Form 5500	Annual Return/Report of Employee Benefit Plan	OMB Nos. 1210-0110 1210-0089
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ **Complete all entries in accordance with the instructions to the Form 5500.**	**2022** **This Form is Open to Public Inspection**

Part I Annual Report Identification Information

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A This return/report is for:
- [ ] a multiemployer plan
- [ ] a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)
- [x] a single-employer plan
- [ ] a DFE (specify) ____

B This return/report is:
- [ ] the first return/report
- [ ] the final return/report
- [ ] an amended return/report
- [ ] a short plan year return/report (less than 12 months)

C If the plan is a collectively-bargained plan, check here. . . . . ▶ [ ]

D Check box if filing under:
- [x] Form 5558
- [ ] automatic extension
- [ ] the DFVC program
- [ ] special extension (enter description)

E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here. . . . . ▶ [ ]

Part II Basic Plan Information—enter all requested information

1a Name of plan
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN

1b Three-digit plan number (PN) ▶ 001

1c Effective date of plan 05/01/2007

2a Plan sponsor's name (employer, if for a single-employer plan)
Mailing address (include room, apt., suite no. and street, or P.O. Box)
City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY

601 GENOME WAY
HUNTSVILLE, AL 35806

2b Employer Identification Number (EIN) 43-2059317

2c Plan Sponsor's telephone number 256-327-0424

2d Business code (see instructions) 541990

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/13/2023	CATRINA PASEUR
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	10/13/2023	PETER YANUL
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

3a Plan administrator's name and address [X] Same as Plan Sponsor	**3b** Administrator's EIN	
	3c Administrator's telephone number	
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: **a** Sponsor's name **c** Plan Name	**4b** EIN **4d** PN	
5 Total number of participants at the beginning of the plan year	**5**	298
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines **6a(1), 6a(2), 6b, 6c,** and **6d**).		
a(1) Total number of active participants at the beginning of the plan year	**6a(1)**	212
a(2) Total number of active participants at the end of the plan year	**6a(2)**	214
b Retired or separated participants receiving benefits	**6b**	0
c Other retired or separated participants entitled to future benefits	**6c**	83
d Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	297
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	0
f Total. Add lines **6d** and **6e**.	**6f**	297
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	296
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	**7**	

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

2A 2E 2F 2G 2J 2S 2T 3D

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:

9a Plan funding arrangement (check all that apply)

- **(1)** [X] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] Trust
- **(4)** [ ] General assets of the sponsor

9b Plan benefit arrangement (check all that apply)

- **(1)** [X] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] Trust
- **(4)** [ ] General assets of the sponsor

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- **(1)** [X] **R** (Retirement Plan Information)
- **(2)** [ ] **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- **(3)** [ ] **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- **(1)** [X] **H** (Financial Information)
- **(2)** [ ] **I** (Financial Information – Small Plan)
- **(3)** [X] 2 **A** (Insurance Information)
- **(4)** [X] **C** (Service Provider Information)
- **(5)** [ ] **D** (DFE/Participating Plan Information)
- **(6)** [ ] **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ……..... ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2022 Form M-1 annual report. If the plan was not required to file the 2022 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code_____

SCHEDULE A (Form 5500)	Insurance Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ **File as an attachment to Form 5500.** ▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).	**2022** **This Form is Open to Public Inspection**

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A Name of plan	**B** Three-digit plan number (PN) ▶
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN	001
C Plan sponsor's name as shown on line 2a of Form 5500	**D** Employer Identification Number (EIN)
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY	43-2059317

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier

PRINCIPAL LIFE INSURANCE COMPANY

(b) EIN	**(c)** NAIC code	**(d)** Contract or identification number	**(e)** Approximate number of persons covered at end of policy or contract year	Policy or contract year **(f)** From	**(g)** To
42-0127290	61271	613953	297	01/01/2022	12/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	**(b)** Total amount of fees paid
0	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid **(c)** Amount	**(d)** Purpose	**(e)** Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid **(c)** Amount	**(d)** Purpose	**(e)** Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	4	0
5	Current value of plan's interest under this contract in separate accounts at year end	5	0

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	6b	
c	Premiums due but unpaid at the end of the year	6c	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	6d	

Specify nature of costs ▶

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity

(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee

(3) ☐ guaranteed investment (4) ☒ other ▶ CUSTODIAL GUARANTEED INTEREST CONTRACT

b	Balance at the end of the previous year			7b	939364
c	Additions: (1) Contributions deposited during the year	7c(1)	86574		
	(2) Dividends and credits	7c(2)			
	(3) Interest credited during the year	7c(3)	15827		
	(4) Transferred from separate account	7c(4)			
	(5) Other (specify below)	7c(5)	1279718		
	▶ OUTSIDE INVESTMENT TRANSFER				
	(6)Total additions			7c(6)	1382119
d	Total of balance and additions (add lines **7b** and **7c(6)**).			7d	2321483
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)	761785		
	(2) Administration charge made by carrier	7e(2)	3435		
	(3) Transferred to separate account	7e(3)			
	(4) Other (specify below)	7e(4)	613738		
	▶ OUTSIDE INVESTMENT TRANSFER				
	(5) Total deductions			7e(5)	1378958
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			7f	942525

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- **a** ☐ Health (other than dental or vision)
- **b** ☐ Dental
- **c** ☐ Vision
- **d** ☐ Life insurance
- **e** ☐ Temporary disability (accident and sickness)
- **f** ☐ Long-term disability
- **g** ☐ Supplemental unemployment
- **h** ☐ Prescription drug
- **i** ☐ Stop loss (large deductible)
- **j** ☐ HMO contract
- **k** ☐ PPO contract
- **l** ☐ Indemnity contract
- **m** ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	9a(1)			
(2) Increase (decrease) in amount due but unpaid	9a(2)			
(3) Increase (decrease) in unearned premium reserve	9a(3)			
(4) Earned ((**1**) + (**2**) - (**3**))			9a(4)	
b Benefit charges (1) Claims paid	9b(1)			
(2) Increase (decrease) in claim reserves	9b(2)			
(3) Incurred claims (add (**1**) and (**2**))			9b(3)	
(4) Claims charged			9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	9c(1)(A)			
(B) Administrative service or other fees	9c(1)(B)			
(C) Other specific acquisition costs	9c(1)(C)			
(D) Other expenses	9c(1)(D)			
(E) Taxes	9c(1)(E)			
(F) Charges for risks or other contingencies	9c(1)(F)			
(G) Other retention charges	9c(1)(G)			
(H) Total retention			9c(1)(H)	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			9d(1)	
(2) Claim reserves			9d(2)	
(3) Other reserves			9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			9e	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			10b	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE A (Form 5500)	Insurance Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ **File as an attachment to Form 5500.** ▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).	**2022** **This Form is Open to Public Inspection**

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A Name of plan	**B** Three-digit plan number (PN) ▶
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN	001
C Plan sponsor's name as shown on line 2a of Form 5500	**D** Employer Identification Number (EIN)
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY	43-2059317

Part I **Information Concerning Insurance Contract Coverage, Fees, and Commissions** Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier

PRINCIPAL LIFE INSURANCE COMPANY

(b) EIN	**(c)** NAIC code	**(d)** Contract or identification number	**(e)** Approximate number of persons covered at end of policy or contract year	Policy or contract year **(f)** From	**(g)** To
42-0127290	61271	465777	297	01/01/2022	12/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	**(b)** Total amount of fees paid
0	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid **(c)** Amount	**(d)** Purpose	**(e)** Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid **(c)** Amount	**(d)** Purpose	**(e)** Organization code

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	**4**	0
5	Current value of plan's interest under this contract in separate accounts at year end	**5**	0

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	**6b**	
c	Premiums due but unpaid at the end of the year	**6c**	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount.	**6d**	

Specify nature of costs ▶

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity

(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee

(3) ☐ guaranteed investment (4) ☐ other ▶

b	Balance at the end of the previous year			**7b**	
c	Additions: (1) Contributions deposited during the year	**7c(1)**			
	(2) Dividends and credits	**7c(2)**			
	(3) Interest credited during the year	**7c(3)**			
	(4) Transferred from separate account	**7c(4)**			
	(5) Other (specify below) ▶	**7c(5)**			
	(6)Total additions			**7c(6)**	
d	Total of balance and additions (add lines **7b** and **7c(6)**).			**7d**	
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	**7e(1)**			
	(2) Administration charge made by carrier	**7e(2)**			
	(3) Transferred to separate account	**7e(3)**			
	(4) Other (specify below) ▶	**7e(4)**			
	(5) Total deductions			**7e(5)**	
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			**7f**	0

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- **a** ☐ Health (other than dental or vision)
- **b** ☐ Dental
- **c** ☐ Vision
- **d** ☐ Life insurance
- **e** ☐ Temporary disability (accident and sickness)
- **f** ☐ Long-term disability
- **g** ☐ Supplemental unemployment
- **h** ☐ Prescription drug
- **i** ☐ Stop loss (large deductible)
- **j** ☐ HMO contract
- **k** ☐ PPO contract
- **l** ☐ Indemnity contract
- **m** ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	9a(1)			
(2) Increase (decrease) in amount due but unpaid	9a(2)			
(3) Increase (decrease) in unearned premium reserve	9a(3)			
(4) Earned ((**1**) + (**2**) - (**3**))			9a(4)	
b Benefit charges (1) Claims paid	9b(1)			
(2) Increase (decrease) in claim reserves	9b(2)			
(3) Incurred claims (add (**1**) and (**2**))			9b(3)	
(4) Claims charged			9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	9c(1)(A)			
(B) Administrative service or other fees	9c(1)(B)			
(C) Other specific acquisition costs	9c(1)(C)			
(D) Other expenses	9c(1)(D)			
(E) Taxes	9c(1)(E)			
(F) Charges for risks or other contingencies	9c(1)(F)			
(G) Other retention charges	9c(1)(G)			
(H) Total retention			9c(1)(H)	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			9d(1)	
(2) Claim reserves			9d(2)	
(3) Other reserves			9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			9e	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			10b	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE C (Form 5500)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ **File as an attachment to Form 5500.**	**2022** **This Form is Open to Public Inspection.**

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A Name of plan
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY

D Employer Identification Number (EIN)
43-2059317

Part I Service Provider Information (see instructions)

You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions).. . . . . [X] Yes [ ] No

b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

PRINCIPAL LIFE INSURANCE COMPANY

42-0127290

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

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(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

PRINCIPAL LIFE INSURANCE COMPANY

42-0127290

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
13 50 64	CONTRACT ADMINISTRATOR	105403	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

(a) Enter name and EIN or address (see instructions)

KREATIV RETIREMENT PLAN SOLUTIONS

82-2520151

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
27 99	INVESTMENT ADVISORY	0	Yes [X] No [ ]	Yes [ ] No [X]	42489	Yes [ ] No [X]

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes [ ] No [ ]	Yes [ ] No [ ]		Yes [ ] No [ ]

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received $1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
KREATIV RETIREMENT PLAN SOLUTIONS	27 99	42489

(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.
PRINCIPAL LIFE INSURANCE COMPANY 42-0127290	INVESTMENT ADVISORY (PLAN)

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation

(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation

(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)

(complete as many entries as needed)

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

SCHEDULE H (Form 5500)	Financial Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ▶ **File as an attachment to Form 5500.**	**2022** **This Form is Open to Public Inspection**

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A Name of plan
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY

D Employer Identification Number (EIN)
43-2059317

Part I Asset and Liability Statement

1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. **Round off amounts to the nearest dollar.** MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.

Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)		
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds)	1c(13)	34790057	28991763
(14) Value of funds held in insurance company general account (unallocated contracts)	1c(14)	939364	942525
(15) Other	1c(15)		

		(a) Beginning of Year	(b) End of Year
1d Employer-related investments:			
(1) Employer securities	1d(1)		
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	35729421	29934288
Liabilities			
g Benefit claims payable	1g		
h Operating payables	1h		
i Acquisition indebtedness	1i		
j Other liabilities	1j		
k Total liabilities (add all amounts in lines 1g through1j)	1k	0	0
Net Assets			
l Net assets (subtract line 1k from line 1f)	1l	35729421	29934288

Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income		(a) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: **(A)** Employers	2a(1)(A)	942182	
(B) Participants	2a(1)(B)	1849696	
(C) Others (including rollovers)	2a(1)(C)	492140	
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines **2a(1)(A), (B), (C),** and line **2a(2)**	2a(3)		3284018
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)		
(F) Other	2b(1)(F)	15827	
(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		15827
(2) Dividends: **(A)** Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	576868	
(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		576868
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line **2b(4)(B)** from line **2b(4)(A)** and enter result	2b(4)(C)		0
(5) Unrealized appreciation (depreciation) of assets: **(A)** Real estate	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines **2b(5)(A)** and **(B)**	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-6863821
c Other income	2c		
d Total income. Add all **income** amounts in column (b) and enter total	2d		-2987108
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	2702622	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		2702622
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)		
(2) Contract administrator fees	2i(2)	105403	
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)		
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		105403
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		2808025
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		-5795133
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) [X] Unmodified **(2)** [ ] Qualified **(3)** [ ] Disclaimer **(4)** [ ] Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) [X] DOL Regulation 2520.103-8 **(2)** [ ] DOL Regulation 2520.103-12(d) **(3)** [ ] neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: ANGLIN REICHMANN ARMSTRONG, P.C. **(2)** EIN: 63-1262841

d The opinion of an independent qualified public accountant is **not attached** because:

(1) [ ] This form is filed for a CCT, PSA, or MTIA. **(2)** [ ] It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)	4a		X	

		Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)	4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)	4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)	4d		X	
e Was this plan covered by a fidelity bond?	4e	X		500000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?	4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?	4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)	4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	4k		X	
l Has the plan failed to provide any benefit when due under the plan?	4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m		X	
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.	4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	**5b(2)** EIN(s)	**5b(3)** PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

SCHEDULE R (Form 5500)	Retirement Plan Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ **File as an attachment to Form 5500.**	**2022** **This Form is Open to Public Inspection.**

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

A Name of plan
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY 401(K) PLAN

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
HUDSON-ALPHA INSTITUTE FOR BIOTECHNOLOGY

D Employer Identification Number (EIN)
43-2059317

Part I Distributions

All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions **1** 0

2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits):

EIN(s): 42-0127290 _____

Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.

3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year **3**

Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)

4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ..... ☐ **Yes** ☐ **No** ☐ **N/A**

If the plan is a defined benefit plan, go to line 8.

5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. **Date:** Month _____ Day _____ Year _____

If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.

6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived) **6a**

b Enter the amount contributed by the employer to the plan for this plan year **6b**

c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount) **6c**

If you completed line 6c, skip lines 8 and 9.

7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ..... ☐ **Yes** ☐ **No** ☐ **N/A**

8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ..... ☐ **Yes** ☐ **No** ☐ **N/A**

Part III Amendments

9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ..... ☐ **Increase** ☐ **Decrease** ☐ **Both** ☐ **No**

Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.

10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ..... ☐ **Yes** ☐ **No**

11 a Does the ESOP hold any preferred stock? ..... ☐ **Yes** ☐ **No**

b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ..... ☐ **Yes** ☐ **No**

12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ..... ☐ **Yes** ☐ **No**

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14 Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:

a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment)	**14a**	
b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	**14b**	
c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	**14c**	

15 Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year	**15a**	
b The corresponding number for the second preceding plan year	**15b**	

16 Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year	**16a**	
b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	**16b**	

17 If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

18 If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

19 If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify):

20 **PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No

b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation_____

ANGLIN
REICHMANN ▲ ARMSTRONG

CERTIFIED PUBLIC ACCOUNTANTS & BUSINESS ADVISORS

September 29, 2023
HudsonAlpha Institute for Biotechnology 401(k) Plan
Huntsville, AL

To Management and Board of Directors of HudsonAlpha Institute for Biotechnology 401(k) Plan:

Except as discussed in the following paragraph, in planning and performing our audit of the financial statements of HudsonAlpha Institute for Biotechnology 401(k) Plan as of and for the year ended December 31, 2022, in accordance with auditing standards generally accepted in the United States of America, we considered Plan's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the plan's internal control. Accordingly, we do not express an opinion on the effectiveness of the Plan's internal control.

Management has determined it is permissible in the circumstances and has elected to have the audit of the Plan's financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the DOL's Rules and Regulations for Reporting and Disclosure under ERISA. Therefore, as permitted by ERISA Section 103(a)(3)(C), the audit need not extend to any statements of information related to assets held for investment of the Plan (investment information) by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency, provided that the statements or information regarding assets so held are prepared and certified to by the bank or similar institution or insurance carrier in accordance with 29 CFR 2520.103-5 of the DOL's Rules and Regulations for Reporting and Disclosure under ERISA (qualified institution).

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses and, therefore, significant deficiencies or material weaknesses may exist that were not identified.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of the Plan's financial statements will not be prevented, or detected and corrected, on a timely basis. A reasonable possibility exists when the likelihood of an event occurring is either reasonably possible or probable as defined as follows:

- *Reasonably possible.* The chance of the future event or events occurring is more than remote but less than likely.
- *Probable.* The future event or events are likely to occur.

This communication is intended solely for the information and use of management, the Board of Directors, and others within the Plan, and is not intended to be, and should not be, used by anyone other than these specified parties.

Sincerely,

Anglin Reichmann Armstrong P.C.

CERTIFIED PUBLIC ACCOUNTANTS

September 29, 2023

ANGLIN REICHMANN ARMSTRONG, P.C.
305 Quality Circle, Huntsville, AL 35806

www.anglincpa.com

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SCHEDULE H, line 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

H-A I B 401(

EIN 43 2059317
PLAN NUMBER 001
PLAN YEAR 01/01/2022 TO 12/31/2022

(A)	(B) Identity of issuer, borrower, lessor or similar party.	(C) Description of investment including maturity date, rate of interest, collateral, par or maturity value.	(D) Cost	(E) Current Value
	Fidelity Investments	Registered Investment Company Fidelity Mid Cp Index Fund	$ 0.00	$ 2,235,356.55
	Fidelity Investments	Registered Investment Company Fidelity Sm Cap Index Fund	$ 0.00	$ 704,931.64
	Fidelity Investments	Registered Investment Company Fidelity 500 Index Fund	$ 0.00	$ 3,126,890.62
*	Principal Life Insurance Company	Insurance Company General Prin Fixed Inc Guar Option	$ 0.00	$ 942,524.76
	Vanguard Group	Registered Investment Company Vanguard Dev Mkts Index Adm Fd	$ 0.00	$ 2,049,194.02
	Vanguard Group	Registered Investment Company Vanguard Emg Mk Stk Idx Adm Fd	$ 0.00	$ 247,812.43
	Vanguard Group	Registered Investment Company Vanguard FTSE Soc Idx Adm Fd	$ 0.00	$ 9,112.28
	Vanguard Group	Registered Investment Company Vanguard Growth Index Adm Fund	$ 0.00	$ 2,073,868.16
	Vanguard Group	Registered Investment Company Vanguard Hi-Yld Corp Adm Fund	$ 0.00	$ 544,594.15
	Vanguard Group	Registered Investment Company Vanguard Int-Tm Bd Idx Adm Fd	$ 0.00	$ 1,441,805.77
	Vanguard Group	Registered Investment Company Vanguard MidCap Val Idx Adm Fd	$ 0.00	$ 340,746.59
	Vanguard Group	Registered Investment Company Vanguard Sm Cap Gr Idx Adm Fd	$ 0.00	$ 667,601.01
	Vanguard Group	Registered Investment Company Vanguard Sm Cap Val Idx Adm Fd	$ 0.00	$ 117,887.55
	Vanguard Group	Registered Investment Company Vanguard Value Index Adm Fund	$ 0.00	$ 1,015,170.77
	Vanguard Group	Registered Investment Company VANGD TTL INTL BOND IDX ADM FD	$ 0.00	$ 26,080.81

SCHEDULE H, line 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

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SCHEDULE H, line 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

H-A I B 401(

EIN 43 2059317
PLAN NUMBER 001
PLAN YEAR 01/01/2022 TO 12/31/2022

(A)	(B) Identity of issuer, borrower, lessor or similar party.	(C) Description of investment including maturity date, rate of interest, collateral, par or maturity value.	(D) Cost	(E) Current Value
	Vanguard Group	Registered Investment Company VANGUARD HEALTH CARE IDX ADM	$ 0.00	$ 55,163.16
	Vanguard Group	Registered Investment Company VANGUARD RE INDEX ADM FUND	$ 0.00	$ 17,632.17
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT INC INV FUND	$ 0.00	$ 90,708.44
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2020 INV FUND	$ 0.00	$ 51,268.64
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2025 INV FUND	$ 0.00	$ 1,946,280.49
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2030 INV FUND	$ 0.00	$ 2,088,549.21
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2035 INV FUND	$ 0.00	$ 2,180,970.42
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2040 INV FUND	$ 0.00	$ 1,644,572.05
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2045 INV FUND	$ 0.00	$ 3,098,825.58
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2050 INV FUND	$ 0.00	$ 1,732,108.09
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2055 INV FUND	$ 0.00	$ 1,018,870.78
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2060 INV FUND	$ 0.00	$ 320,203.16
	Vanguard Group	Registered Investment Company VANGUARD TGT RMT 2065 INV FUND	$ 0.00	$ 145,558.41