day/Year) nstr. 3) Price of Derivative</br></td><td>Code</td><td></td><td colspan="2">Derivative Securities Acquired (A) or Disposed of (D) (Instr.</td><td colspan="2">Expiration Date</td><td colspan="2">Amount of Securities Underlying Derivative Security</td><td>Derivative Security</td><td>derivative Securities Beneficially Owned Following Reported</td><td>Ownership Form: Direct (D) or Indirect (I) (Instr. 4)</td><td>of Indirect Beneficial Ownership</td></th<>	Derivative Security	erivative Conversion Date ecurity or Exercise (Month/Day/Year) nstr. 3) Price of 			Code		Derivative Securities Acquired (A) or Disposed of (D) (Instr.		Expiration Date		Amount of Securities Underlying Derivative Security		Derivative Security	derivative Securities Beneficially Owned Following Reported	Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	of Indirect Beneficial Ownership	
Qualified Stock (right to buy)   \$47.11   07/01/2024   A   A   10,111 <sup>(1)</sup> D   Common Stock   10,111   \$0.0   10,111   D   D     Restricted   \$50.0 <sup>(3)</sup> 07/01/2024   A   A   4.070 <sup>(1)</sup> (4)   (4)   Common Stock   4.079   \$50.0   8.756   D					Code	v	(A)	(D)			Title	or Number of		(Instr. 4)			
	Qualified Stock Option (right to	\$47.11	07/01/2024		Α		10,111 <sup>(1)</sup>		07/01/2025 <sup>(2)</sup>	06/30/2034 <sup>(2)</sup>		10,111	\$0.0	10,111	D		
		<b>\$0.0</b> <sup>(3)</sup>	07/01/2024		Α		4,079 <sup>(1)</sup>		(4)	(4)		4,079	\$0.0	8,756	D		

## Explanation of Responses:

1. Pursuant to the Company's Non-Employee Director Compensation Policy, these grants were adjusted downward such that the non-employee Director's annual equity compensation in 2024 totals no more than \$450,000 based on the aggregate grant date fair value as determined in accordance with FASB Topic ASC 718.

2. Grant on July 1, 2024 to reporting person of stock options under the Amended and Restated Ionis Pharmaceuticals, Inc. 2002 Non-Employee Directors' Stock Option Plan. 100% of the shares subject to the option vest and become exercisable on either the first anniversary of the date of grant or the next regularly scheduled annual meeting of stockholders of the Company, whichever occurs earlier. The option is exercisable to 0 shares on July 1, 2024.

3. Each Restricted Stock Unit represents a contingent right to receive one share of Ionis common stock, or its equivalent cash value.

4. Grant on July 1, 2024 to reporting person of Restricted Stock Unit award under the Amended and Restated Ionis Pharmaceuticals, Inc. 2002 Non-Employee Directors' Stock Option Plan. These Restricted Stock Units vest 100% on either the first anniversary of the date of grant or the next regularly scheduled annual meeting of stockholders of the Company, whichever occurs earlier, and will be delivered to the reporting person on the July 15th following the vesting date. The Restricted Stock Unit is vested as to 0 shares on July 1, 2024.

By: Patrick R. O'Neil, attorneyin-fact For: Michael R. Hayden 07/03/2024

\*\* Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

 $^{*}$  If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.