



STATE OF MICHIGAN

GRETCHEN WHITMER  
GOVERNOR

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET  
LANSING

TRICIA L. FOSTER  
DIRECTOR

## Connecting Michigan Communities Grant Application

**Please read through the entire Connecting Michigan Communities Grant Information and Application – 2019 package before you begin to respond to the application questions. This will help ensure you understand the full scope of the application as well as the details you will need to provide to complete the application.**

**Application Deadline:** All grant applications are due by 4:00PM EST, Friday, August 30, 2019.

**Submission Guidelines:** Completed application and supporting documentation must be received by the Department of Technology, Management, and Budget (DTMB), Center for Shared Solutions by 4:00 p.m. on Friday, August 30, 2019, to be considered for funding. Applicants should email their applications and all attachments in PDF format to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov). Applicants will receive an email confirmation of their submission within 48 business hours. Please fill out the entire application and clearly label any attachments with the question/statement number from the application form. Award decisions are estimated to be made in the fourth quarter of 2019.

**Questions and Contact:** If you have questions after reviewing the application and supporting documentation, please see the Frequently Asked Questions (FAQ) document available on the grant website at: [www.michigan.gov/CMICGrant](http://www.michigan.gov/CMICGrant). The FAQ will be updated throughout the application process. Questions and comments can also be submitted via email to: [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov).

## Application Checklist

This checklist is part of your application and should be returned along with your completed application and attachments.

### Application Submission Checklist:

- ☐ Read the entire application package.
- ☐ Public application is complete and file name meets the standards.
- ☐ Non-Public application is complete and file name meets the standards.
- ☐ Confidential Treatment Form is complete.
- ☐ Attachments have been gathered and file names meet the standards.
  - ☐ Attachment 1: Map of proposed service area in PDF format (including both last mile coverage and middle mile routes)
  - ☐ Attachment 2: GIS-compatible file of the proposed service area (including both last mile coverage and middle mile routes)
  - ☐ Attachment 3: Spreadsheet of census blocks that are part of the proposed service area
  - ☐ Attachment 4: Match commitment letters or evidence
  - ☐ Attachment 5: Applicant organizational chart
  - ☐ Attachment 6: Resumes of key officers, management personnel, and proposed project management team
  - ☐ Attachment 7: Audited financial statements.
  - ☐ Attachment 8: Evidence of network scalability
  - ☐ Attachment 9: Five year, stand-alone project financial plan/forecast
  - ☐ Attachment 10: Affidavit of commitment to offer the proposed service and cost in the proposed service area for a minimum of five years after project completion
  - ☐ Attachment 11: Budgetary engineering designs, diagrams, and maps that show the proposed project
  - ☐ Attachment 12: Letters of support
  - ☐ Attachment 13: Demonstration of customer interest in the proposed project
  - ☐ Attachment 14: Statements of impact/support from CAs (if applicable)
  - ☐ Attachment 15: Evidence of application for a SPIN (if applicable)
  - ☐ Attachment 16: Statements of impact/support from businesses (if applicable)

NOTE: Attachments must be submitted following the designated naming structure. Applicants are to use the name of their organization followed by the attachment number and file type (e.g. ABCTelecom\_Attachment\_1.xlsx).

## Application

### Applicant and Project Information, Contact Information, and Summary

1. Project Name:
  
2. Applicant Name:  
DBA (if applicable):  
Mailing Address:
  
3. Primary Grant Contact:  
Primary Contact Organization (if not part of the applicant's organization):  
Primary Contact Phone Number:  
Primary Contact Email Address:
  
4. Application Author Name:  
Application Author Email:
  
5. Eligibility Status: Please select the means by which the applicant is eligible to apply for the grant:  
☐ Licensed under the Michigan Telecommunications Act (1991 PA 179, MCL 484.2101 to 484.2603)  
☐ Franchise holder under the Uniform Video Services Local Franchise Act (2006 PA 480, MCL 484.3301 to 484.3315)  
☐ Broadband service provider currently providing service in Michigan
  
6. Are you registered with the [Michigan Public Service Commission's Intrastate Telecommunications Service Providers Registry \(ITSP\)](#)?  
☐ Yes ☐ No ☐ Unsure
  
7. Have you provided broadband coverage data to Connect Michigan in the last five years?  
☐ Yes ☐ No ☐ Unsure
  
8. Applicant Identification Numbers: Please provide the following identification numbers for the applicant (if available):  
Federal Employer Identification Number (EIN):  
[REDACTED]  
Michigan Tax Identification Number:  
[REDACTED]  
Michigan Vendor Identification Number:  
[REDACTED]  
Federal Communications Commission Registration Number (FRN):  
[REDACTED]

Service Provider Identification Number (SPIN):

9. Project Summary (250 words max.):

**Locations Passed and Proposed Service:**

*Attachment 1: Map of proposed service area in PDF format (including both last mile coverage and middle mile routes)*

Name of Attachment 1:

*Attachment 2: GIS-compatible file of the proposed service area (including both last mile coverage and middle mile routes)*

Name of Attachment 2:

*Attachment 3: Spreadsheet of census blocks that are part of the proposed service area.*

Name of Attachment 3:

10. Please provide a brief description of the proposed service area (250 words max.):



11. Does the project include a middle mile component:

☐Yes ☐No

12. Locations Passed: Please indicate the total number of locations by type that will be able to receive improved broadband services as a result of the proposed project:

Households:

Businesses:

Community Anchor Institutions:

13. Are any vacant lots included in the total number of locations passed listed above?

☐Yes ☐No

If yes, these vacant lots should be anticipated for growth in the next five years according to a local, county, or regional master plan or economic development plan. Please list the name of the relevant plan and the jurisdiction implementing the plan.

Plan Name:

Jurisdiction:

14. Please list the jurisdictions impacted by the proposed service area:

City(ies)/Village(s):

Township(s):

County(ies):

State House District(s):

State Senate District(s):

15. Please provide a brief description of the broadband service to be provided including, but not limited to, the technology to be used, will bandwidth be dedicated or shared, etc. (250 words max.):

### Project Costs and Budget

16. Total eligible project cost:

17. Total grant request:

### Attachment 4: Match commitment letters or evidence

Name of Attachment 4:

18. Total matching funds: Please complete the table below summarizing the source, amount, and type of matching funds contributed to the project. Applicants should also indicate if the match is secured or not. Attach additional sheets if necessary.

Source	Amount	Type	Secured?
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind	<input type="checkbox"/> Yes <input type="checkbox"/> No

19. If matching funds or in-kind contributions listed above are not yet secured, please describe the process remaining to secure the funds and the anticipated timeline to do so, (250 words max.):

20. Project Budget: Please use the following table to provide a budget for the proposed project. Please use the recommended categories in the table where possible, creating other categories where anticipated expenses do not fall within one of the recommended categories.

Use of Funds	Match Amount	Grant Amount	Total
Buildings and Labor			
Last Mile Construction Labor			
Middle Mile Construction Labor			
Construction Material			
Customer Premise Equipment			
Customer Premise Installation			
Electronics			
Permits			
Professional Services and Engineering			
Other:			
Other:			
Other:			
Other:			
Other:			
Total			

21. Please briefly describe why this project needs funding from the CMIC Grant program and why the project could not proceed without this funding, (250 words max.):

**Experience and Financial Wherewithal**

*Attachment 5: Applicant organizational chart*

Name of Attachment 5:

*Attachment 6: Resumes of key officers, management personnel, and proposed project management team*

Name of Attachment 6:

22. Please provide a brief history of your organization including experience relevant to the proposed project, (250 words max.):

*Attachment 7: Audited financial statements*

Name of Attachment 7:

23. Please provide a brief statement to accompany your attached audited financial statements and documentation, (250 words max.):

**Long-Term Viability and Scalability**

*Attachment 8: Evidence of network scalability*

Name of Attachment 8:

24. Please provide a description and evidence that the proposed infrastructure is scalable to meet the anticipated future connectivity demands of the proposed service area. Please indicate the end-user connection speed to which the proposed network is designed to scale. This information must be certified by the equipment manufacturer or a professional engineer, (250 words max.):

*Attachment 9: Five-year, stand-alone project financial plan/forecast*

Name of Attachment 9:

*Attachment 10: Affidavit of commitment to offer the proposed service and cost in the proposed service area for a minimum of five years after project completion.*

Name of Attachment 10:

25. Please provide a brief narrative to accompany your attached five-year stand-alone project financial plan/forecast, (400 words max.):

**Readiness**

*Attachment 11: Budgetary engineering designs, diagrams, and maps that show the proposed project. Design documents must clearly demonstrate the applicant's complete understanding of the project and ability to provide the proposed solution. This information must be certified by a Professional Engineer registered in Michigan.*

Name of Attachment 11:

26. Please provide a brief statement to accompany your attached engineering designs, diagrams, and maps indicating your readiness to build, manage, and operate the proposed network, (250 words max.):

27. Please use the table below to complete a project schedule outlining individual tasks and their timing by quarter and year. All projects must be complete by September 30, 2023.

Task	2020			2021				2022				2023		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3

28. Please indicate the anticipated date upon which service to the last location in the proposed project area will be turned on:

29. Please list any factors that would change or delay the proposed schedule:

30. Have all the required local/city/county/state approvals necessary for this project to proceed been obtained?

☐Yes ☐No

If not, what remains to be done and what is required for completing the process of obtaining approvals? Include this information in the project schedule.

31. Have state environmental review requirements been met, if applicable?

☐Yes ☐No

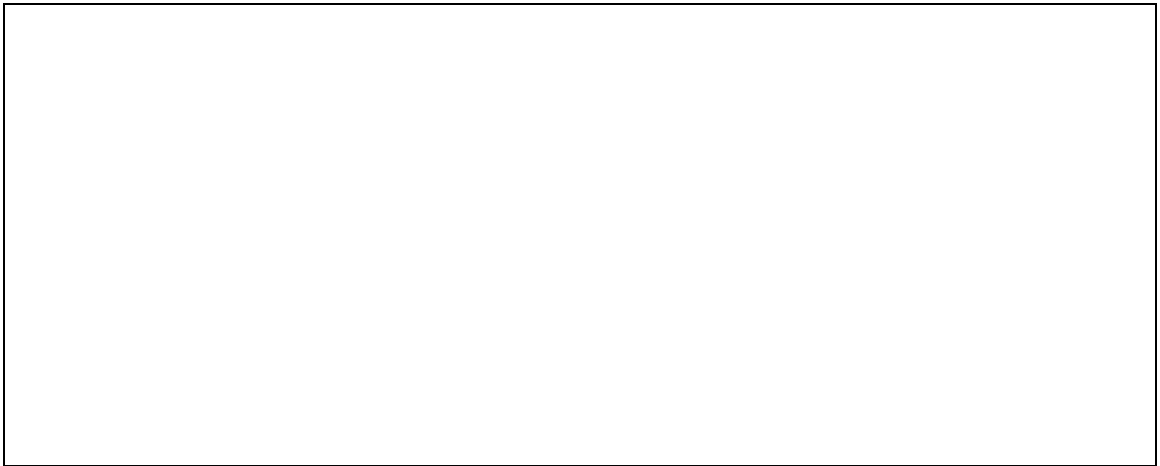
If not, what remains to be done and what is required for completing the process of obtaining approvals? Include this information in the project schedule.

32. Does this project affect/is the project located in or near local, state, or federal historic or potentially historic, architectural, or archeological resources?

☐Yes ☐No

If not, what remains to be done and what is required for completing the process of obtaining approvals? Include this information in the project schedule.

33. Please briefly describe how the proposed project will leverage existing broadband networks, where practical, or be built in conjunction with other broadband infrastructure project(s), (250 words max.):



### **Community and Economic Development**

*Attachment 12: Community letters of support*

Name of Attachment 12:

*Attachment 13: Demonstration of customer interest in the proposed project*

Name of Attachment 13:



34. Please provide a brief statement to accompany the demonstration of customer interest you have attached to this application. This description should include the method used for gauging customer interest and the results, (250 words max.):

*Attachment 14: Statements of impact/support from CAIs (if applicable)*

Name of Attachment 14:

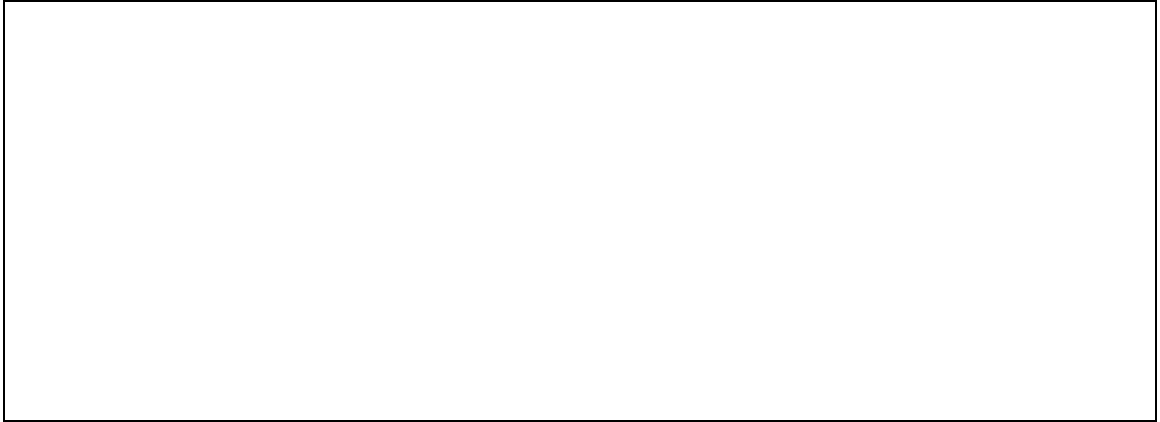
35. In the table below, please list the specific community anchor institutions (CAIs) to be served by the proposed project, (attach additional sheets if necessary). Please also attach statements or evidence from these CAIs regarding the benefits of the proposed connectivity solution and how it will impact the organizations.

CAI Name	Address	Type (e.g. healthcare, library, school, etc.)

*Attachment 15: Evidence of application for a SPIN (if applicable)*

Name of Attachment 15:

36. If the proposed project includes connections to schools or libraries, please provide your SPIN or evidence of application for a SPIN from the FCC/Universal Service Administrative Company (USAC) and demonstration of your knowledge of E-rate and working with the FCC/USAC, (250 words max.):



37. Please briefly summarize how the proposed service will impact the following sectors in the community:

Public safety:

Healthcare:

Education:

Government entities:

Libraries:

*Attachment 16: Statements of impact/support from businesses (if applicable)*

Name of Attachment 16:

38. Please provide a brief description of businesses needing improved broadband service in the proposed project area and the level of improvement needed. Please also attach statements or evidence from any impacted businesses regarding the benefits of the proposed connectivity solution and how it will impact the business, (250 words max.):

39. If the proposed service area has a significant agricultural presence, please briefly describe how the proposed service will impact farmers and the agriculture community, (250 words max.):

40. Is broadband included in a local, county, or regional economic development plan, master plan, or similar up-to-date planning document, or does the community in which the proposed service is to be deployed have a specific broadband/technology plan in place?

☐ Yes ☐ No

If yes, please list the name of the relevant plan and the jurisdiction implementing the plan.

Plan Name:

Jurisdiction:

### Affordability and Service Limitations

41. Using the table below, please indicate the download and upload speeds of the services to be offered in the proposed service area offered over the initial five years of the project (attach additional sheets if necessary). The non-discounted/rack rate monthly pricing of unbundled internet-only service should be included for each service offered, as well as the monthly data allowance for customers (if applicable):

Download Speed (Mbps)	Upload Speed (Mbps)	Monthly Cost	Monthly Data Allowance (GB)

42. Do you participate in the federal Lifeline program?

☐ Yes ☐ No

43. Do you plan to offer a lower-cost monthly subscription plan for low-income households in the proposed service area?

☐ Yes ☐ No

If yes, please briefly describe the program including the type of service to be offered, the monthly cost for qualifying household, and how you plan to determine household eligibility for such a program, (400 words max.):

44. Does any of the proposed service area include (wholly or partially) an eligible distressed area (a list of eligible distressed areas can be found here: [https://www.michigan.gov/mshda/0,4641,7-141-48987\\_75951-181277--,00.html](https://www.michigan.gov/mshda/0,4641,7-141-48987_75951-181277--,00.html))?

☐ Yes ☐ No

If yes, please list the distressed community(ies) impacted by the proposed service area:

## Adoption Strategy

45. Please briefly describe any proposed digital literacy training events, materials, and/or resources that will be provided to residents or businesses impacted by the proposed connectivity. This description should include commitments from any partners included in the digital literacy training and the anticipated outcomes from related activities, (400 words max.):

46. Please briefly describe the materials and method(s) to be used for providing residents and businesses with information promoting the use of an internet connection for improving quality of life, access to resources, economic opportunity, etc., in the proposed service area. Partnerships with local CAIs that build awareness for enriching online opportunities for residents and businesses are highly encouraged. Examples of these opportunities include, but are not limited to, telehealth applications, access to government services, e-learning, job and career readiness programs, public safety information, cybersecurity training, etc., (400 words max.):



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## **Connecting Michigan Communities Grant Confidential Treatment Form and the Freedom of Information Act**

CONFIDENTIAL TREATMENT FORM AND THE FREEDOM OF INFORMATION ACT. All portions of the Applicant's proposal and resulting award are subject to disclosure as required under Michigan's Freedom of Information Act (FOIA), MCL 15.231, et seq. However, some information may be exempt from disclosure. Under MCL 18.1261(13)(b), records containing "a trade secret as defined under section 2 of the uniform trade secrets act, 1998 PA 448, MCL 445.1902," are exempt from disclosure under FOIA. In addition, "financial or proprietary information" submitted with a proposal is exempt from disclosure under FOIA. An applicant's failure to comply with this Section is grounds for rejecting an applicant's proposal as non-responsive. As a part of its proposal, each applicant must follow the procedure below.

1. **SUBMIT A COMPLETED "CONFIDENTIAL TREATMENT FORM" (CT FORM) WITH YOUR APPLICATION.** Completion and submission of the CT Form is required regardless of whether the Applicant seeks confidential treatment of information. Failure to submit a completed CT Form may be cause for disqualification from the application process.
  - a. Complete and sign Section 1 of the CT Form if the Applicant does NOT request confidential treatment of information contained in its proposal; or
  - b. Complete and sign Section 2 of the CT Form if the Applicant requests confidential treatment of certain information. Applicant must also submit a "Public Copy" of the proposal with the trade secret, financial, and proprietary information redacted and clearly labeled as the "Public Copy."
2. **FOIA REQUESTS.** If a FOIA request is made for an Applicant's proposal, the Public Copy may be distributed to the public along with the Applicant's CT Form. The CT Form is a public document and serves as an explanation for the redactions to the Public Copy. Do not put any trade secret, financial, or proprietary information in the CT Form. Do not redact the CT Form itself.
3. **NO ADVICE.** The State will not advise an Applicant as to the nature or content of documents entitled to protection from disclosure under FOIA or other laws, as to the interpretation of such laws, or as to the definition of trade secret or financial or proprietary information. Nothing contained in this provision will modify or amend requirements and obligations imposed on the State by FOIA or other applicable law.
4. **FAILURE TO REQUEST CONFIDENTIAL TREATMENT.** Failure to request material be treated as confidential as specified herein relieves the State, its agencies, and personnel from any responsibility for maintaining material in confidence.
5. **Applicants containing a request to maintain an entire proposal as confidential may be rejected as non-responsive.** The State reserves the right to determine whether material designated as

exempt by an Applicant falls under MCL 18.1261 or other applicable FOIA exemptions. If a FOIA request is made for materials that the Applicant has identified as trade secret, financial, or proprietary information, the State has the final authority to determine whether the materials are exempt from disclosure under FOIA.

6. Applicant forever releases the State, its departments, subdivisions, officers, and employees from all claims, rights, actions, demands, damages, liabilities, expenses and fees, which arise out of or relate to the disclosure of all or a portion of an Applicant's proposal submitted under this grant program. Applicant must defend, indemnify and hold the State, its departments, subdivisions, officers, and employees harmless, without limitation, from and against all actions, claims, losses, liabilities, damages, costs, attorney fees, and expenses (including those required to establish the right to indemnification), arising out of or relating to any FOIA request, including potential litigation and appeals, related to the portion of Applicant's proposal submitted under this grant program that the Applicant has identified as a trade secret, or financial or proprietary information. The State will notify the Applicant in writing if indemnification is sought. The State is entitled to: (i) regular updates on proceeding status; (ii) participate in the defense of the proceeding; (iii) employ its own counsel; and to (iv) retain control of the defense, or any portion thereof, if the State deems necessary. Applicant will not, without the State's written consent (not to be unreasonably withheld), settle, compromise, or consent to the entry of any judgment in or otherwise seek to terminate any claim, action, or proceeding. If a State employee, official, or law is involved or challenged, the State may control the defense of that portion of the claim. Any litigation activity on behalf of the State, or any of its subdivisions under this Section, must be coordinated with the Department of Attorney General. An attorney designated to represent the State may not do so until approved by the Michigan Attorney General and appointed as a Special Assistant Attorney General.



## CONFIDENTIAL TREATMENT FORM (CT FORM)

**INSTRUCTIONS:** Complete either Section 1 or Section 2 of this CT Form and sign where indicated. This CT Form must be signed by the individual who signed the grant application. A completed CT Form must be submitted with your proposal, regardless of whether your proposal contains confidential information. Failure to submit a completed CT Form with your application is grounds for rejecting the proposal as non-responsive. See Section 4.1.5 of the CMIC Grant Overview for additional information.

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### Section 1. Confidential Treatment Is Not Requested

This section must be completed, signed, and submitted with the proposal if the Applicant does not request confidential treatment of any material contained in the proposal.

By signing below, the Applicant affirms that confidential treatment of material contained in the proposal is not requested.

---

Project Name

---

Signature

---

Date

---

[Printed Name]

---

[Title]

---

[Company]

---

### Section 2. Confidential Treatment Is Requested

The section must be completed, signed, and submitted with the proposal if bidder requests confidential treatment of any material contained in the proposal. Submission of a completed CT Form is required to request confidential treatment.

Provide the information in the table below. Applicant may add rows or additional pages using the same format shown in the table. Applicant must specifically identify the information to be protected as confidential and state the reasons why protection is necessary. The CT Form will not be considered fully complete unless, for each confidentiality request, the Applicant: (1) identifies whether the material is a trade secret (TS), financial information (FI), or proprietary information (PI); (2) explains the specific legal grounds that support treatment of the material as TS, FI, or PI; and (3) provides the contact information for the person at bidder's organization authorized to respond to inquiries by the State concerning the material. Applicants must not simply cite to an applicable act or case name; rather, bidders must provide a complete justification as to how the material falls within the scope of an applicable act or relevant case law.

Application page #, paragraph #, and section #	State whether the material is a trade secret (TS), financial information (FI), or proprietary information (PI)	Explain the specific grounds in State or other applicable law which supports treatment of the material as TS, FI, or PI. Do not simply cite to the applicable act. Provide a complete justification as to how the material falls within the scope of the applicable act or relevant case law.	Provide the Applicant contact information
Application Page No. 6, Section 18 - Attachment 4, Page 1	PPI	This is information of a personal nature, including phone number and home address. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page No. 8, Section 22 - Attachment 6_Lance, Page 1	PPI	This is information of a personal nature, including phone number and home address. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page No. 8, Section 22 - Attachment 6_Webber, Page 1	PPI	This is information of a personal nature, including phone number and home address. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page No. 8, Sections 22-23 - Attachment 7, all pages	TS, FI, PI	The linked attachment, Marq6_attachment_7.pdf is a confidential Report of Independent Accountants prepared for applicant's parent company, Vital Enterprises, LLC (the "Report"). The report contains consolidated and combined financial statements, including balance sheets, statements of operations, and cash flow statements, prepared by the company's accountants. Vital Enterprises and its subsidiaries are privately, closely-held companies, and they retain and protect such reports as confidential information and customarily and actually keeps them private. The disclosure of the confidential financial information of the applicant's parent and affiliate entities would serve no public purpose and would qualify as an unwarranted invasion of personal privacy under the FOIA. Furthermore, applicant has requested previously that such information be kept confidential and relied on that ability when submitting this attachment.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel

Application Page 9-10, Section 25 - Attachment 9_Original, page 1	PPI	This is information of a personal nature, including phone number and home address. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page 9-10, Section 25 - Attachment 9_Original, pages 2-6	TS, FI, PI	The Marq6_attachment_9_Original.pdf is a confidential 5 Year Cash Flow Projection. The Projections contain financial and accounting information prepared by the company's accountants and executives. Marq6 is a privately, closely-held company, and it retains and protects such projections as confidential, proprietary information and customarily and actually keeps them private. The disclosure of the confidential financial information of the applicant would serve no public purpose and would qualify as a clearly unwarranted invasion of personal privacy. Furthermore, applicant has relied on the ability to keep such information free from public disclosure when submitting this attachment.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page 9-10, Section 25 - Attachment 9_Revised_RFC_2, page 1	PPI	This is information of a personal nature, including phone number and home address. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page 9-10, Section 25 - Attachment 9_Revised_RFC_2, page 2	TS, FI, PI	The Marq6_attachment_9_Revised_RFC_2.pdf is a confidential 5 Year Cash Flow Projection. The Projections contain financial and accounting information prepared by the company's accountants and executives. Marq6 is a privately, closely-held company, and it retains and protects such projections as confidential, proprietary information and customarily and actually keeps them private. The disclosure of the confidential financial information of the applicant would serve no public purpose and would qualify as a clearly unwarranted invasion of personal privacy. Furthermore, applicant has relied on the ability to keep such information free from public disclosure when submitting this attachment.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page 9-10, Section 25 - Attachment 10, page 1	PPI	This is information of a personal nature, including phone number. Such information is exempt from disclosure as it is an unwarranted invasion of personal privacy.	Will Patterson wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel

Application Page 10, Section 26 - Attachment 11, page 1	PPI	This is information of a personal nature, including phone number. Such information is exempt from disclosure on as it is an unwarranted invasion of personal privacy.	Will Patterson  wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
Application Page 10, Section 26 - Attachment 11, pages 1-3, 5-148	TS, PI	The information on Attachment_11.pdf was prepared specifically for this project, including design, system infrastructure, hardware, and implementation information. Marq6 prepares, retains and protects such information as confidential trade secrets and proprietary information and customarily and actually keeps them private, and the disclosure of such information publicly would be commercially valuable to Marq6's competitors. Further, such information, if made public, could harm the cybersecurity of this project.	Will Patterson  wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
CMIC Grant Application 2019 - Marq6_PublicApp, pages 3	PPI	This information (FEIN, Michigan tax ID No., etc.) is information of a non-public nature. Such information is confidential accounting information and exempt from disclosure as an unwarranted invasion of personal privacy.	Will Patterson  wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel
CMIC Grant Application 2019 - Marq6_PublicApp, page 10 (Section 25)	TS, FI, PI	The brief narrative accompanying Marq6's five-year projections contains confidential, proprietary information. The narrative contains financial and accounting information prepared by the company's accountants and executives. Marq6 is a privately, closely-held company, and it retains and protects such projections as confidential, proprietary information and customarily and actually keeps them private. The disclosure of the confidential financial information of the applicant would serve no public purpose and would qualify as a clearly unwarranted invasion of personal privacy. Furthermore, applicant has relied on the ability to keep such information free from public disclosure when submitting this attachment.	Will Patterson  wpatterson@vital-enterprises.com Main: 503-619-0505 Direct: 503-619-2695 Associate General Counsel

By signing below, the Applicant affirms that confidential treatment of material contained in its proposal is requested and has attached to this form a redacted "Public Copy" of the Applicant's proposal.

Delta and Schoolcraft County

Broadband\_\_\_\_\_

Project Name

*John S Webber*

Signature

3/23/2020

Date

John S Webber\_\_\_\_\_

[Printed Name]

President\_\_\_\_\_

[Title]

\_Marq6 Broadband\_\_\_\_\_

[Company]



STATE OF MICHIGAN

GRETCHEN WHITMER  
GOVERNOR

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET  
LANSING

TRICIA L. FOSTER  
DIRECTOR

Connecting Michigan Communities Grant Application Request for Clarification

September 19, 2019

Company Name: Marq6 Broadband LLC  
Application Proposal: Delta and Schoolcraft County Broadband  
Application Contact: Mr. John Webber

Dear Mr. Webber,

Thank you for submitting your Connecting Michigan Communities grant application. During the initial review of your application the following issues, incomplete, and/or missing documentation have been identified that must be remedied in order for your application to move forward. Additional information may be requested at a later time throughout the grant review process.

Please make your corrections to the appropriate documents and identify the amendments you have made in the space provided below. Return those documents along with this completed Request for Clarification (RFC) via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov). Do not return this RFC explaining the amendments without also updating and returning the relevant documents. Any questions should be submitted via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov).

**Your completed RFC and amended documents must be submitted by Thursday, September 26, 2019, at 4:00 p.m. EST. No extensions shall be granted. Failure to respond to this request may affect the scoring of your application, including up to elimination of further consideration.**

Attachment 3: Spreadsheet of census blocks that are part of the proposed service area

- Applicants must attach file of the census blocks that are part of the proposed service area. The spreadsheet should contain the census block identification number, total number of households, number of unserved households, whether the applicant will provide service to the whole census block or only part, and whether the census block is wholly or partially contained within the proposed service area.
- Your response does not indicate if the census block is wholly or partially contained within the proposed service area.
- Please return this attachment as an .xlsx file format.

Response:

Updated with spreadsheet. All Census Block IDs are in proposed coverage area.

Attachment 8: Evidence of Network Scalability

- Applicants should demonstrate and provide evidence that the installed infrastructure is scalable to meet the anticipated future connectivity demands of the proposed service area. The applicant should indicate the end-user connection speed to which the proposed network can scale. This information must be certified by the equipment manufacturer or a Professional Engineer.
- Your response was not certified by the equipment manufacturer or a Professional Engineer.

Response:

Attached equipment manufacture certification and updated product specification. Baicells will be the equipment for end user connection speed. Cambium Networks will be used for mid mile connectivity.

**Attachment 11: Engineering Designs and Diagrams**

- Applicants should attach budgetary engineering designs, diagrams, and maps that show the proposed project. Design documents must clearly demonstrate the applicant's complete understanding of the project and ability to provide the proposed solution. This information must be certified by a Professional Engineer registered in Michigan.
- Your response was not certified by a Professional Engineer registered in Michigan.

**Response:**

Attached are propagation profiles of coverage areas. Also attached is updated KLM file of coverage area.



STATE OF MICHIGAN

GRETCHEN WHITMER  
GOVERNOR

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET  
LANSING

TRICIA L. FOSTER  
DIRECTOR

Connecting Michigan Communities Grant Application Request for Clarification

December 3, 2019

Company Name: Marq6 Broadband  
Application Proposal: Delta and Schoolcraft County Broadband  
Application Contact: John Webber

Dear Mr. Webber,

Thank you for submitting your Connecting Michigan Communities (CMIC) grant application. During the review of your application, it was found that some locations to be served in your proposed service area overlap census blocks that are designated for funding from the FCC's Connect America Fund. Public Act 618 of 2018, Sec. 806<sup>1</sup>, the legislation that created the CMIC grant, states the CMIC Grant program cannot provide funding for locations in census blocks that have been selected to receive Connect America Funds:

(8) The department shall not award a grant to an applicant if verifiable information is made available that shows any of the following: (d) The project includes an area that has been selected to receive, provisionally or otherwise, Connect America Funds from the Federal Communications Commission.

The following is an analysis of your proposed census block service areas and those included in the Connect America Fund<sup>2</sup>. The attached map shows the census blocks identified in your application that are proposed for service and the census blocks selected to receive Connect America Funds.

Total housing units in the census blocks in your proposed service area based on the 2010 Census:	4,589
Total locations to be served per your application (homes, businesses, and institutions):	2,675
Total housing units in CAF Funded Census Blocks in your proposed service area:	3,457
Estimated housing units in your proposed service area outside of Connect America Fund Census Blocks based on the 2010 Census:	1,132

Considering the CMIC grant cannot fund areas selected to receive Connect America Funds, the CMIC Steering Committee is offering the following options for applicants:

- 1) Submit revised application documents to reflect a proposed service area that does not include census blocks selected for Connect America Funds;
- 2) Validate there are no changes to your original application; or
- 3) Withdraw your application from consideration.

<sup>1</sup> <http://www.legislature.mi.gov/documents/2017-2018/billenrolled/Senate/pdf/2017-SNB-0601.pdf>

<sup>2</sup> A list of all Connect America Fund census blocks can be found here:  
[https://www.michigan.gov/documents/dtmb/Michigan\\_Census\\_Blocks\\_CAF\\_650783\\_7.xlsx](https://www.michigan.gov/documents/dtmb/Michigan_Census_Blocks_CAF_650783_7.xlsx).



If you choose to submit revised application documents that reflect a proposed service area which does not include census blocks selected for Connect America Funds, this completed Request for Clarification (RFC) document along with the identified attachments must be received via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov) by Friday, December 13, 2019.

Revised Application Summary		
	Original Application	Revised Application
Households to be served	2462	1132
Businesses to be served	212	170
Community Anchor Institutions to be served	1	1
Total Project Cost	1,627,499	1,217,823
Total Grant Request	1,452,499	1,082,823
Total Matching Funds	175,000	135,000

#### Revised Attachment 1

Applicant must provide a map of proposed service area that excludes CAF funded census blocks in PDF format (including both last mile coverage and middle mile routes). Revised applications cannot include locations to be served that were not part of your original application.

Response:

Equipment and Structures might be located in CAF areas to provide coverage to Non CAF Areas.

#### Revised Attachment 3

Applicant must provide a spreadsheet of census blocks in XLS or XLSX format identifying the locations served that are part of the non-CAF proposed service area using the following heading format. Revised applications cannot include locations to be served that were not part of your original application. If you feel there is a discrepancy between the figures as reported in the 2010 Census and actual number of housing units, please explain in the response field of this section in addition to completing the required spreadsheet.

Census Block ID	Total Number of Households to be Served	Is Service Provided to Whole or Part of Census Block? Y/N	Is Census Block Wholly Contained Within Service Area? Y/N

Response:

**Revised Attachment 9**

Applicant must provide a revised five-year, stand-alone project financial plan/forecast that includes only locations within the proposed service area and does not include census blocks selected for CAF.

Response:

**Revised Project Budget**

Applicant must complete this table to provide a revised project budget that includes only locations within the proposed service area and does not include census blocks selected for CAF.

Use of Funds	Match Amount	Grant Amount	Total
Buildings and Labor	20,000	98,000	118,000
Last Mile Construction Labor		81,375	81,375
Middle Mile Construction Labor			
Construction Material		205,212	205,212
Customer Premise Equipment		126,670	126,670
Customer Premise Installation	40,000	28,600	68,600
Electronics		341,351	341,351
Permits		6,545	6,545
Professional Services and Engineering	75,000	98,250	173,250
Other: Legal		59,250	59,250
Other: Solis Review		37,570	37,570
Other:			
Other:			
Other:			
<b>Total</b>			1,217,823

This completed RFC and revised attachments must be received via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov). Do not return this document with your responses without also updating and returning the relevant attachments listed above. Any questions should be submitted via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov).

To validate there are no changes to your original application, you must send an email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov) with the phrase, "Validate No Changes to Application" followed by your company name and name of the project in the subject line.

To withdraw your application from consideration, you must send an email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov) with the phrase, "Withdraw Application" followed by your company name and name of the project in the subject line.

**Your response, including Validation, Withdrawal, or completed RFC and amended Attachments must be received via email to [DTMB-CMICGrant@michigan.gov](mailto:DTMB-CMICGrant@michigan.gov) by Friday, December 13, 2019, at 3:00 p.m. EST. No extensions shall be granted. You will receive an email confirmation of your submission. If you have not received a confirmation receipt by December 20, 2019, you must contact the CMIC Grant Program Office at (517) 335-3727. Failure to respond to this request may affect the scoring of your application, including up to elimination of further consideration.**

Connecting Michigan  
Communities (CMIC)

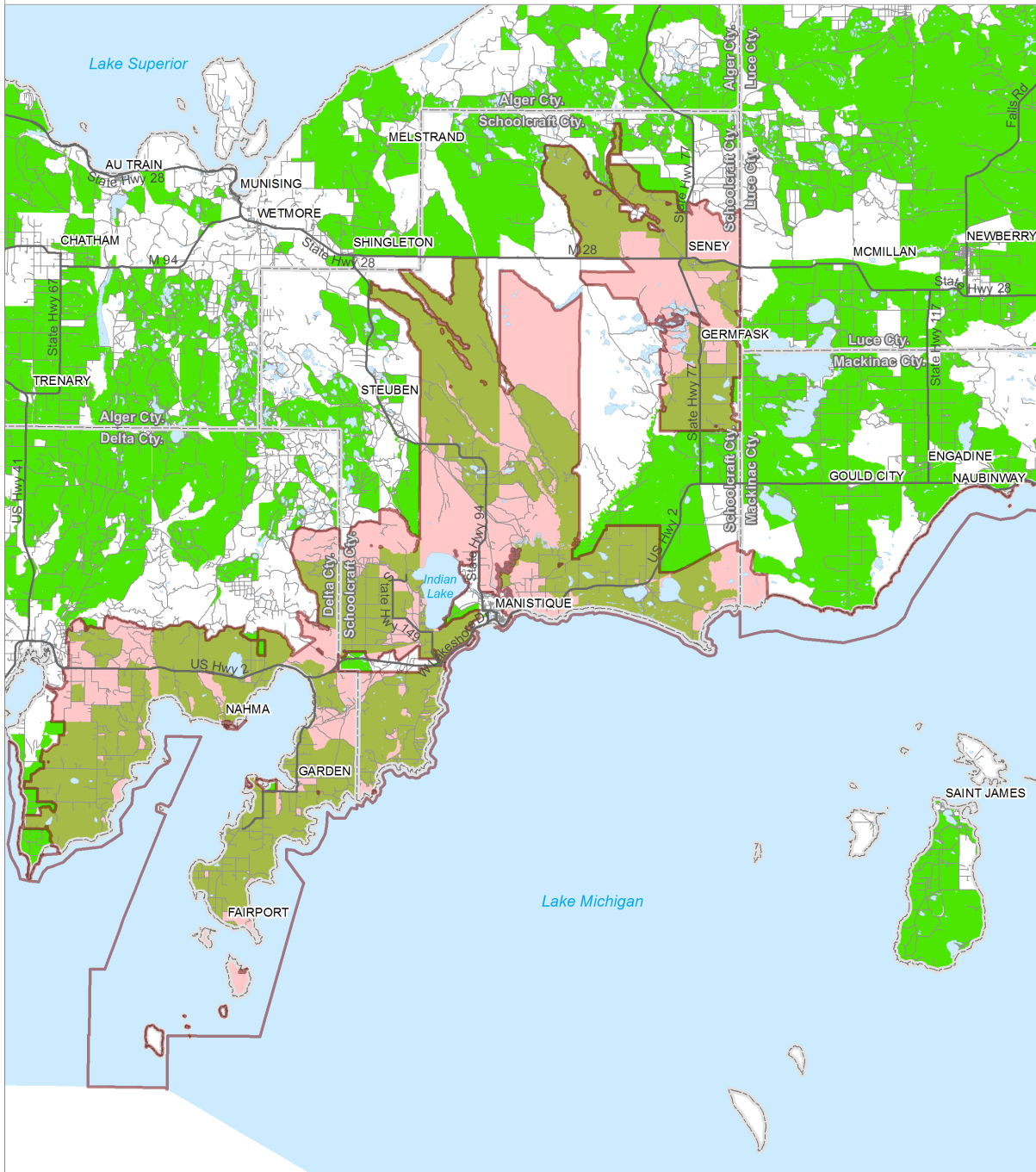
Provider: Marq6  
Project: Schoolcraft-Delta


**Grant Application by Census Block**


vs.

**CAF Funded Block Area**

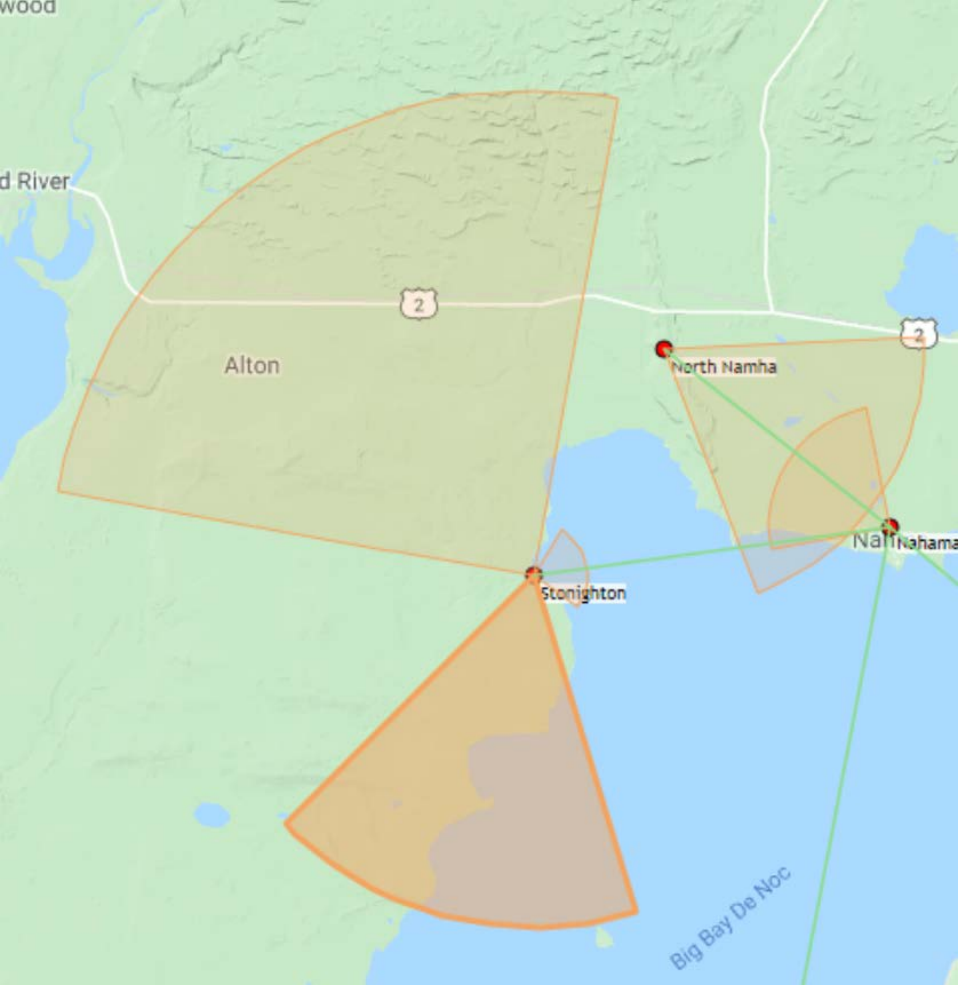
DTMB Grant Program

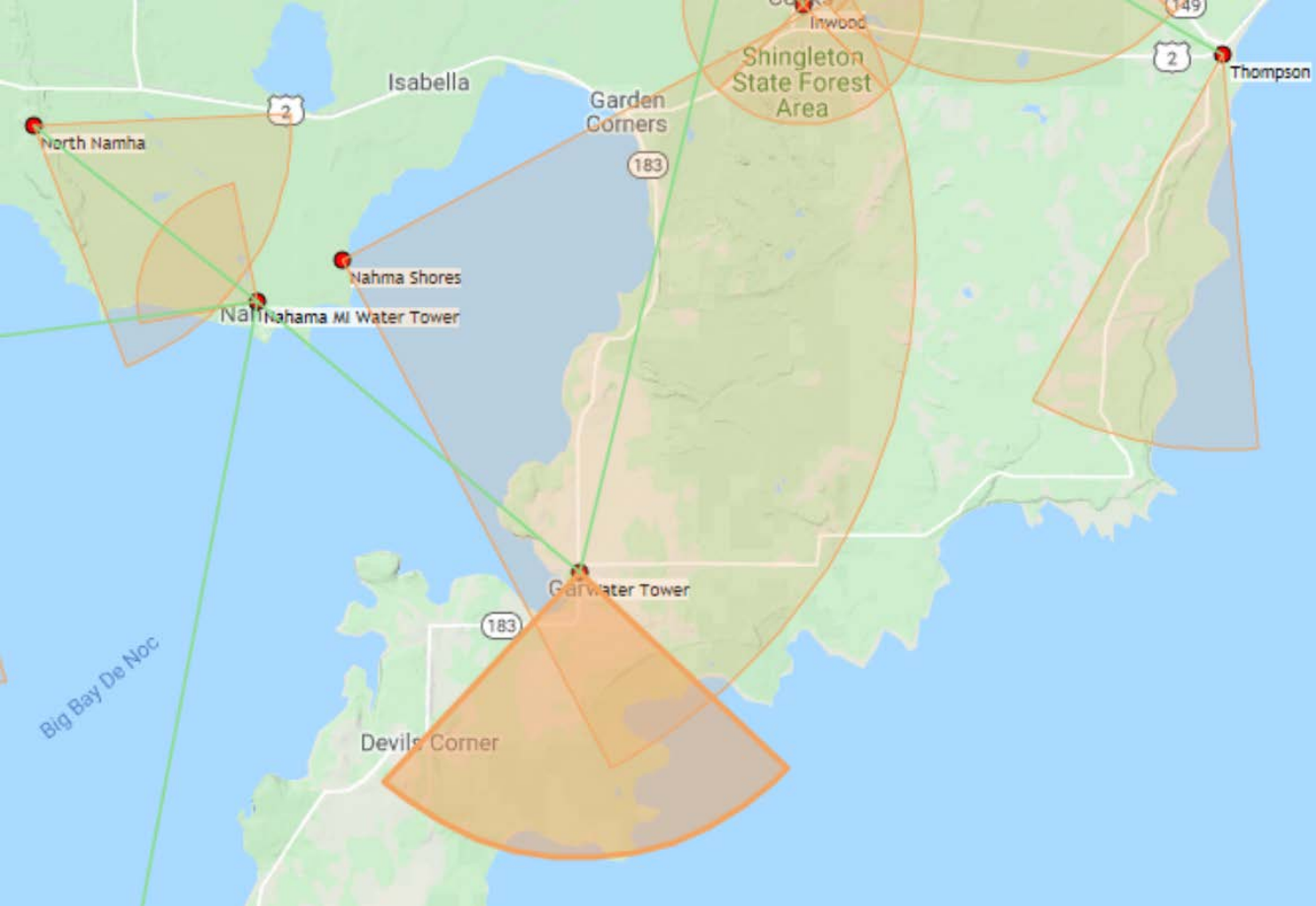


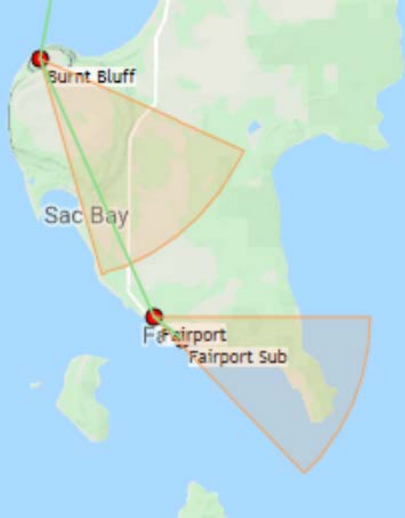
 Application by Block

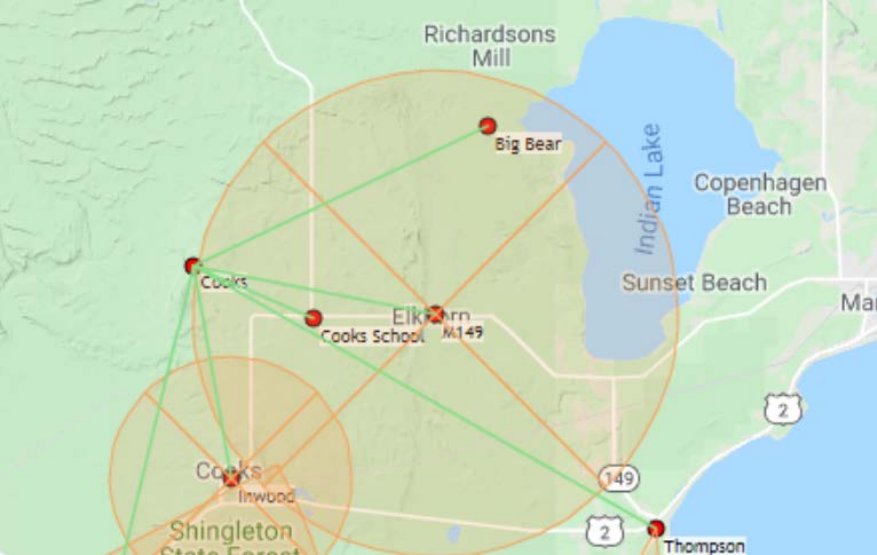
 CAF Funded Block

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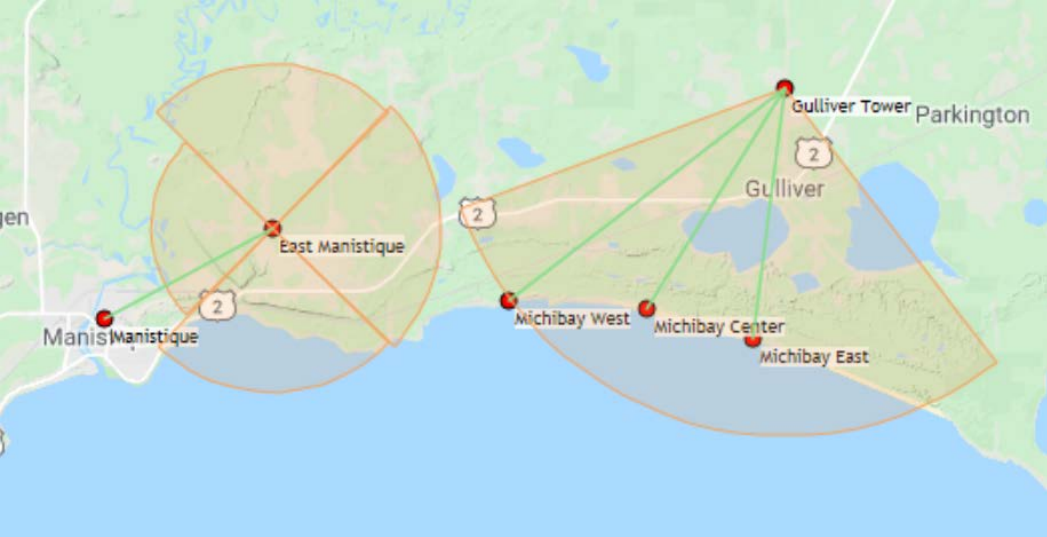


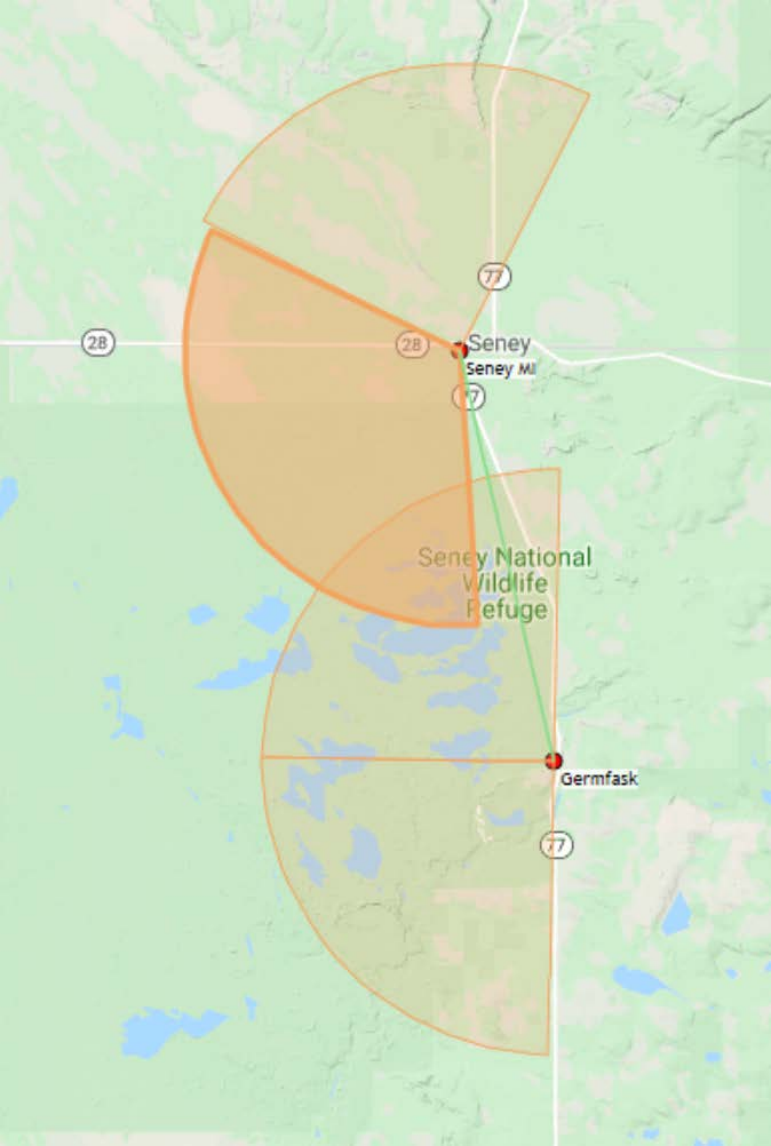












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Seney National  
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Refuge

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Subject : CMIC Grant Match Commitment Letter

Novus Labs will commit to Cash and In-Kind funding to Marq6 Broadband for the CMIC grant program. Marq6 Broadband will be deploying Phase 2 for Delta and Schoolcraft counties in 2020. Novus labs will be providing partial funding for Buildings and Labor, Customer Premise Installation, and Professional Services / Engineering costs.

Thanks,

Chad Meyer



President - Novus Labs

503 906 8175

chadmeyer@novuslabs.com

# VITAL ENTERPRISES



**Novus Labs** is a leader in product integration, validation, and debug for over 20 years. We conduct quality, performance, certification, interoperability, and coexistence testing. We have worked with every major consumer electronic company for over a decade. At **Novus Labs** we create original hardware and software to support unique validation efforts and serve as core IP building blocks for further integration. Our cutting edge product line and out of the box approaches put us at the forefront of product validation and development. Our resources support many leading engineering companies around the world. Whether one of our current product offerings meets your needs, or you have a challenge no one else can solve, a partnership with **Novus Labs** will help you clear the hurdles of getting your product to market.



**Cinder Staffing** is a Portland, OR-based staffing agency with an approach that sets us apart from traditional agencies. Our employees are valued team members with rich benefits not "temps." We offer employment, full benefits, paid training and more to ensure our candidate pool is comprised of the absolute best talent available. Our company provides solutions nationwide for temporary, contract-to-hire, project team and permanent hire positions in industries including Technology (IT), Legal, Healthcare, Finance, Accounting, Operational Support and others.

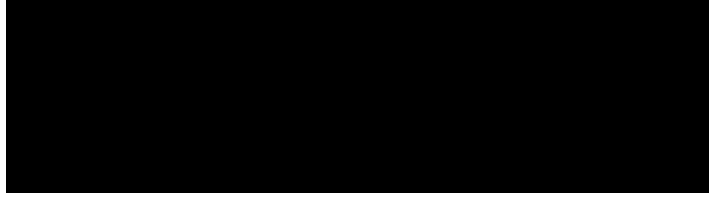


For 20 years, **VTM Group** has empowered clients to excel by providing complementary professional services and managing time-consuming tasks. Whether delivering marketing communications or technical support, building collaboration tools or managing finances, we operate with efficiency, accuracy and creativity on behalf of start-ups and established associations alike.



We are an innovative technology company that is focusing on delivering End-to-End LTE network solutions throughout the United States. LTE has the ability to deliver High Speed, Cost Effective Internet to an under-served customer base. **Marq6** will deliver Best In Class services from Design, Deployment, Operation, to Support.

# Daniel M. Lance



## Professional Experience

---

### **Marq 6 Broadband**

Gulliver, MI

December 2018 – Current

*Site Engineer – Delta and Schoolcraft County*

#### Duties:

- RF Coverage Analysis
- Customer Site Surveys
- Network Design and Implementation
- Power Design and Implementation
- Customer Broadband Training
- Site Troubleshooting
- Customer Relations

### **IQ Designs and Engineering**

Manistique, MI 49854

May 2013 - March 2016 (Position terminated due to lack of work)

*Electronic Technician, Control System Fabrication, Machine Wiring, Numatic Installation, Final Machine Assembly and Testing.*

#### Fabrication and panel wiring duties:

- Main control panels and enclosures
- Head panels and enclosures
- Output panels and enclosures
- Operator panels and enclosures
- Machine system interconnect
- Fiber optic trigger, sensor and magnetic sensor installation
- Air cylinders, solenoids and air valve installation
- Energize machine
- Test all functions
- Release to programmer

**NBC Universal WRC**

Washington, DC

*Broadcast Maintenance Engineer and Spectrum Manager (R/F)*

Sep 2008 - 2013

- Repaired, maintained, installed, and modified technical broadcast equipment at WRC, an NBC owned and operated station in Washington, DC.
- Provided key leadership in the design, installation, and testing of WRC's news studio, primary and secondary control rooms, and signal distribution system, which became the current template for all engineered systems at NBC Universal.
- Oversaw all audio recording and broadcast services. Provided audio mixing and transmission support for local and national news programs with audiences of up to 250 million viewers.
- Trained audio technicians and operators within the Engineering Department researched and selected new network technologies, and integrated equipment into the broadcast head end.
- Managed analog to digital spectrum transition, facilitating a flawless changeover without interruption on the day of the switch.
- Proposed, coordinated, and implemented transition from hard wired to wireless microphones. Managed the wireless spectrum in compliance with all FCC reporting requirements and maintained transmission facilities to keep wireless signals operational and uninterrupted.

**Black Entertainment Television (BET)**

Washington, DC

*Production Audio Monitor Engineer and Front of House Engineer*

2007 - Present

- Provided A-1 (Chief Audio Engineer) services to all BET Live concert productions, overseeing all sound reinforcement and monitor services for the production venue.
- Managed a crew of secondary audio engineers (A-2's) and stage hands in the installation of large area audio systems for concerts, utilizing motor, truss, and power distribution systems to safely fly all equipment, supply power, and manage all signal feeds to onsite recording and broadcast uplinks.
- Provided custom monitor mixes to nationally known talent and support musicians, allowing them to perform at their highest level.
- Supervised a team of audio engineers on stage to guarantee correct microphone usage
- Coordinated operations with Production Manager and talent in all sound areas.

**Alba Audiovisual, LLC**

Annapolis, MD

*Audio-Visual Technician and Chief Sound Engineer*

Jun 2007 - Present

- Provided audio reinforcement and recording services to government, corporate and non-profit clients.

- Installed, operated, and maintained systems supporting clients ranging from small, intimate groups to 100,000 person concert areas.
- Utilized video projection, staging, and lighting and audio equipment to support business and press conferences.
- Conducted pre-event technical assessments for clients to provide a custom-fit audio-visual solution for their event.

### **IEP Production Group**

Laurel, MD

*Lead Audio Engineer (A-1)*

2005 - Nov 2007

- Provided all aspects of audio project management of all events, concerts, and meetings, including audio design, facility setup, technical operation, and show scripting.
- Events included Presidential addresses, TSA exercises, and National Institute of Health conferences.
- Sound system support for video productions, video editing, video directing to IEP/MPG clients, supervised and approved the selection of audio clips, selected professional narrators, and approved final audio mixes, including all music and sound effects.

### **Freelance**

Nashville, TN

Concert Audio Engineer

1996 – Jun 2005

- Sound mixer, production mgr. and toured globally with numerous national acts including Barbara Mandrell, Lorrie Morgan, Tanya Tucker, Steve Miller, Sawyer Brown, Martina McBride, Anita Baker, and Tina Marie and many more.
- Engineered audio systems, supervised stagehands, designed equipment lists, provided high quality audio recordings, and transported equipment at many international venues, ensuring safety for on stage talent and crew members, in accordance with OSHA, Department of Transportation, and union directives.

### **Education**

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**Athens High School**

Michigan

Troy,

**Cleveland Institute of Electronics**

Cleveland, Ohio

### **Additional Skills**

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- **R/F Spectrum Management and Coordination**

- **Project Management**
- **System Design**
- **Technical Drawing**
- **Video Production**
- **Electrician**
- **Electronic Tech**

**References available upon request**



# JOHN S WEBBER

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## SKILLS & ABILITIES

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Ability to lead and grow technology organizations to meet tomorrows challenges.

## EXPERIENCE

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May 2017 -  
Current

President, Marq6 Broadband

- Developed, implemented, and operate broadband company servicing areas of Delta and Schoolcraft County.
- Worked with County EDAs to understand the need and demand of a rural population with no access to affordable broadband offerings.
- Designed novel small cell deployments that can target smaller, rural areas with affordable broadband access.

April 2012-  
Current

Vice President, Novus Labs

- Leading a team of 110 engineers in the daily operations of a world class test and development company.
- Grew company from \$750,000 annual revenues to over 18 million over a 5-year period.
- Largest Customers include; Microsoft, Google, Amazon, Honeywell, Roku.

June 1996 –  
March 2012

Engineering Manager, Intel Corporation

- Developed wireless communications products over a 15-year career.
- Led multinational test and development teams working on Wi-Fi, Bluetooth, and Cellular communication products.

## EDUCATION

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1991 - 1996	Business Administration, Corvallis Oregon, Oregon State University
1997 - 1998	Telecommunications Engineering, Portland Oregon, Marylhurst <i>University</i>



REPORT OF INDEPENDENT ACCOUNTANTS AND  
CONSOLIDATED AND COMBINED FINANCIAL STATEMENTS WITH  
SUPPLEMENTARY INFORMATION

**VITAL ENTERPRISES, LLC AND SUBSIDIARIES AND  
AFFILIATES**

December 31, 2018



MOSSADAMS

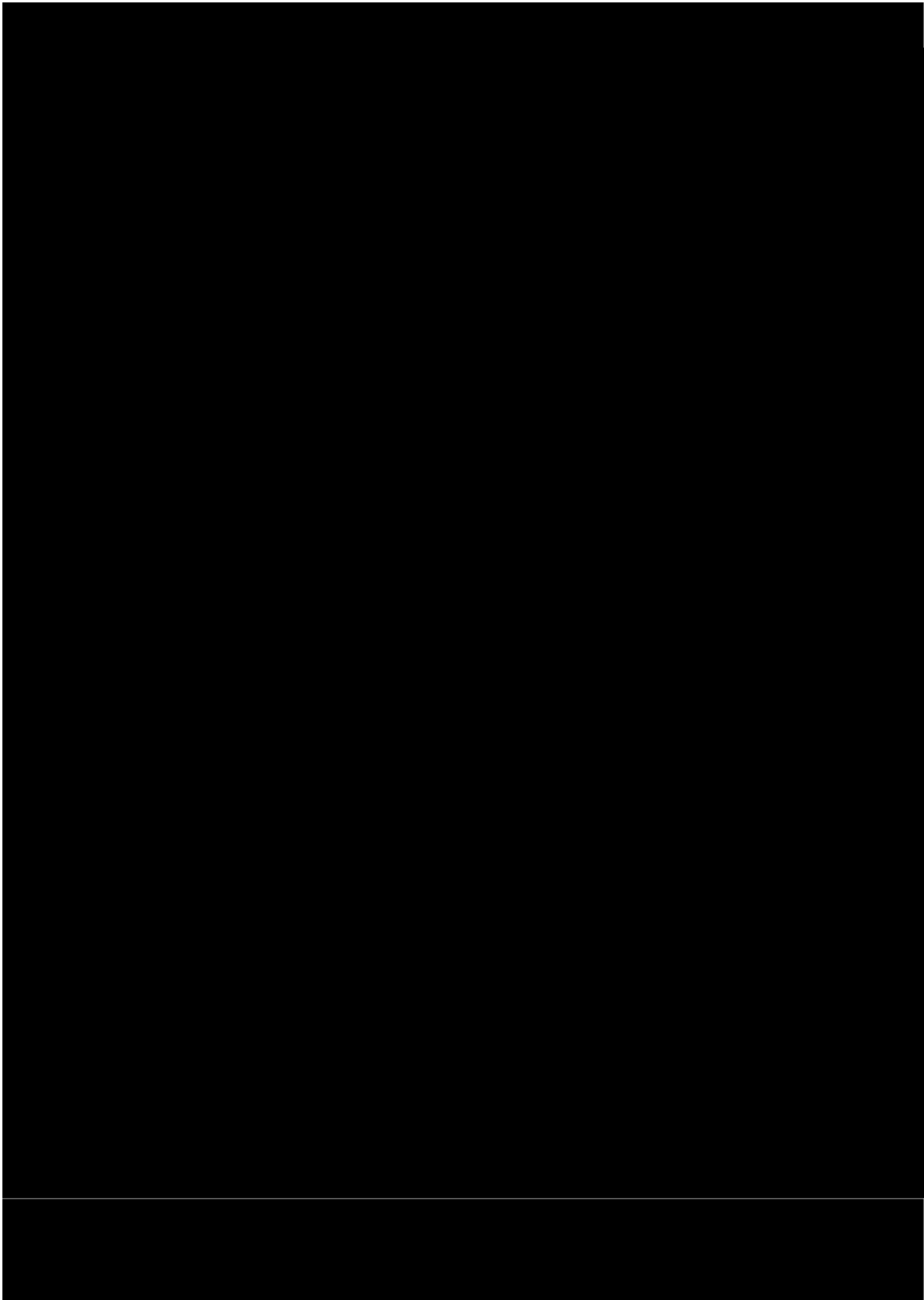
## Table of Contents

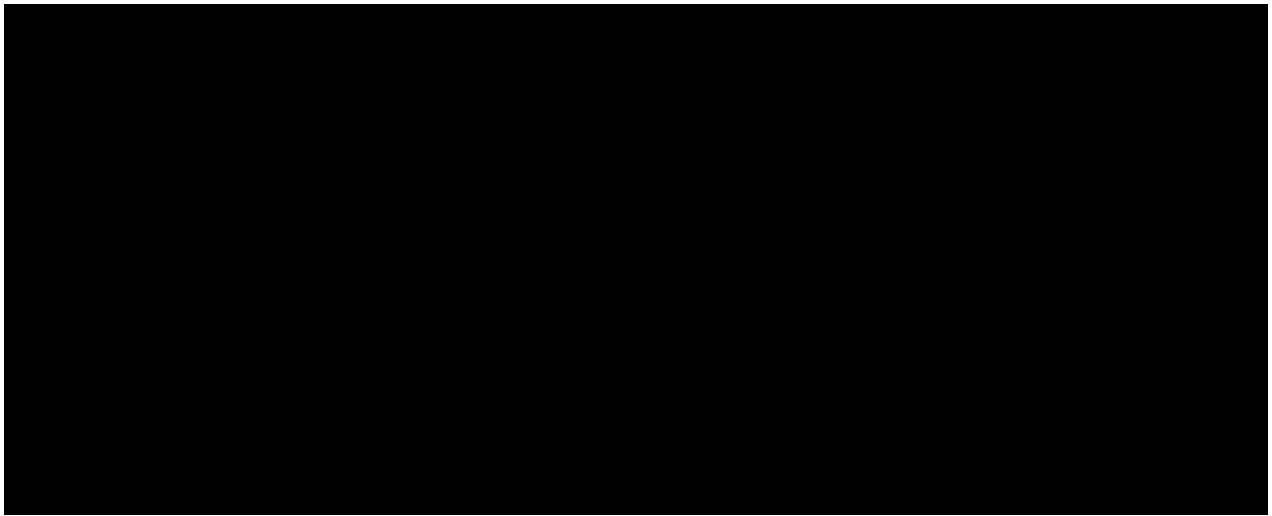
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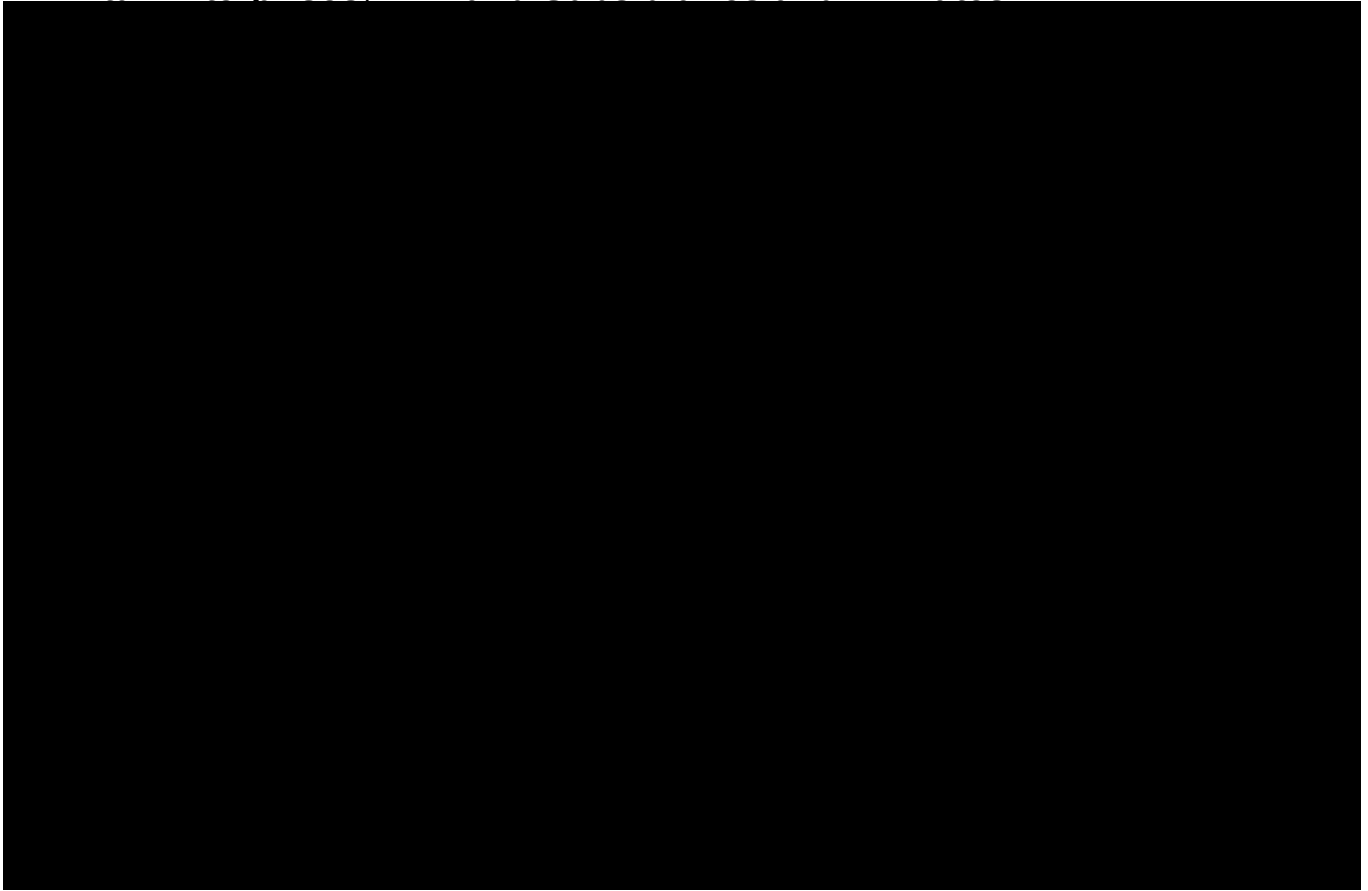


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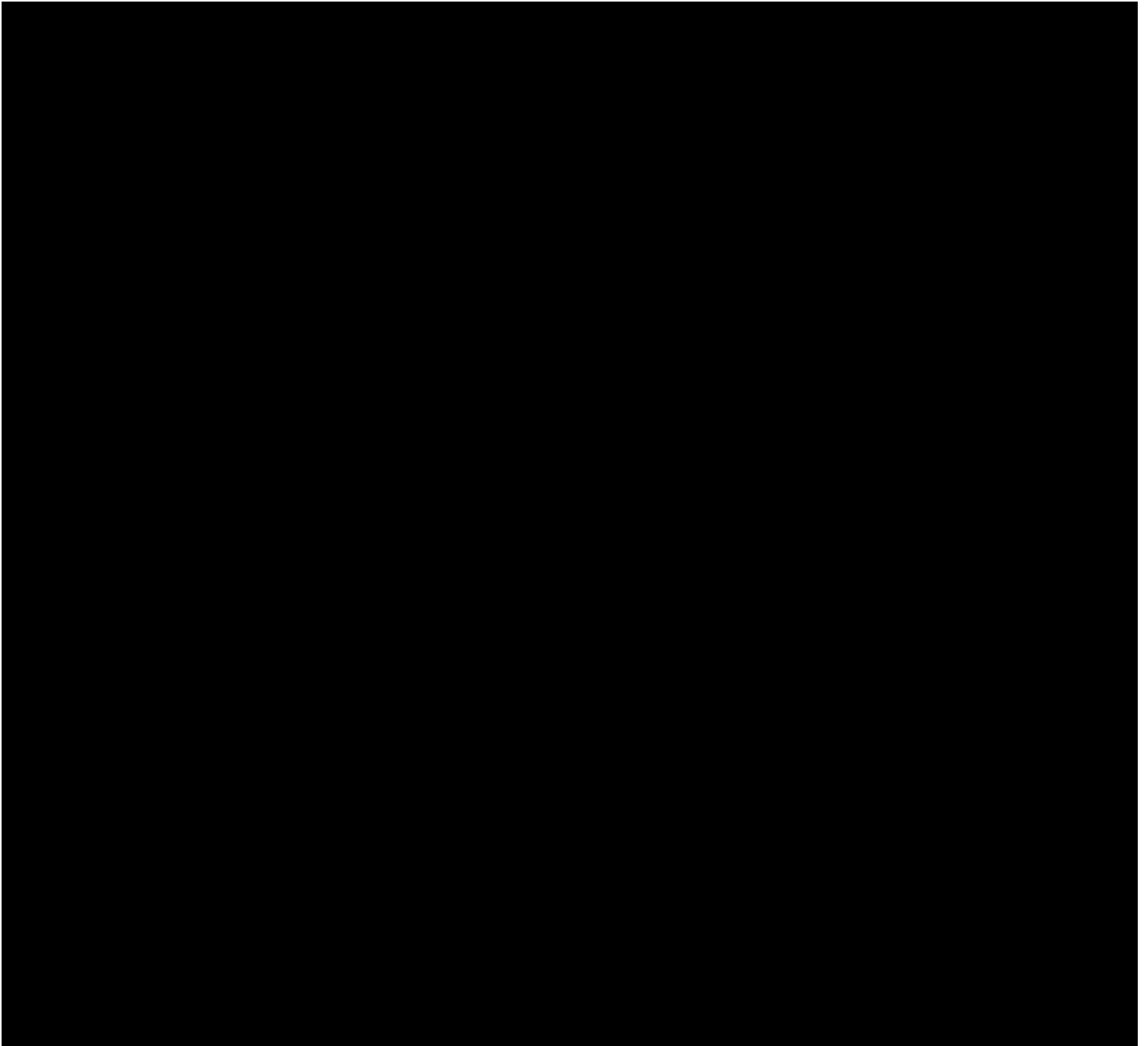




## **Vital Enterprises, LLC and Subsidiaries and Affiliates**



## Vital Enterprises, LLC and Subsidiaries and Affiliates

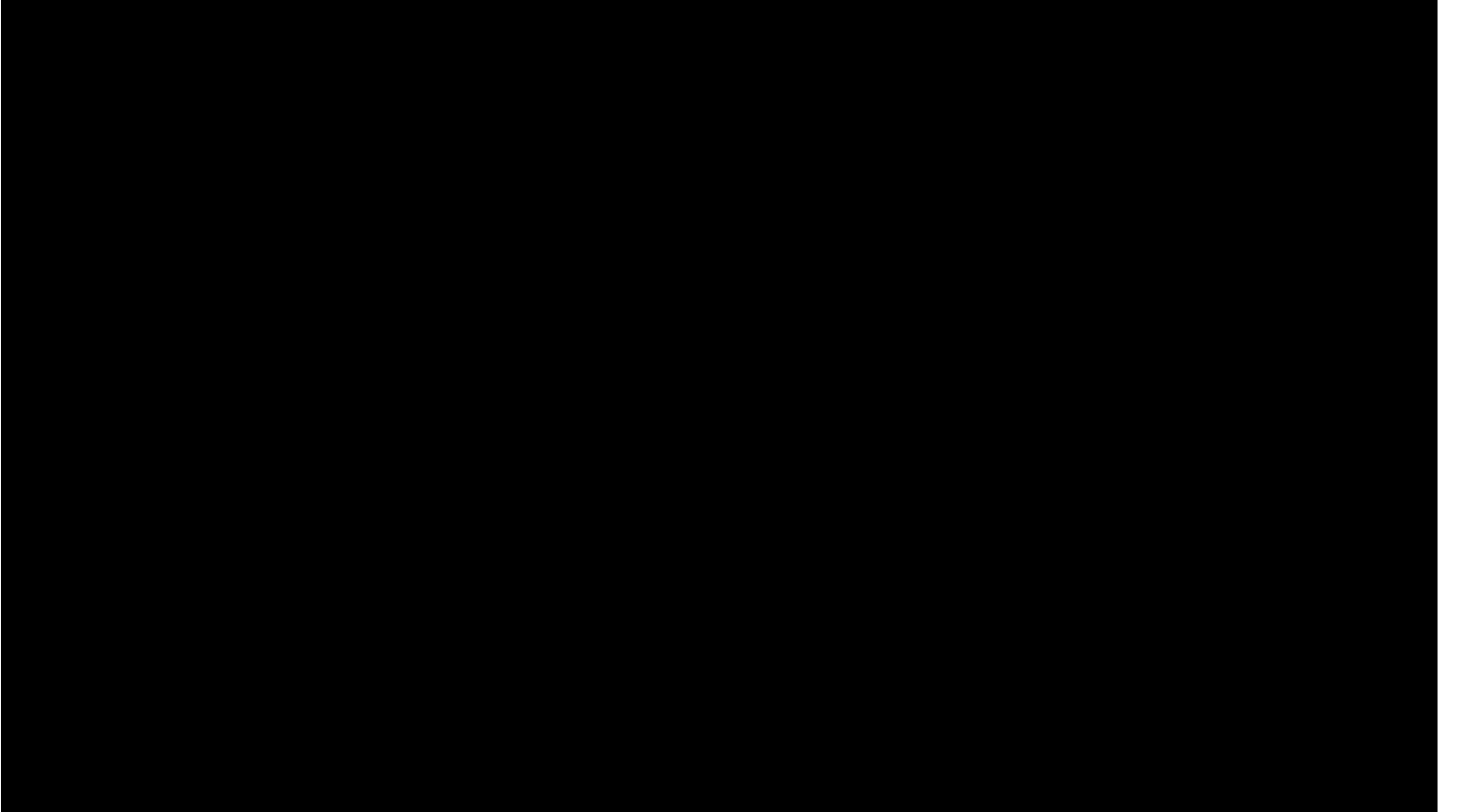




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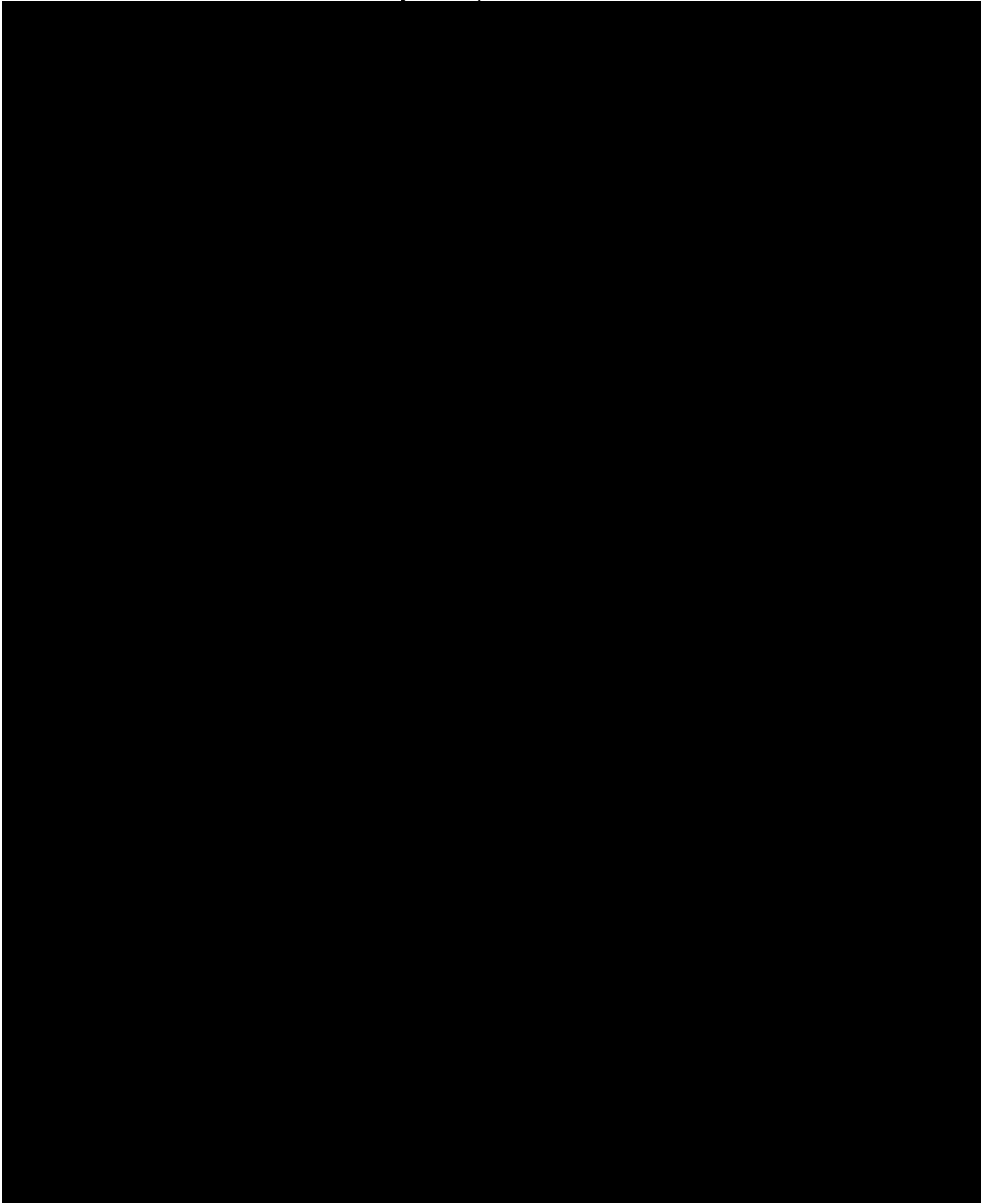


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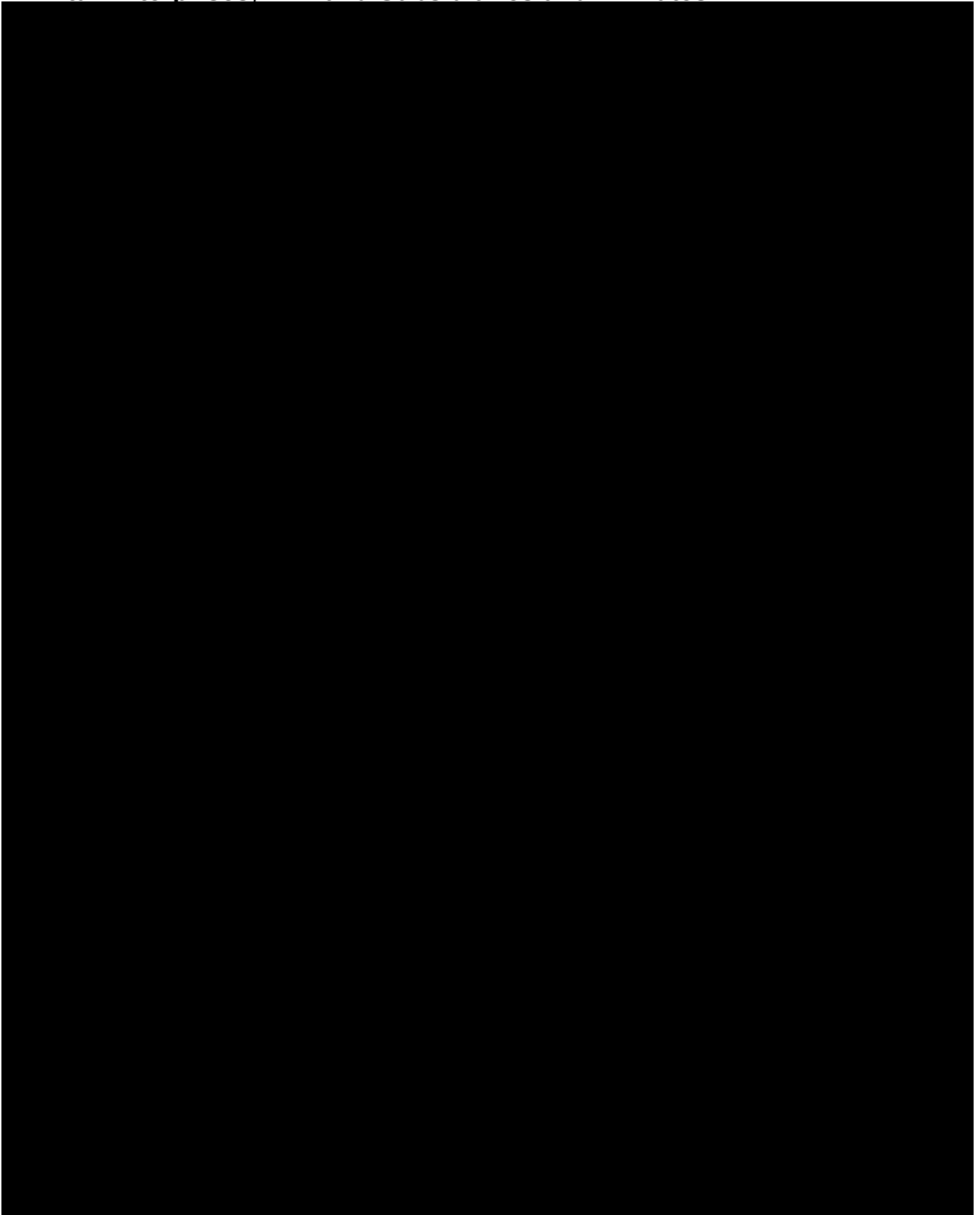


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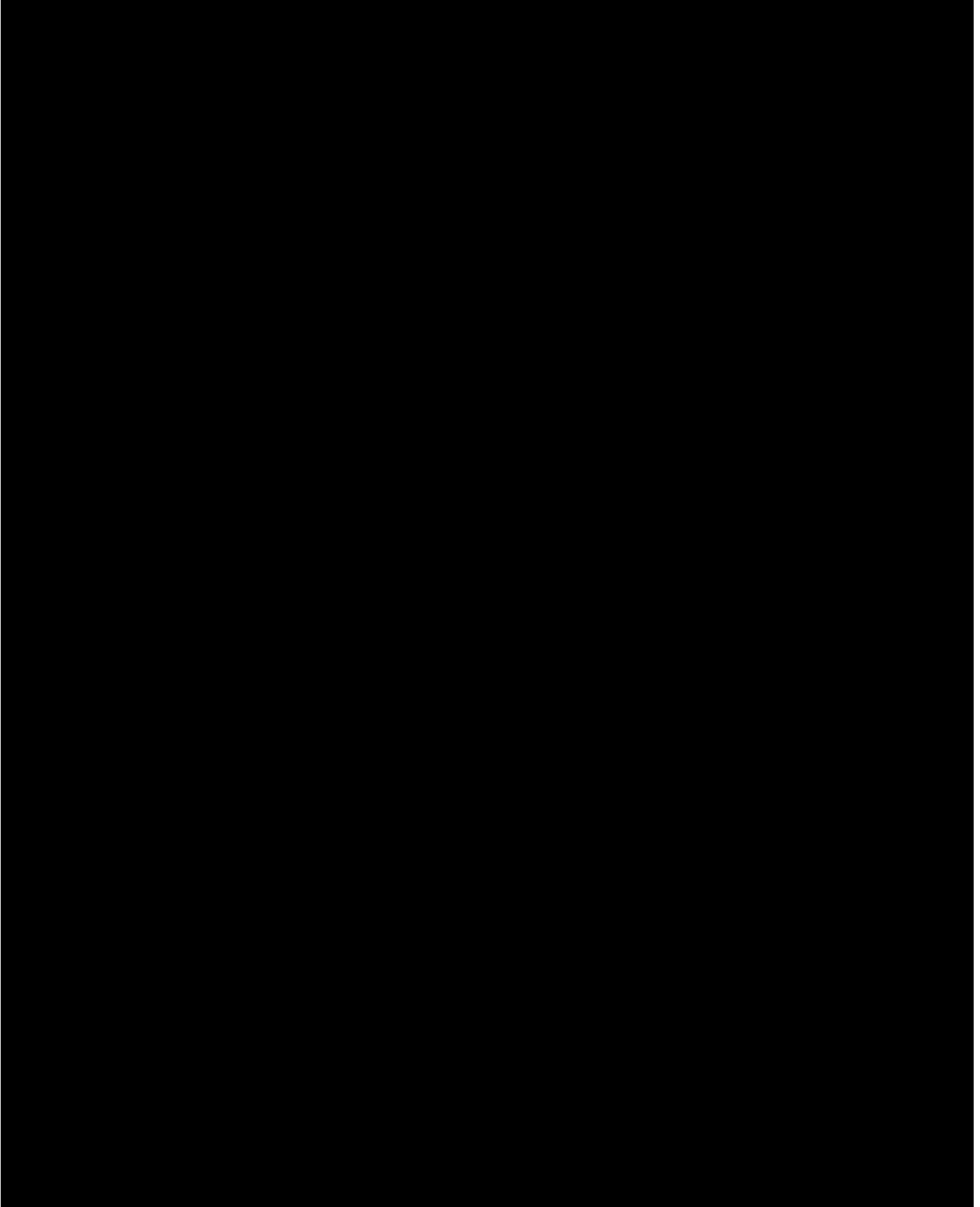
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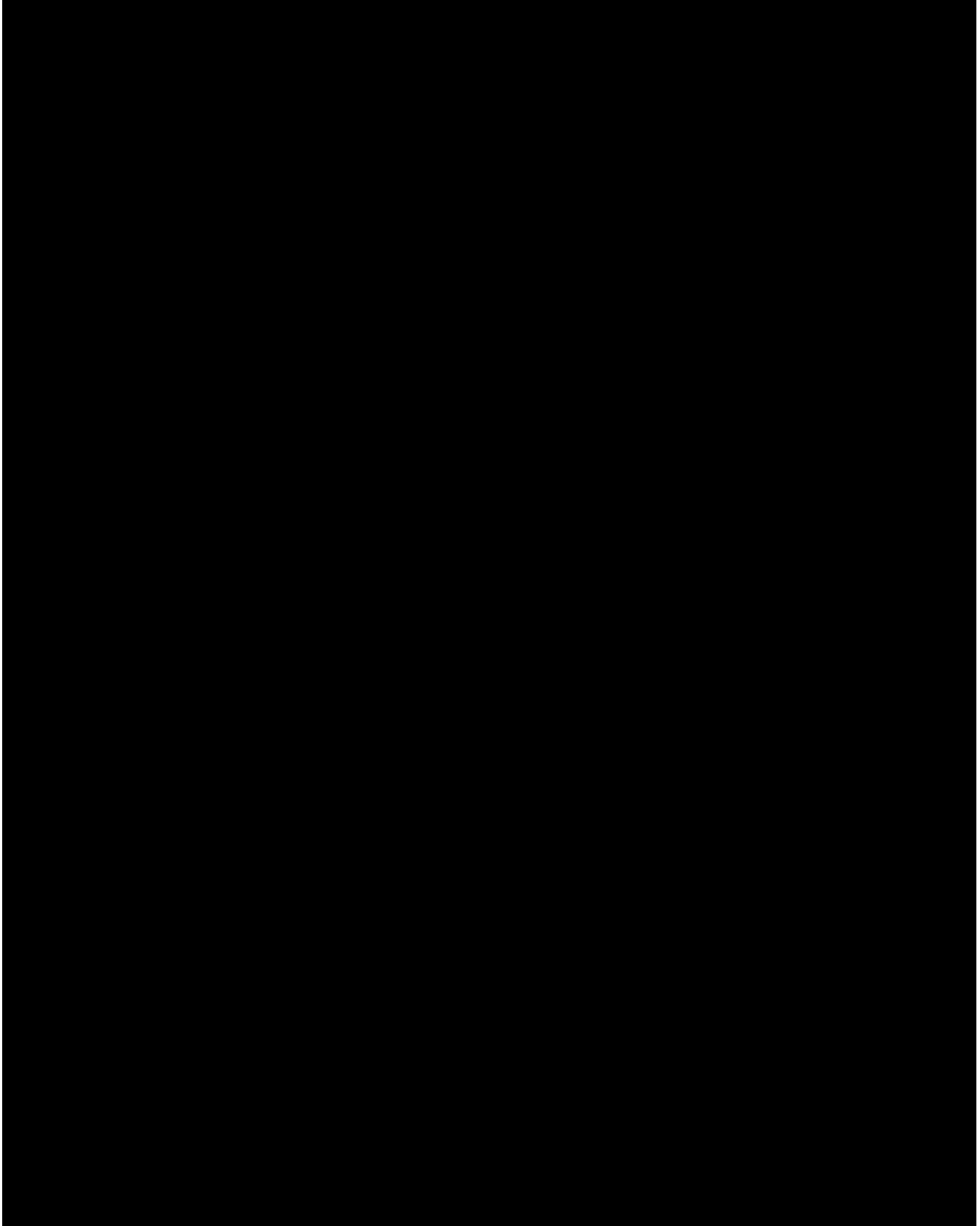
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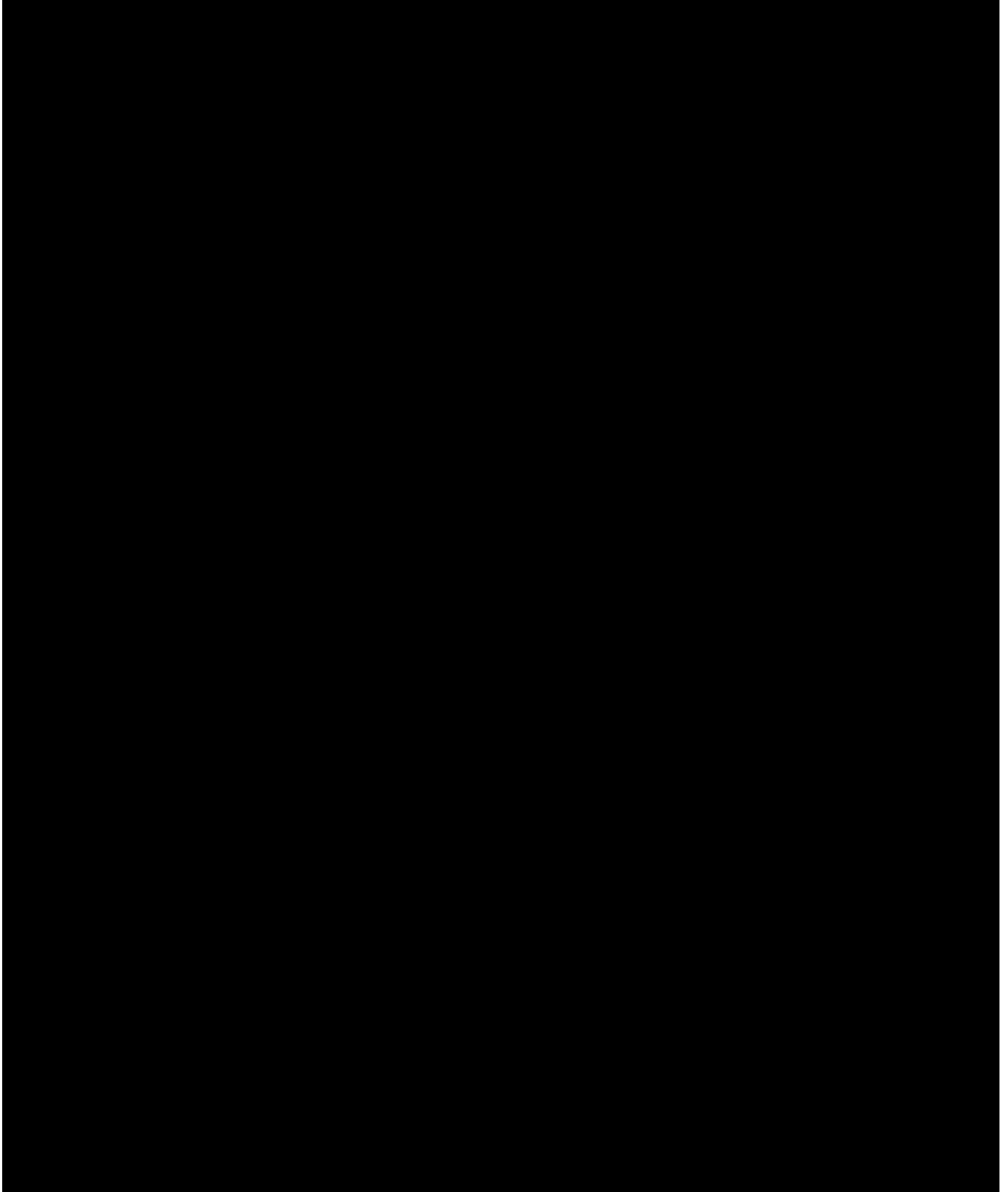
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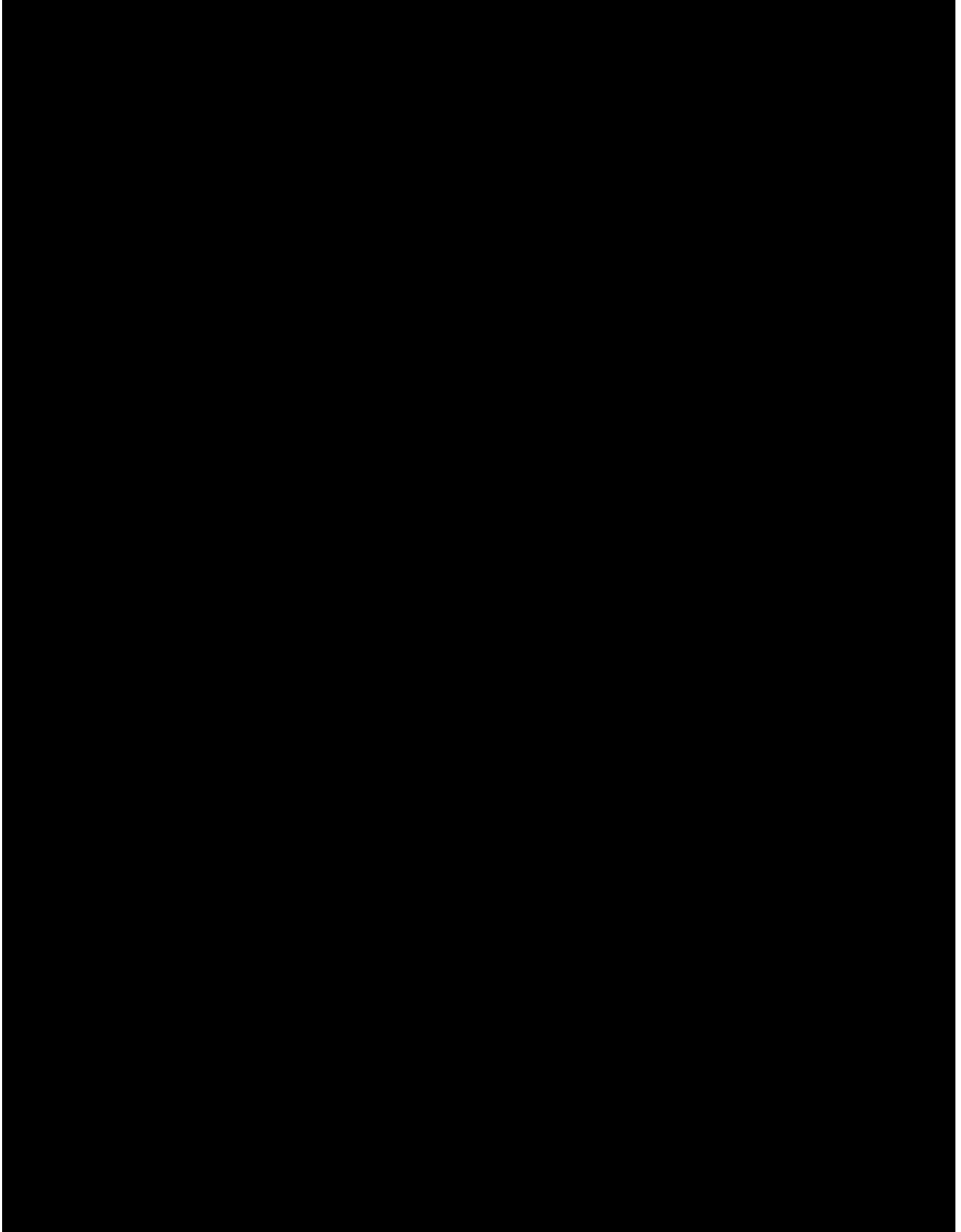


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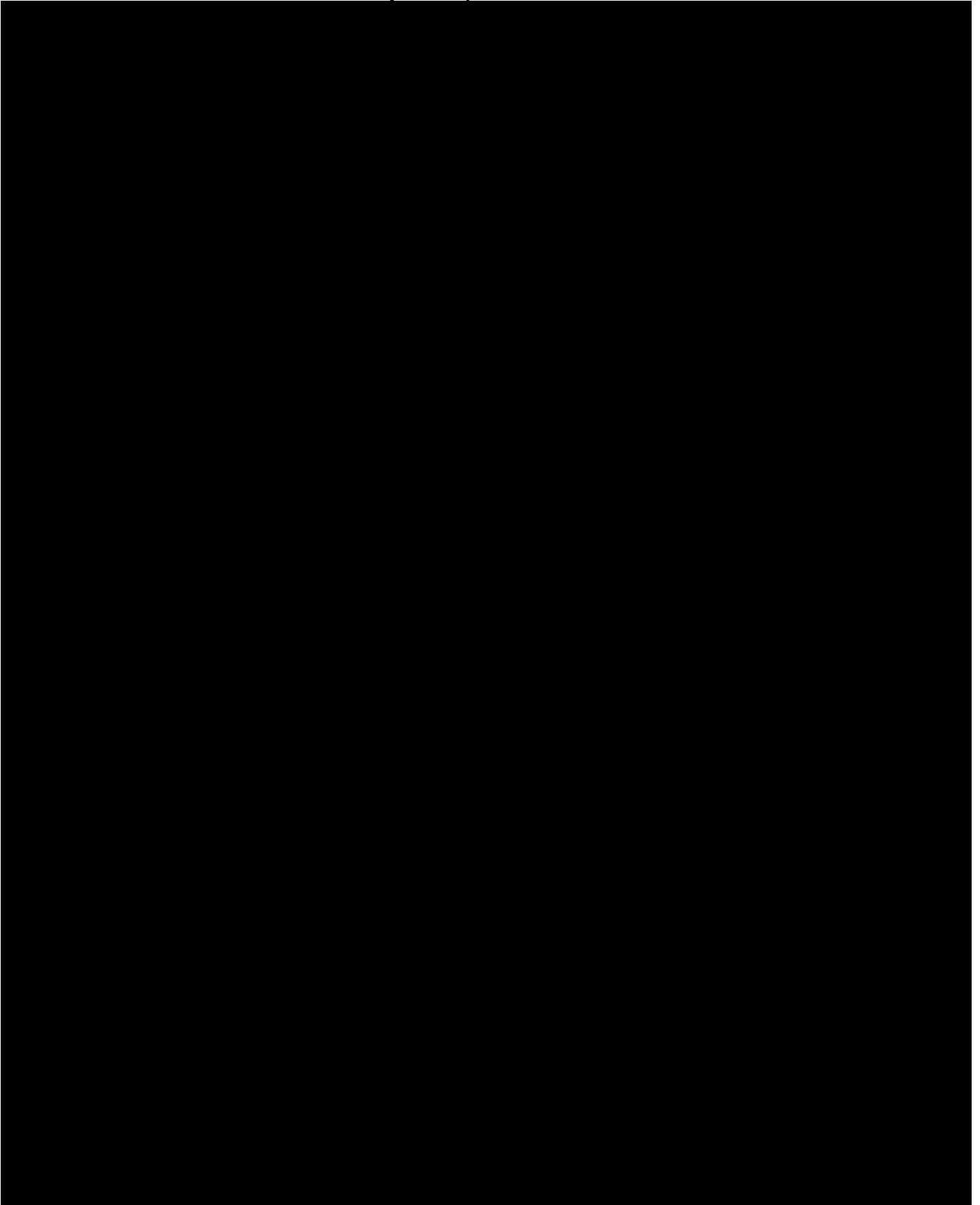




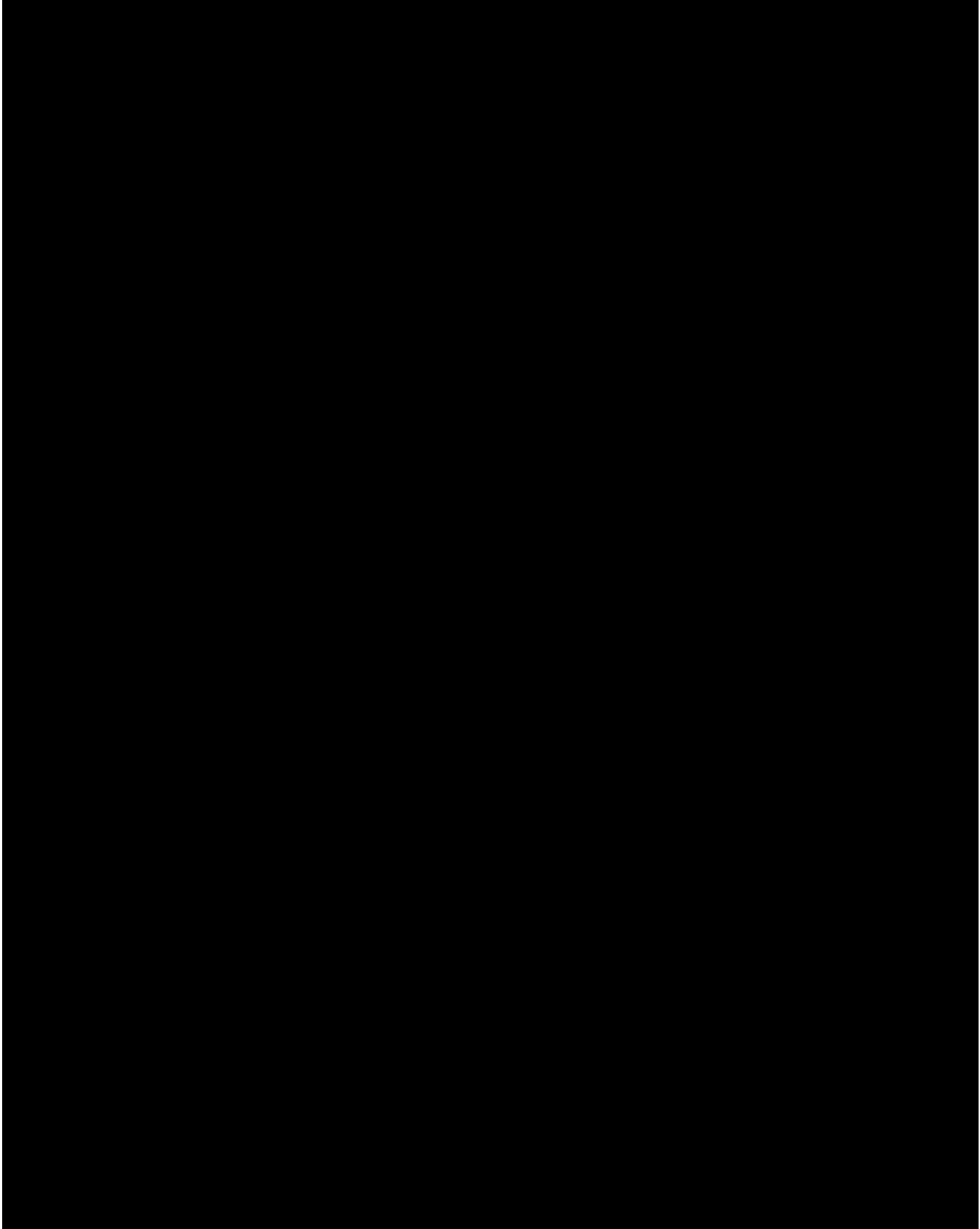
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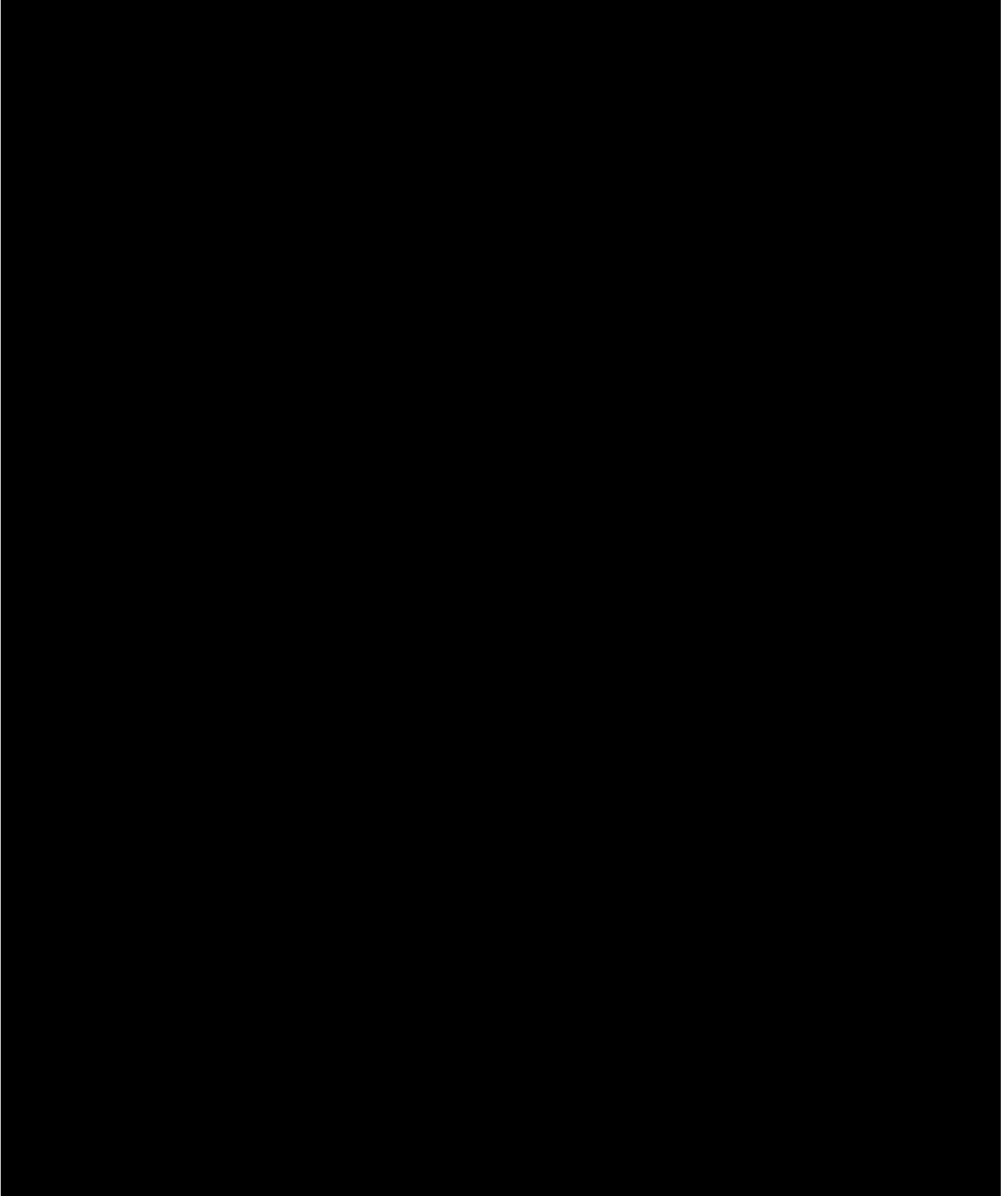
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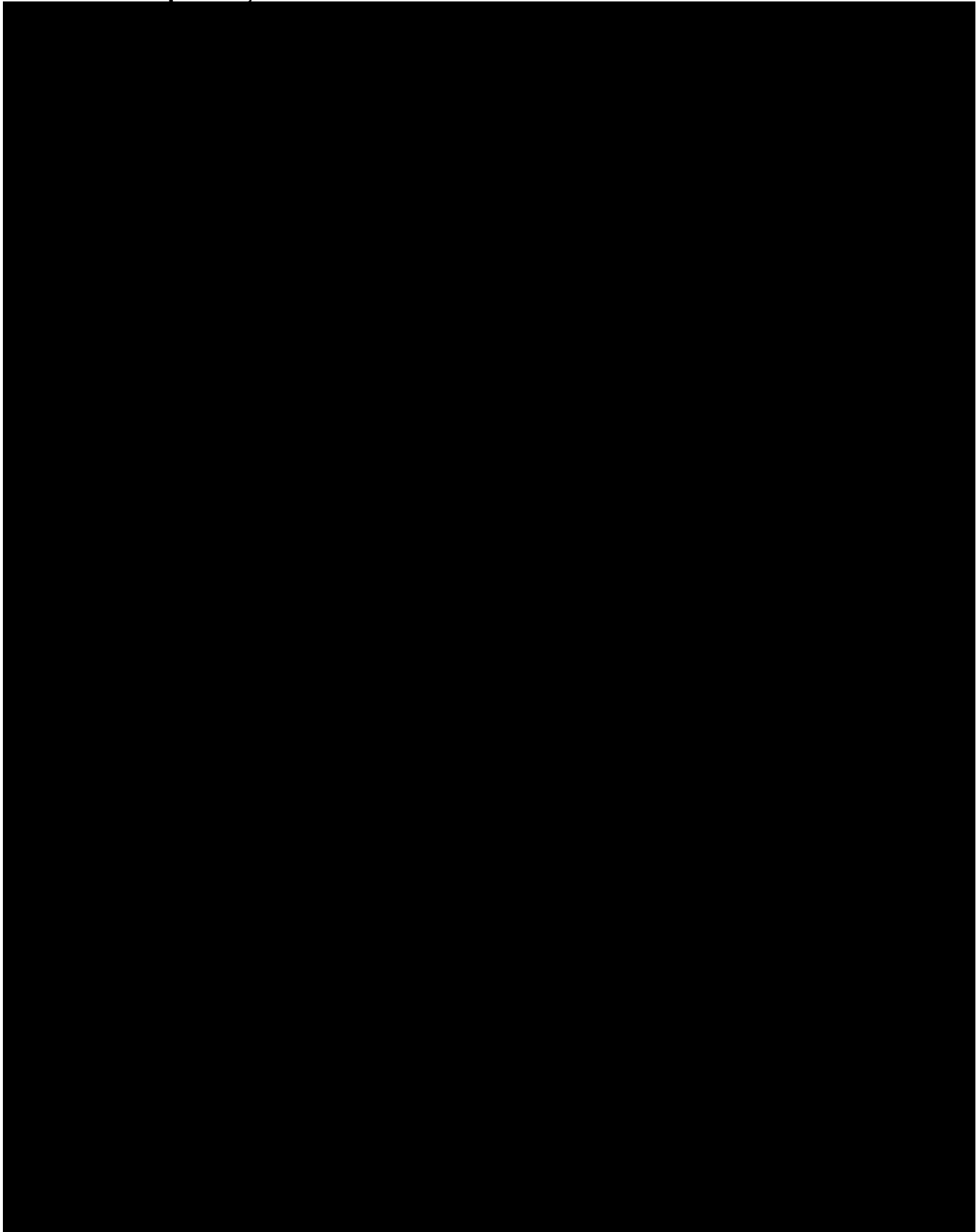
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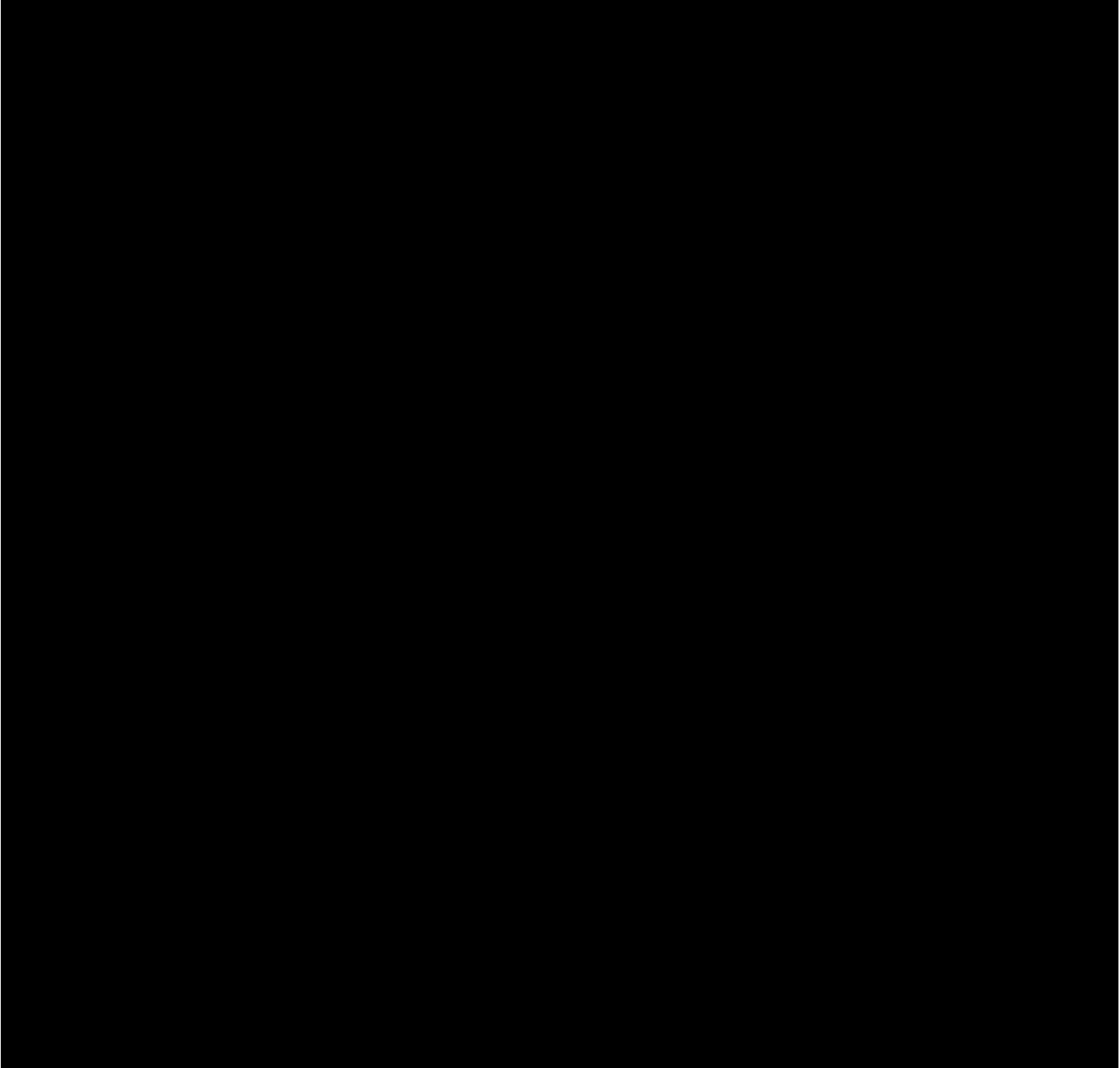
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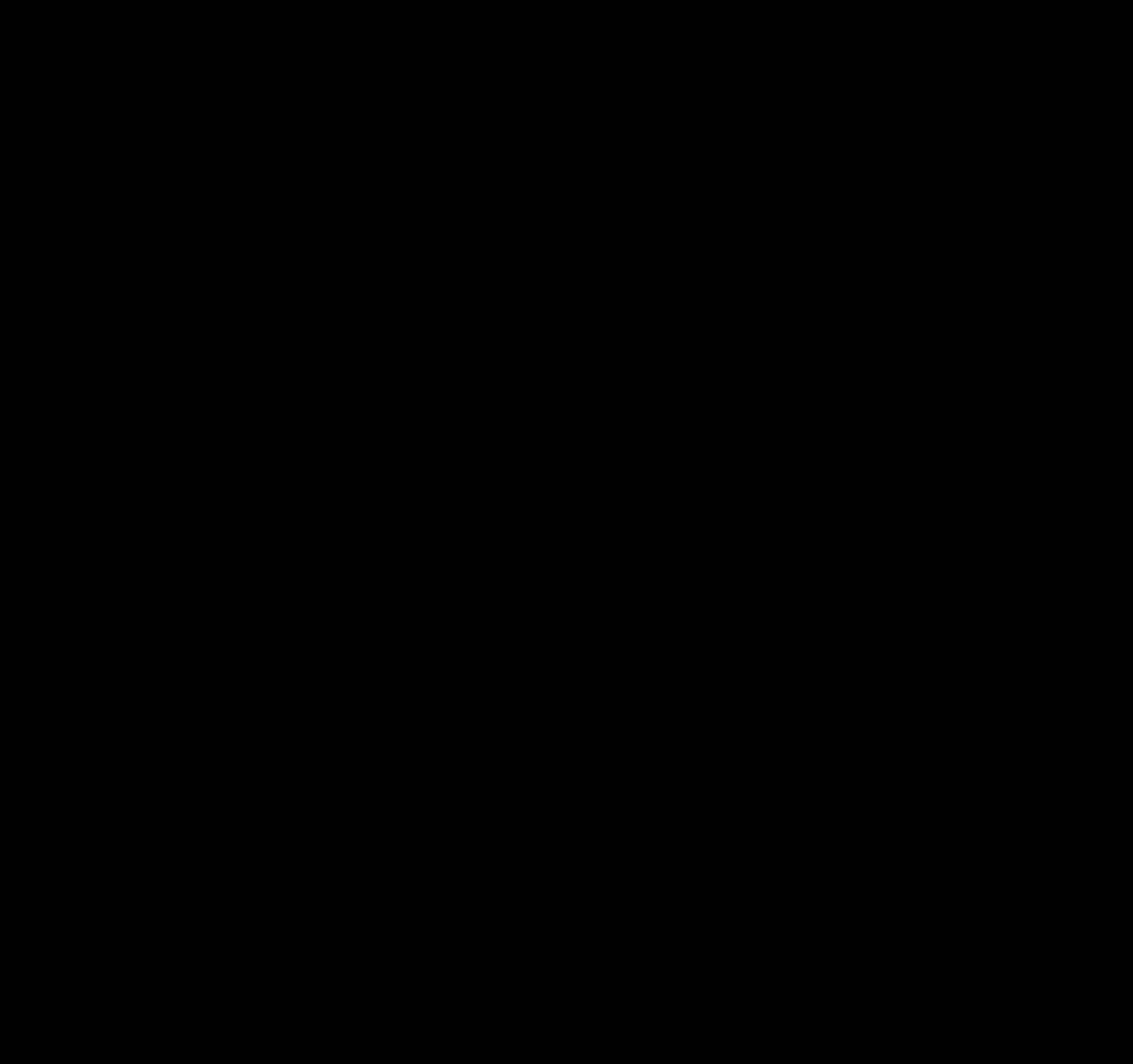
## **Supplementary Information**

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**Vital Enterprises, LLC and Subsidiaries and Affiliates**

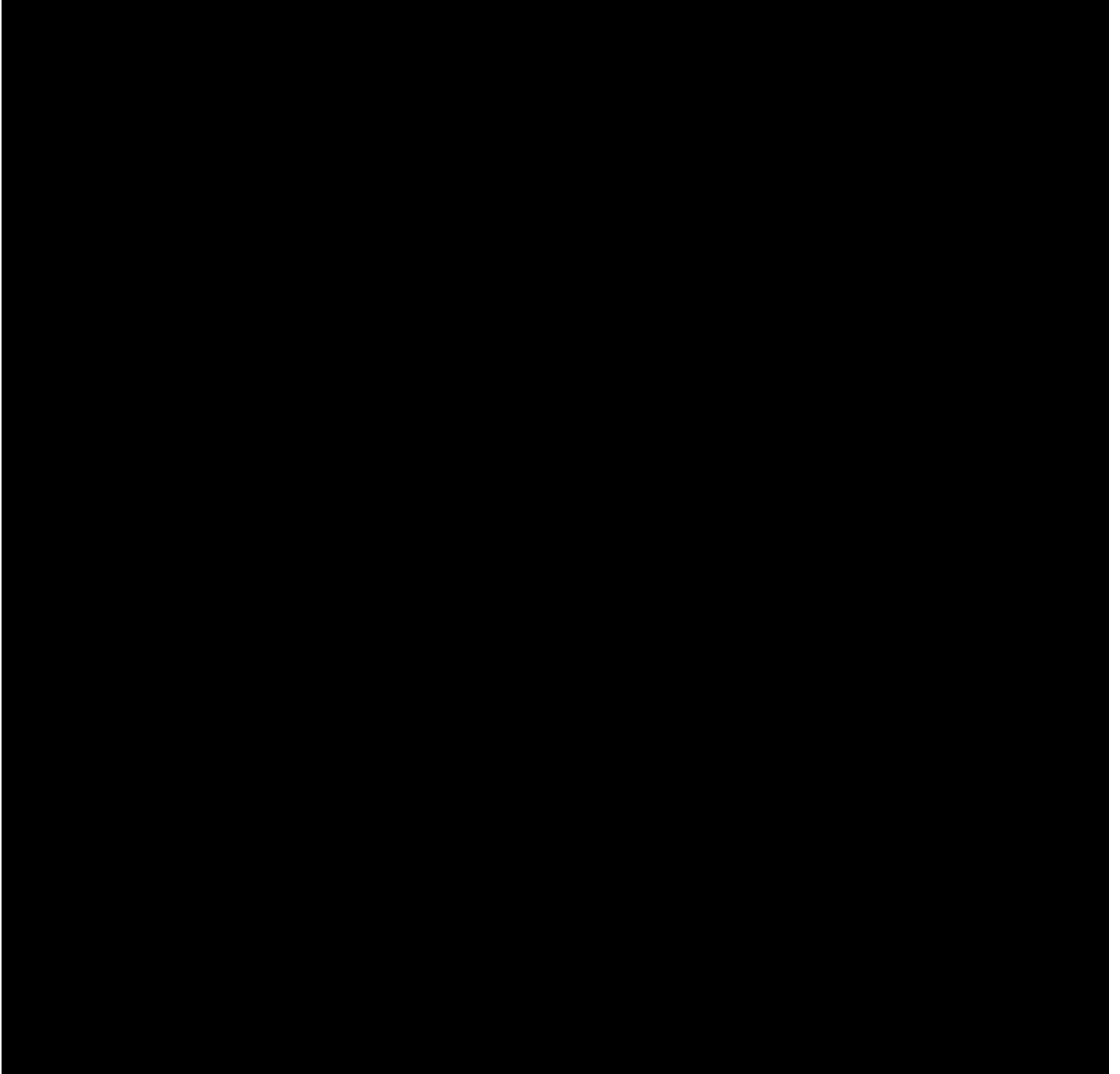


**Vital Enterprises, LLC and Subsidiaries and Affiliates**





**Vital Enterprises, LLC and Subsidiaries and Affiliates**





To whom it may concern,

We certify that the information provided under question 24 in the Connecting Michigan Communities Grant Application is correct. We have also provided the data sheet for the proposed infrastructure under "Nova 436Q\_OD\_TDD\_eNB\_Data\_Sheet" for reference. Please feel free to contact Baicells Technologies with any further questions.

Thank you,

Jesse Raasch

CTO & VP, Emerging Business

Baicells Technologies, N.A. Inc.

Office: (608) 960-9992 | Mobile: (608) 350-9261





## INTRODUCTION

The Baicells Nova-436Q is an advanced two-carrier outdoor eNodeB (eNB) that is compliant with 3GPP LTE TDD technology. This 4x1W eNB is capable of operating in Carrier Aggregation (CA) mode or Dual Carrier (DC) / split mode<sup>a</sup>.

In CA mode, contiguous or non-contiguous channels are aggregated to provide up to 40 MHz bandwidth. This essentially doubles the downlink capacity when the CA 436Q is used with all CAT6/7 user equipment. Nova-436Q will support CBRS 3.55-3.7 GHz frequencies including bands 42, 43, and 48.

In DC mode, each carrier is treated as an independent cell, each supporting 5, 10, 15, or 20 MHz bandwidth. The Nova-436Q simplifies and streamlines the deployment of split sectors.

In addition to having the option to operate Nova-436Q in either CA or DC mode, HaloB (an embedded EPC option) comes as a default feature in the base software. Baicells's patented HaloB solution migrates the necessary core network functions to the eNB so that it operates independently, with no connection through an S1 link to the EPC (core network).

This product comes with a standard product warranty; extended warranty is available.

## FEATURES

Note: Features may vary based on model or region.

### Easy Deployment

- Suitable for private and public deployments; any IP based backhaul can be used, including public transmission
- Integrated small cell form factor for quick and easy installation
- Configured out of the box to work with Baicells CloudCore
- Embedded HaloB ("lite" EPC) solution
- Supports GPS synchronization
- CBRS ready
- Plug-and-play with future self-organizing network (SON)<sup>a</sup> capabilities
- IoT with most EPC vendors

### Better Performance

- Standard LTE TDD Bands 42/43/48
  - Customization may be requested; contact [sales\\_na@baicells.com](mailto:sales_na@baicells.com).
- Complies with 3GPP Release 13 standards
- Supports 5/10/15/20 MHz bandwidth per carrier
- Excellent non-line-of-sight (NLOS) coverage
- Aggregate peak rate: (up to) DL 220 Mbps, UL 56 Mbps<sup>b</sup> with 2x20 MHz and using all Cat6/7 UEs
- 32 concurrent users; upgradeable to higher capacity in future software releases
- Lower power consumption, which reduces OPEX
- Supports 4-port antenna or 2 antennas with 2 ports

## Easy Management

- GUI-based local and remote Web management
- TR069 network management interface support
- Flexible cloud or local NMS/EMS management using Baicells Operations Management Console (OMC)

## Flexible Operating Mode Options

- HaloB (embedded "lite" EPC)
- Carrier Aggregation license available
- Dual carrier<sup>a</sup> license available

## HARDWARE SPECIFICATIONS

LTE Mode	TDD
Frequency Bands	42/43/48
Channel Bandwidth	5/10/15/20 MHz per carrier
Max Output Power	30 dBm / antenna
Power Supply	+/- 48VDC, AC adaptor (multi-national standards)
Power Consumption	< 60W
Receive Sensitivity	-100 dBm
Synchronization	GPS
Interfaces	1 optical (SFP) and 1 RJ-45 Ethernet interface (1 GE)
MIMO	DL: 2x2 on each carrier
Installation	Pole or wall mount
Antenna	External high-gain antenna: (1) 4-port n-male connector or (2) 2-port
Dimensions (HxWxD)	12.2 x 9.4 x 4.1 inches 310 x 239 x 105 millimeters
Weight	12.1 lbs / 5.5 kgs

### NOTES:

<sup>a</sup> Future software upgrade

<sup>b</sup> Future software release will support uplink CA, which can double the single carrier 28 Mbps UL capacity, depending on operating mode

## SOFTWARE SPECIFICATIONS

LTE Standard	3GPP Release 13		
Peak Rate (up to)  Rates based on using all Cat6/7 UEs  SA - Special Subframe Assignment (configurable parm)	<b>2x20 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
	SA1 :	2x80 (160)	2x28 (56) <sup>b</sup>
	SA2 :	2x110 (220)	2x14 (28)
	<b>2x10 MHz:</b>	<u>DL (Mbps)</u>	<u>UL (Mbps)</u>
	SA1 :	2x40 (80)	2x14 (28)
	SA2 :	2x55 (110)	2x7 (14)
User Capacity	32 concurrent Future: 64 <sup>a</sup> and 96 <sup>a</sup>		
QoS Control	3GPP standard Quality of Service Class Identifier (QCI)		
Modulation	DL: QPSK, 16QAM, 64QAM, 256QAM <sup>a</sup> UL: QPSK, 16QAM, 64QAM		
Traffic Offload	Local IP Access (LIPA) Selected IP Traffic Offload (SIPTO)		
Voice	VoLTE <sup>a</sup>		
SON	Self-organizing network <sup>a</sup> : <ul style="list-style-type: none"> <li>• Automatic setup</li> <li>• Automatic Neighbor Relation (ANR)</li> <li>• PCI confliction detection</li> </ul>		
RAN Sharing	Supported		
Network Mgmt	TR069		
MTBF	≥ 150000 hours		
MTTR	≤ 1 hour		
Maintenance	<ul style="list-style-type: none"> <li>• Local/Remote Web maintenance</li> <li>• Online status management</li> <li>• Performance statistics</li> <li>• Fault management</li> <li>• Local/Remote software upgrade</li> <li>• Logging</li> <li>• Connectivity diagnosis</li> <li>• Automatic start and configuration</li> <li>• Alarm reporting</li> <li>• KPI recording</li> <li>• User information tracing</li> <li>• Signaling Trace<sup>a</sup></li> </ul>		

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°F to 131°F / -40°C to 55°C
Storage Temperature	-49°F to 158°F / -45°C to 70°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Ingress Protection Rating	IP66
Power Interface Lightning Protection	Differential mode: $\pm 10$ KA Common mode: $\pm 20$ KA

## GLOBAL PART NUMBER

mBS31001-CA	<p>Nova-436Q outdoor TDD eNodeB - LTE Release 13, 4x1W (30 dBm), 4 port, 3.5 GHz (3550-3700 MHz), B42/43/48. Includes Carrier Aggregation.</p> <ul style="list-style-type: none"><li>FCC certification: 2AG32MBS3100190</li></ul>
mBS31001-DC	<p>Nova-436Q outdoor TDD eNodeB - LTE Release 13, 4x1W (30 dBm), 4 port, 3.5 GHz (3550-3700 MHz), B42/43/48. Includes Dual Carrier (Split Mode).</p> <ul style="list-style-type: none"><li>FCC certification: 2AG32MBS3100190</li></ul>

### Notes:

- 1 - Other models available for other regions. Contact [sales\\_na@baicells.com](mailto:sales_na@baicells.com).
- 2 - Customized versions may be requested.



## 5 Year Cash Flow Projections

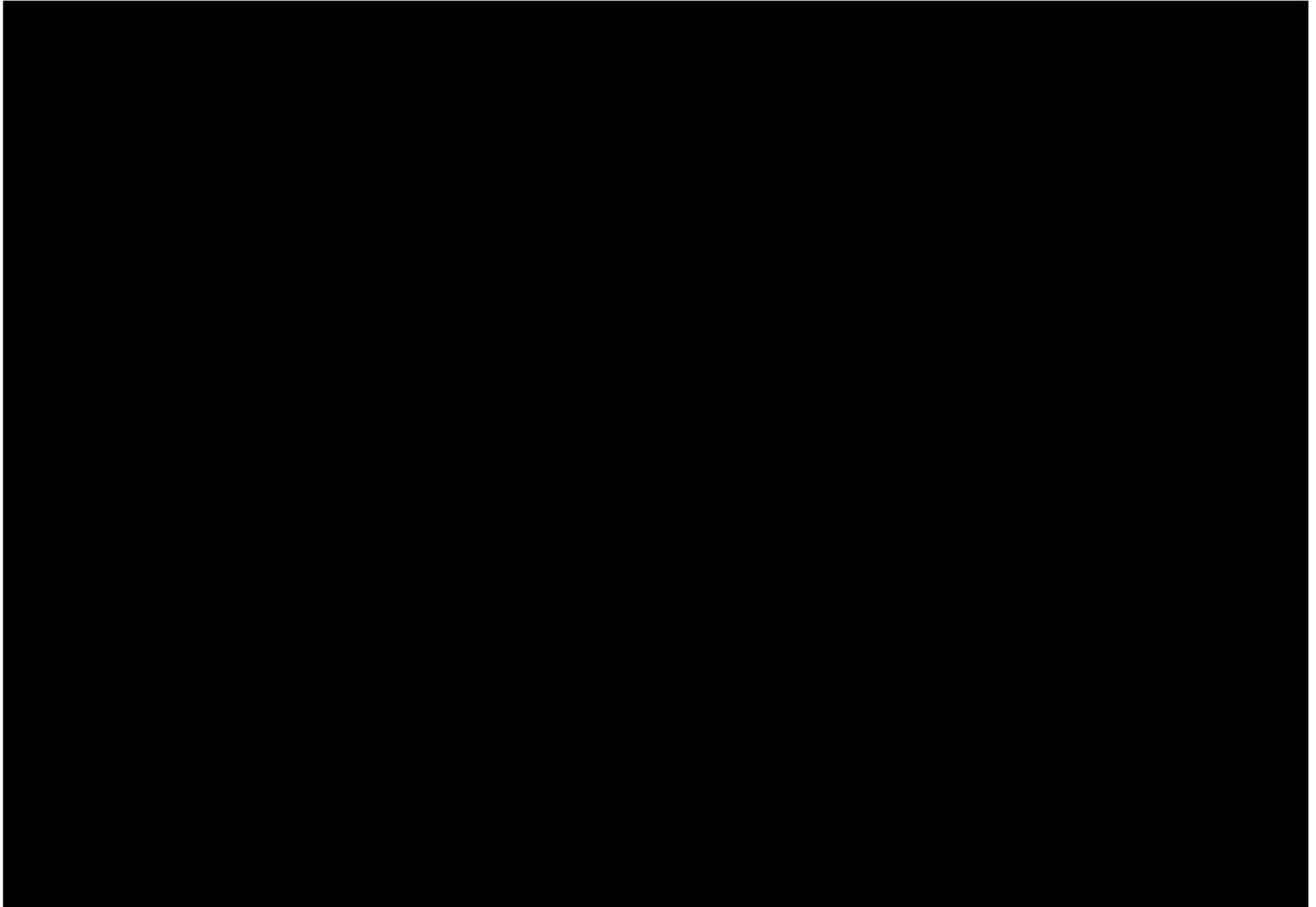
**Prepared by**  
**John Webber**



marq6.com

# Cash Flow Projections Summary 2020-2024

Marq6 Broadband, LLC  
Cash Flow Projections







To Connecting Michigan Grant Program,

Marq6 Broadband is committed to the rates and terms set forth in the Grant Application. We have been working the counties of Delta and Schoolcraft to bring Broadband to the undeserved areas. Marq6 Broadband will commitment to offer the proposed service and cost in the proposed service area for a minimum of five years after project completion.

Thanks,  
John Webber

A handwritten signature in black ink that reads "John S. Webber". The signature is written in a cursive, flowing style.

President - Marq6 Broadband





# Project Phase 2 - Nahma LINKPlanner Proposal Report

26 August 2019

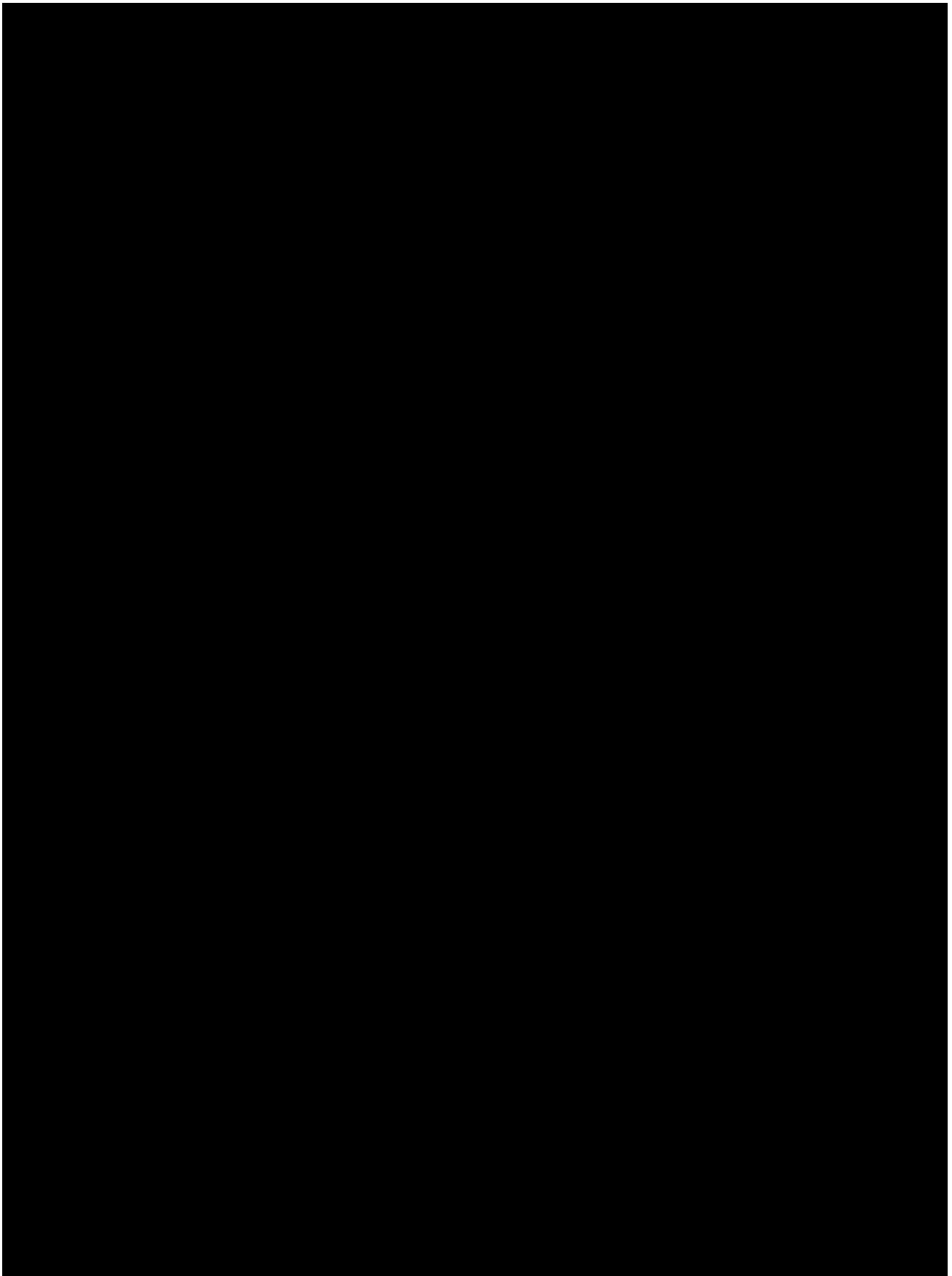
John Webber

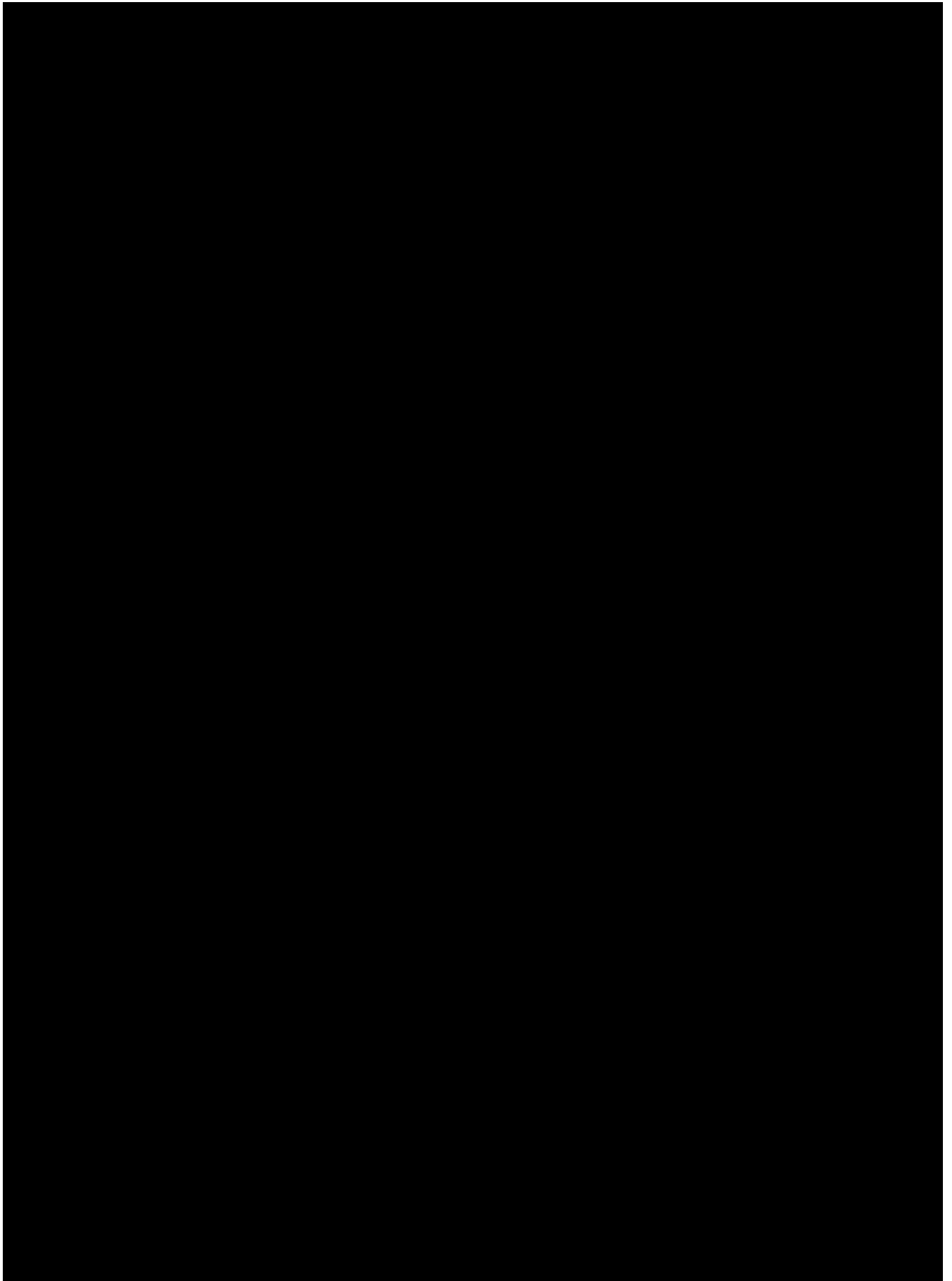
Organization: Marq6



Nahama MI

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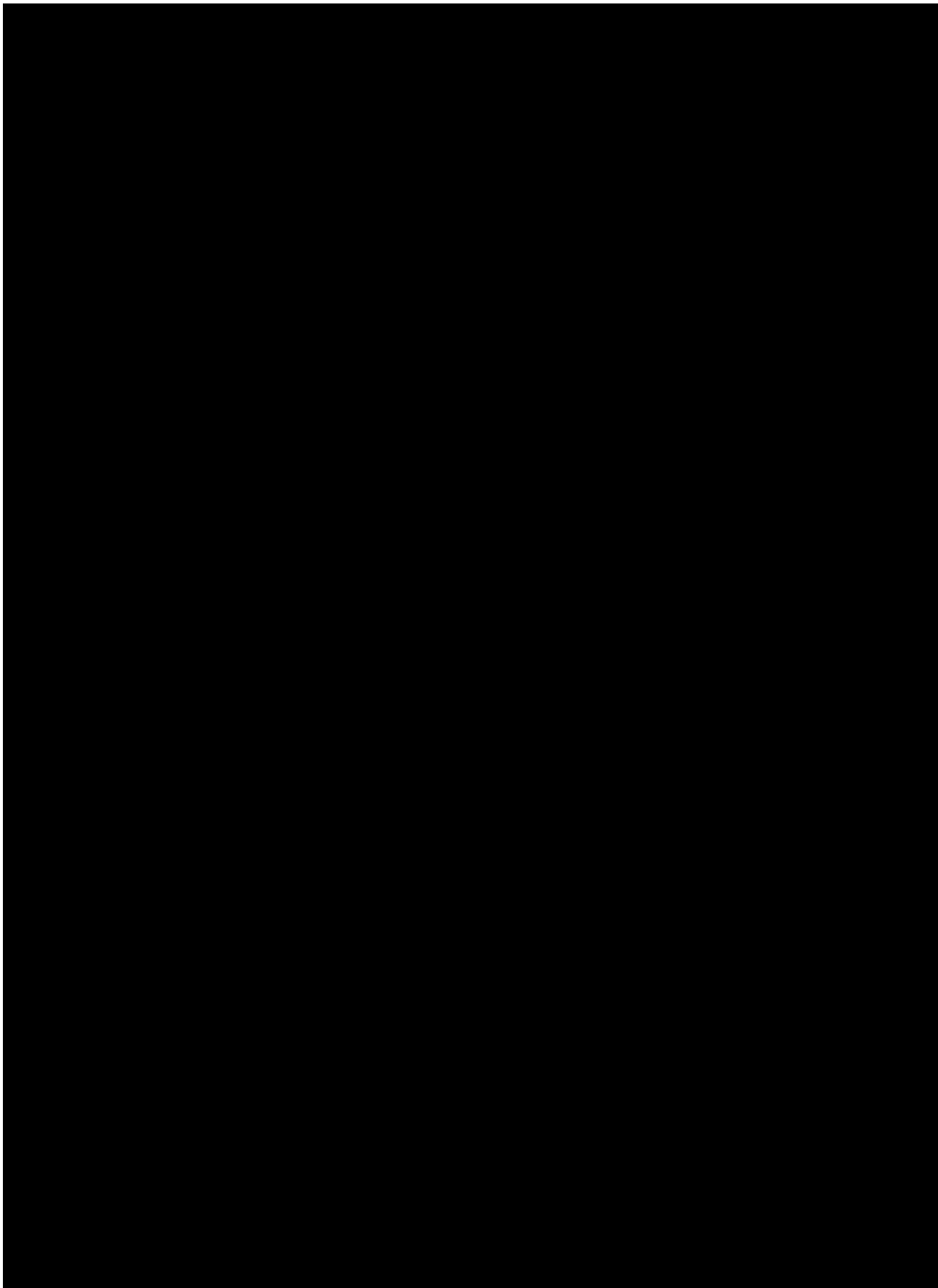


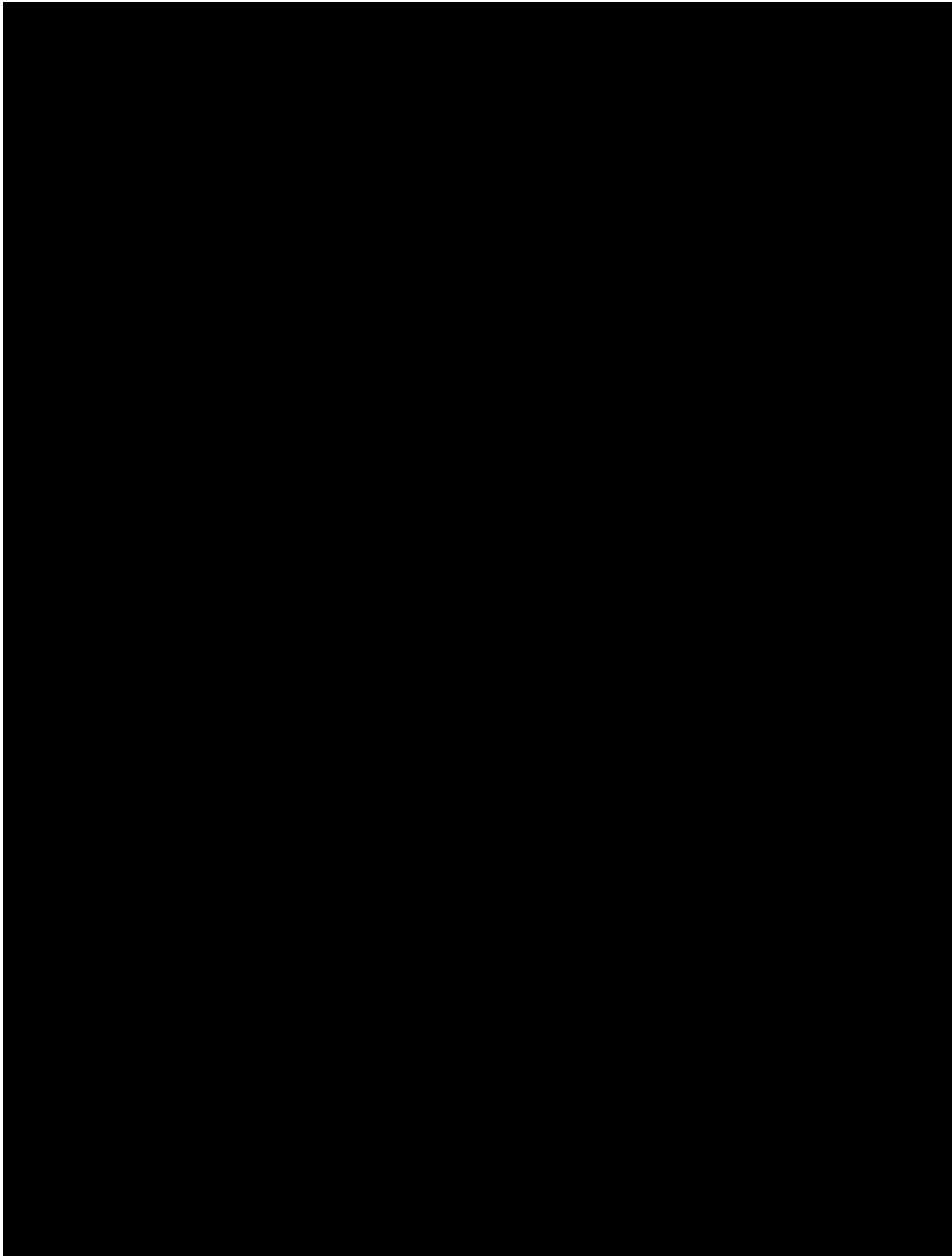


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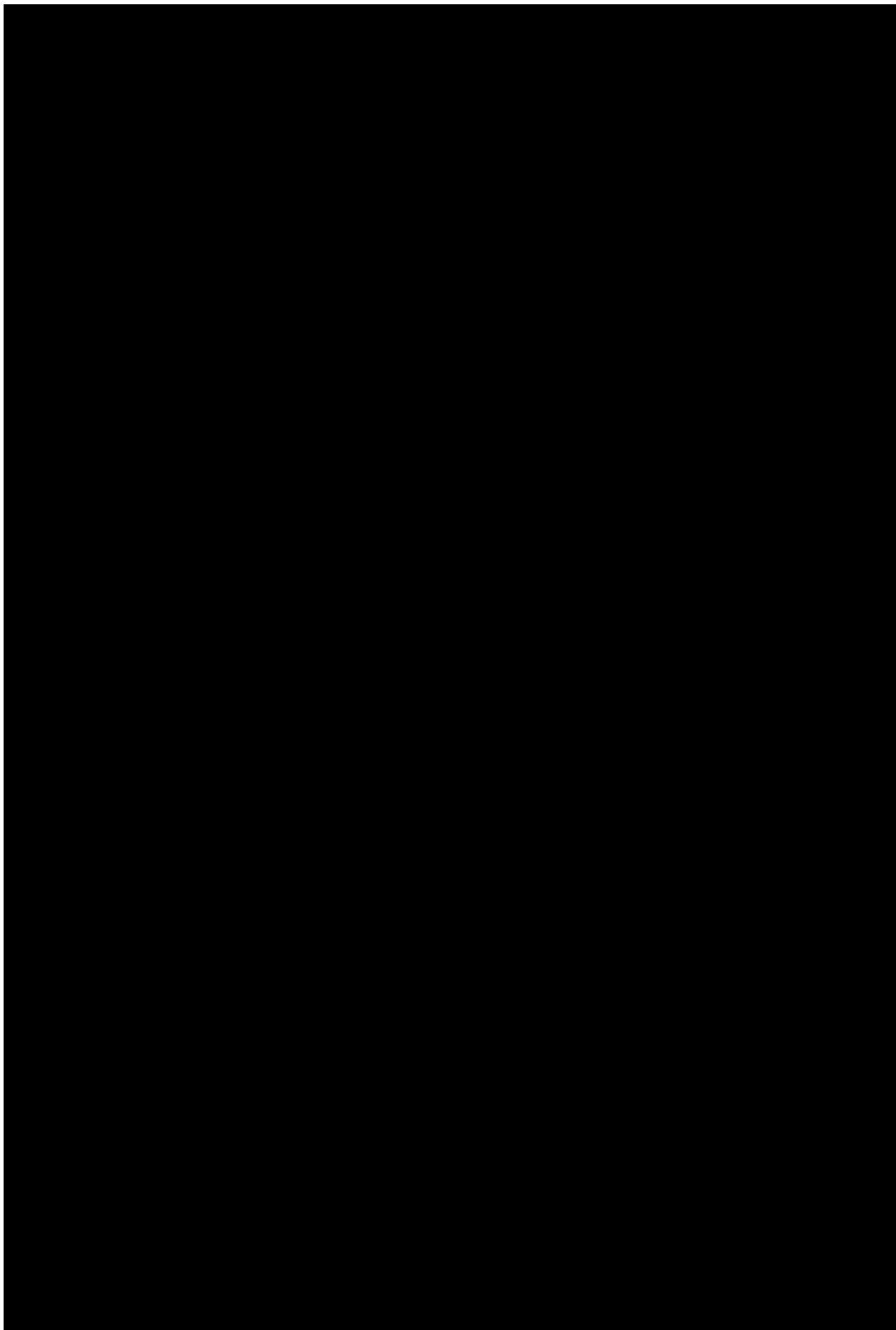
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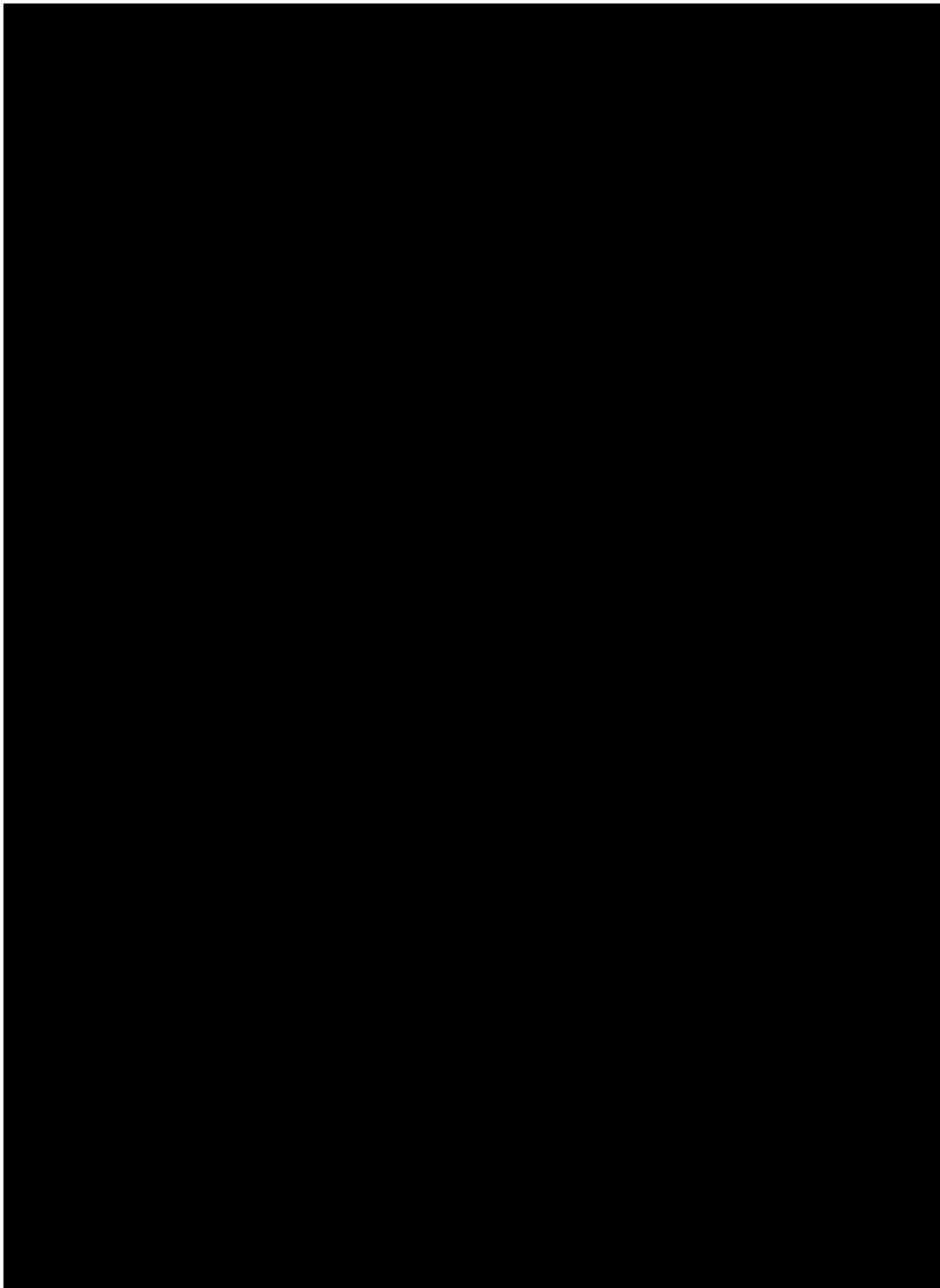
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Customer Name	Phase 2
Company Name	Marq6
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Phone	
Cell Phone	
Email	

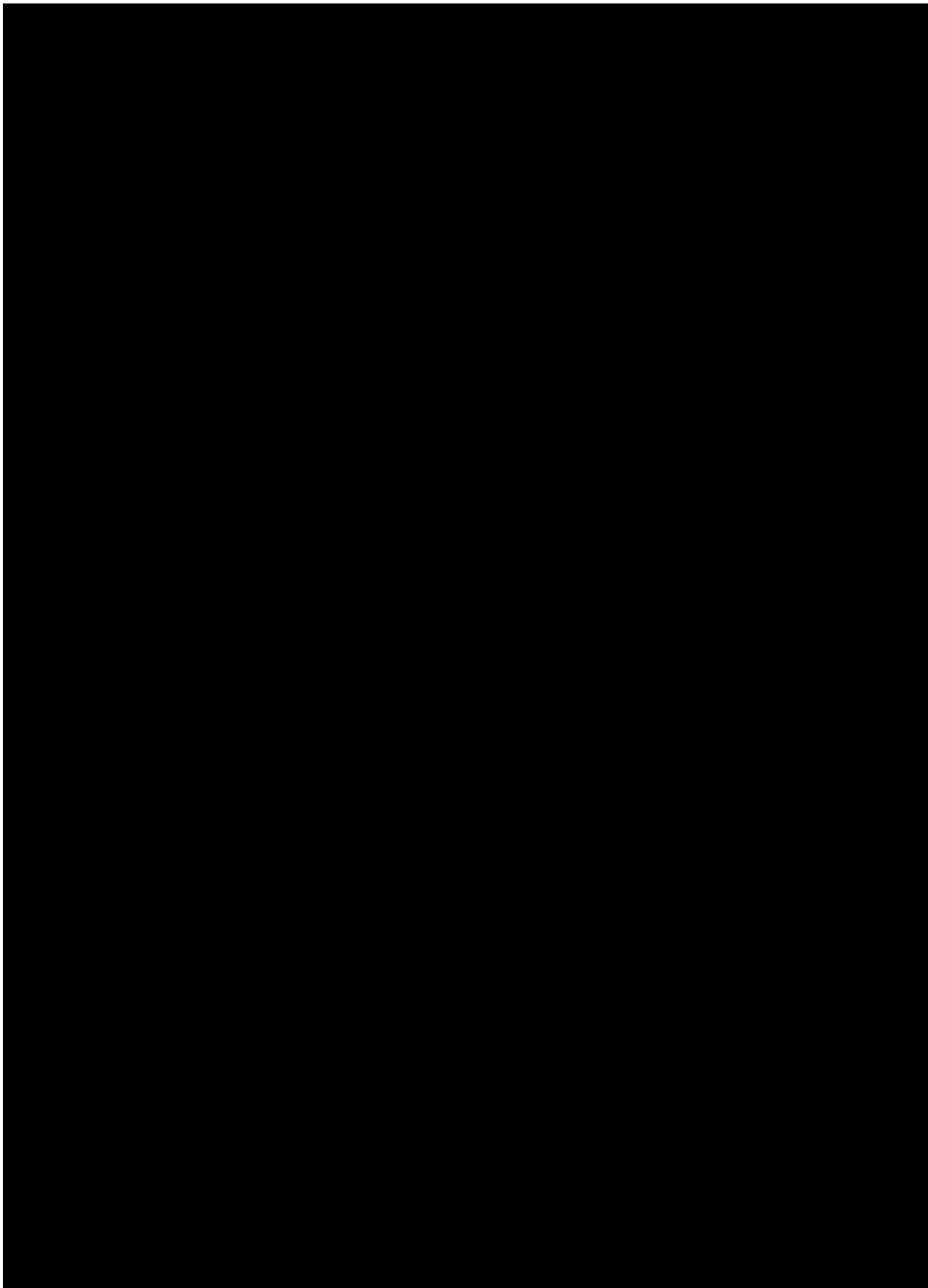




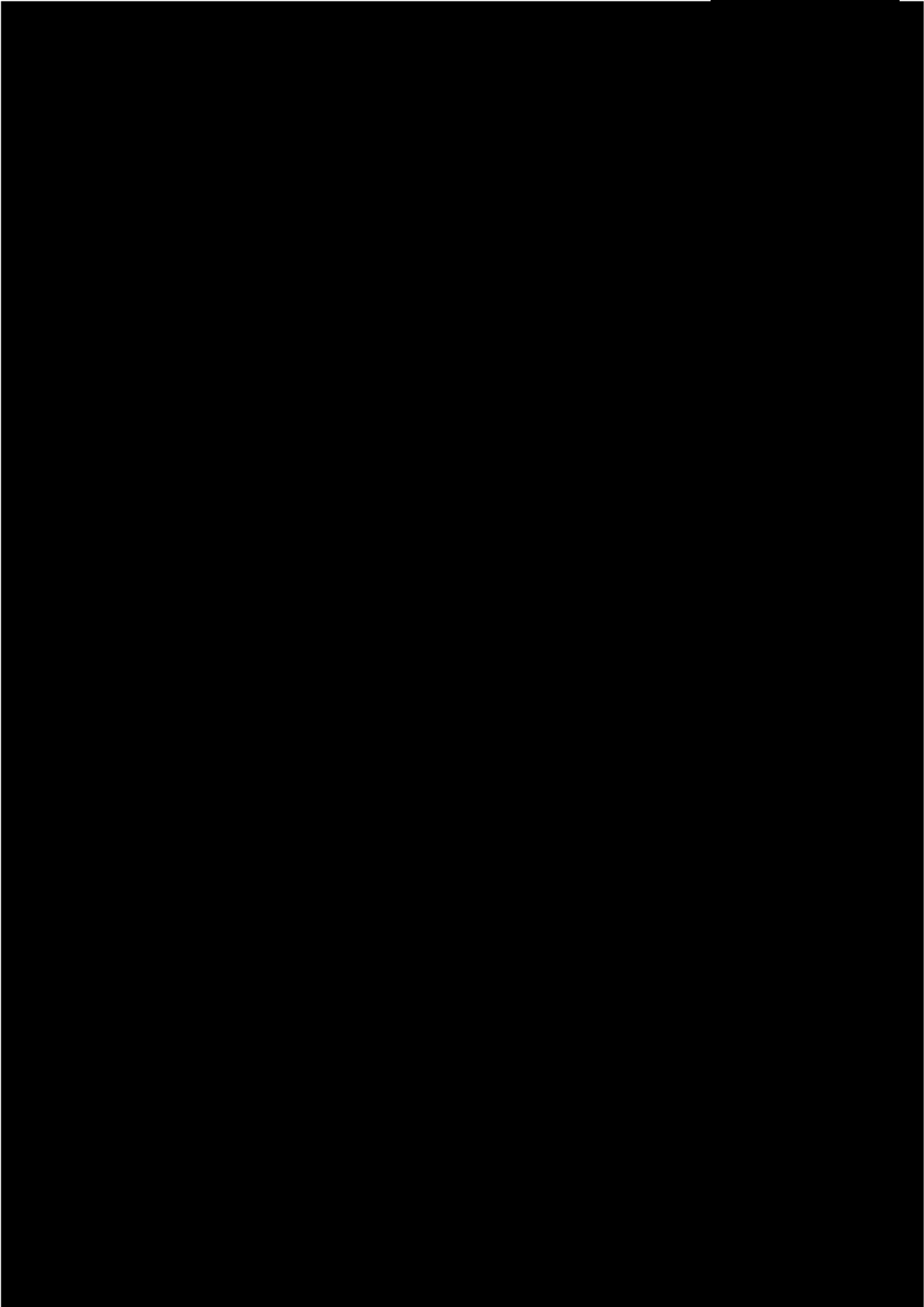


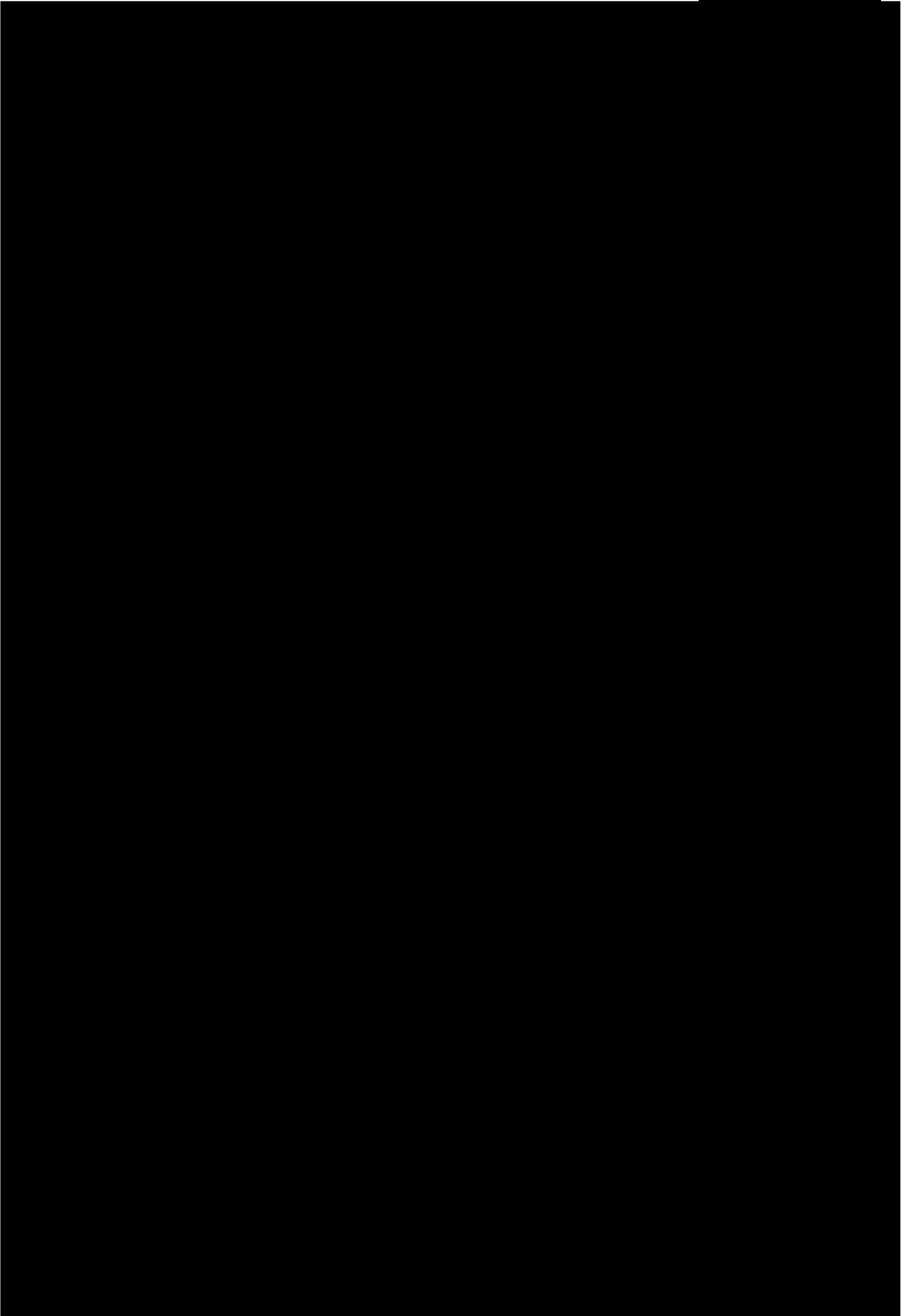


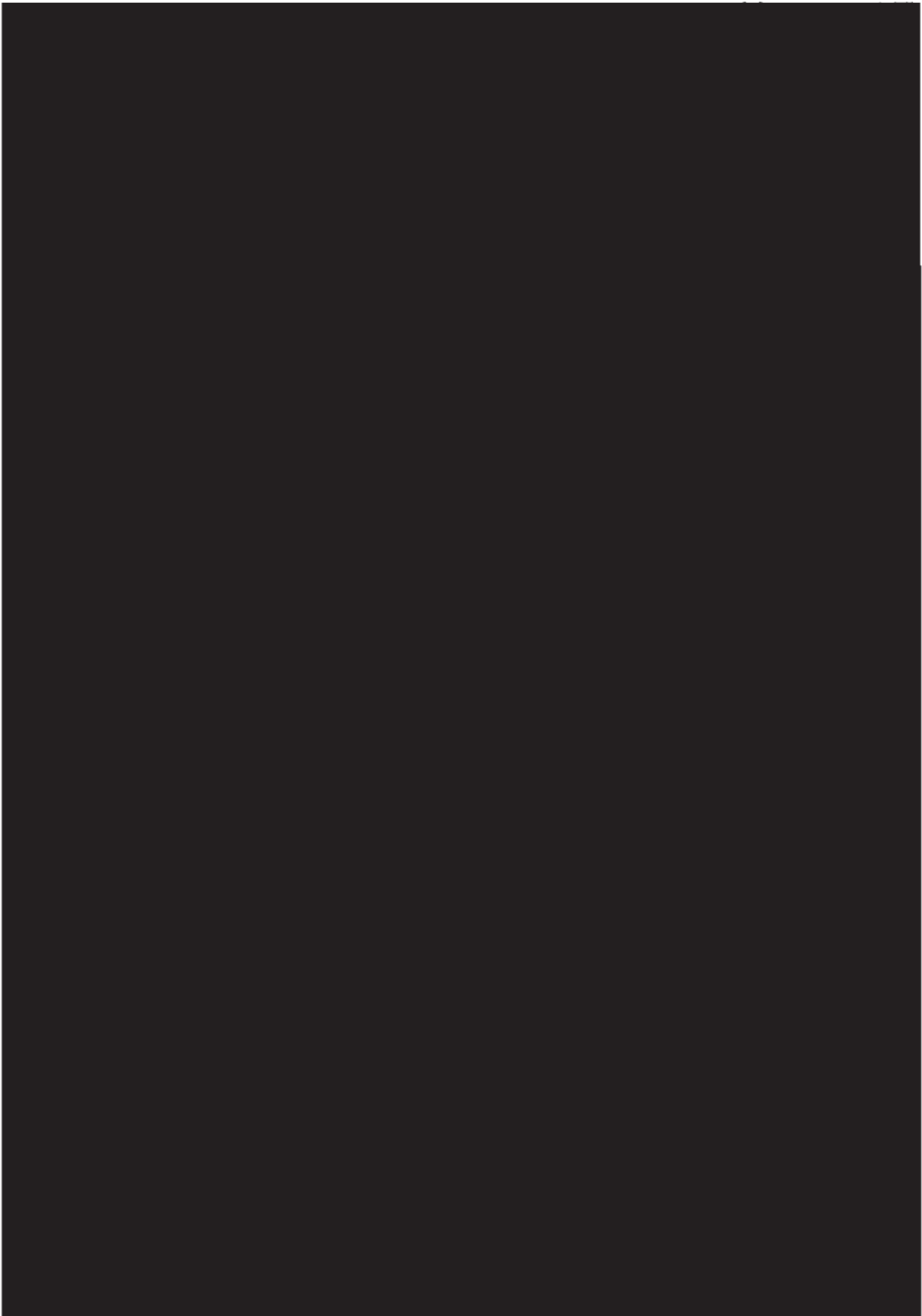


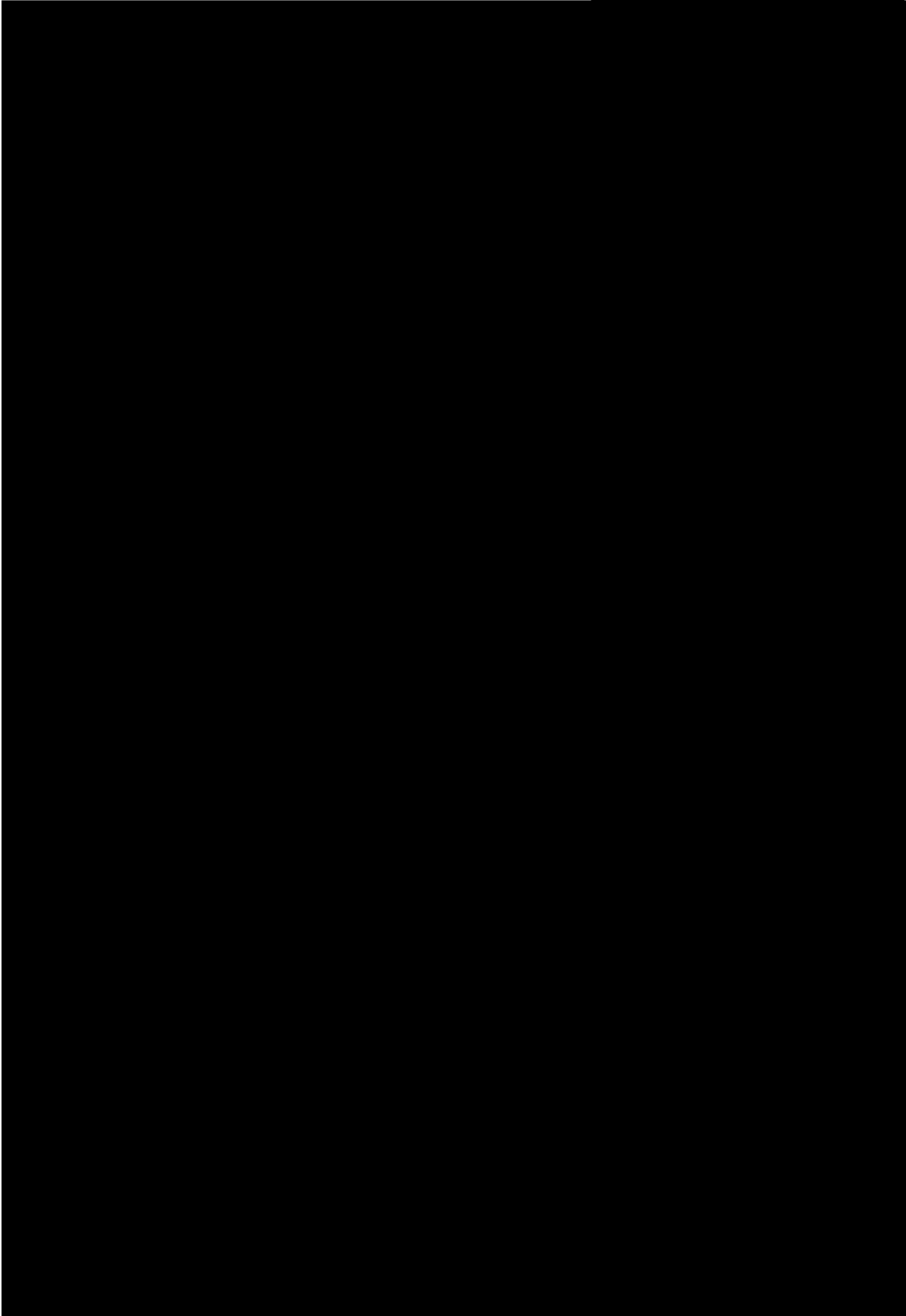




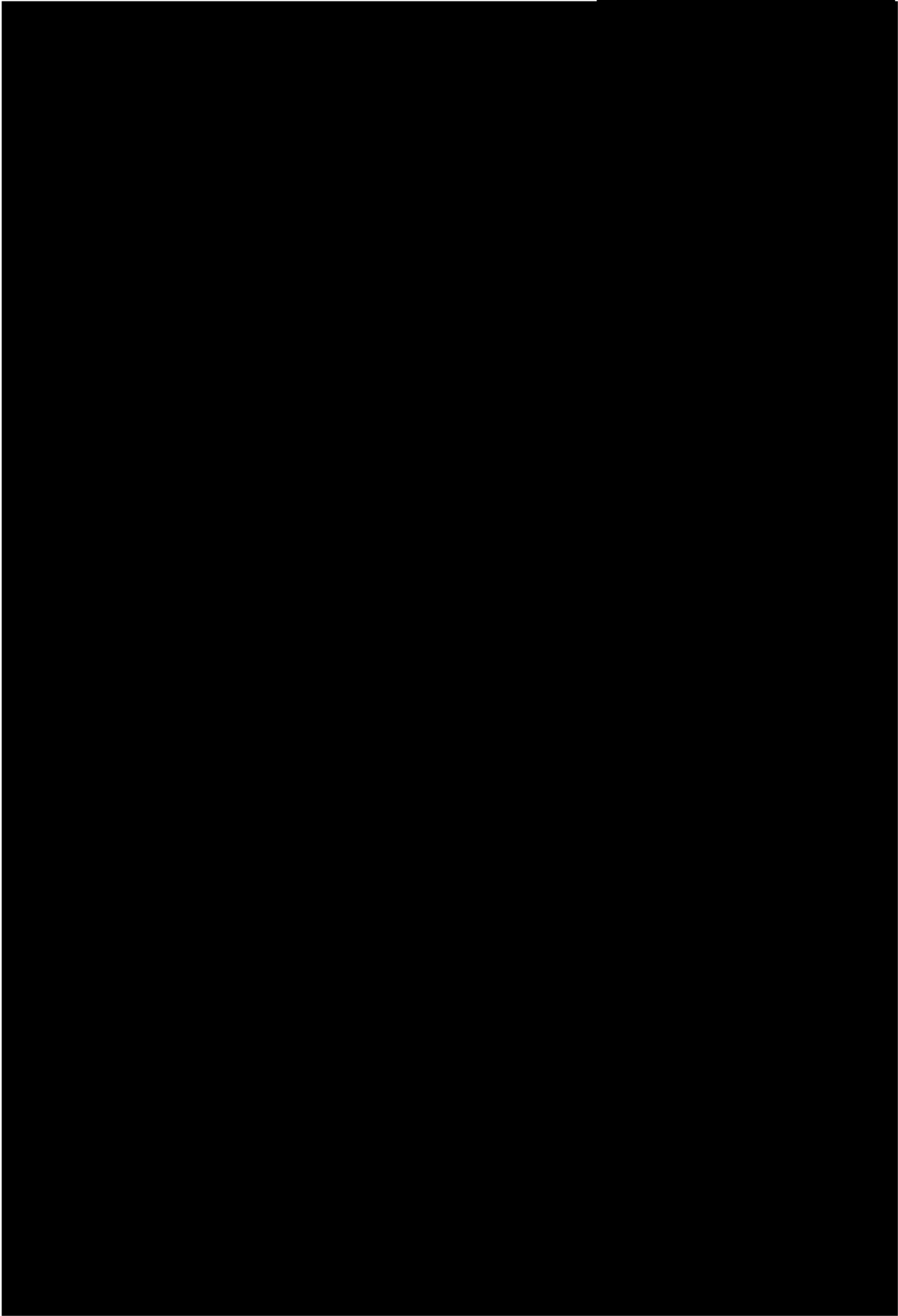




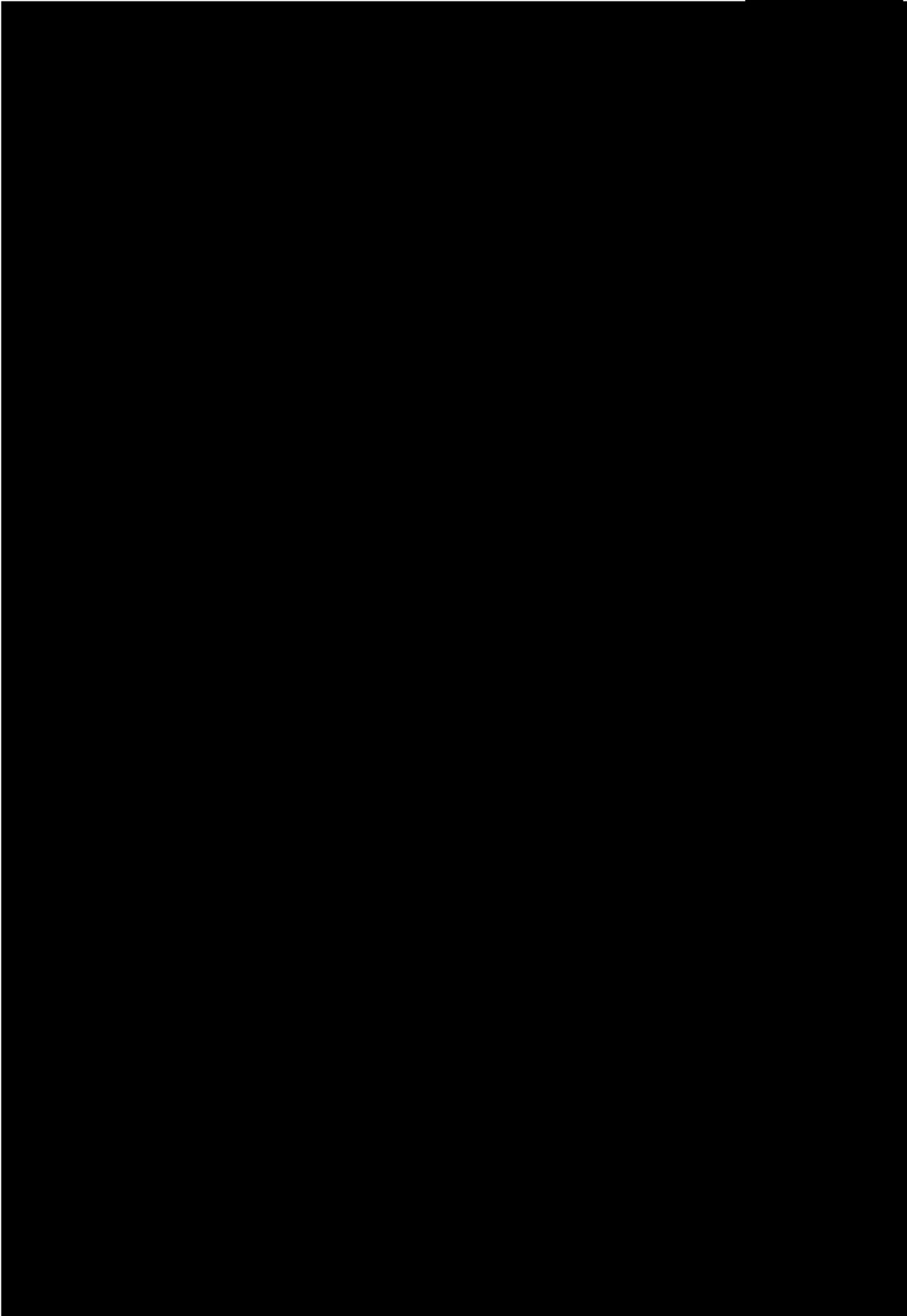


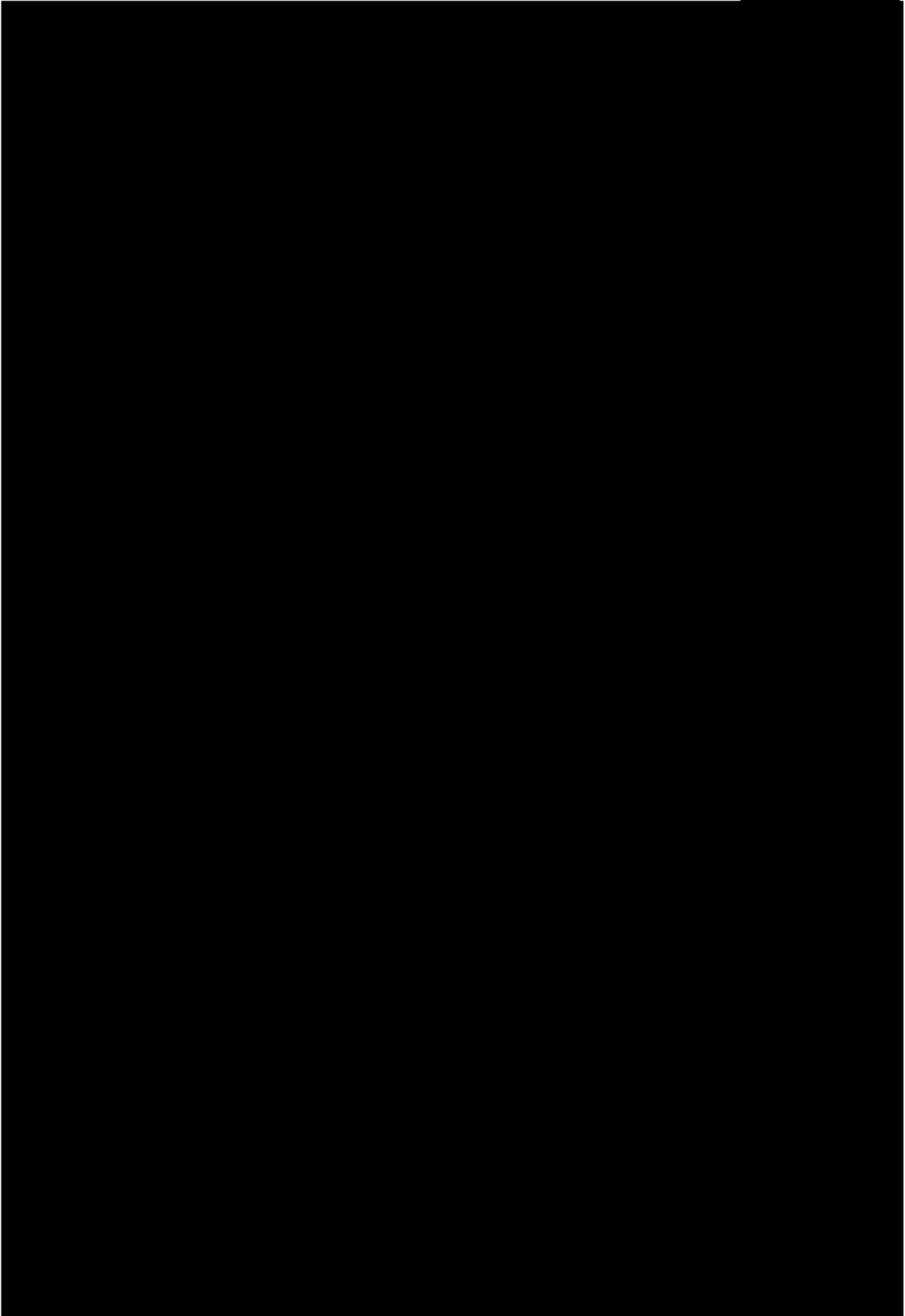


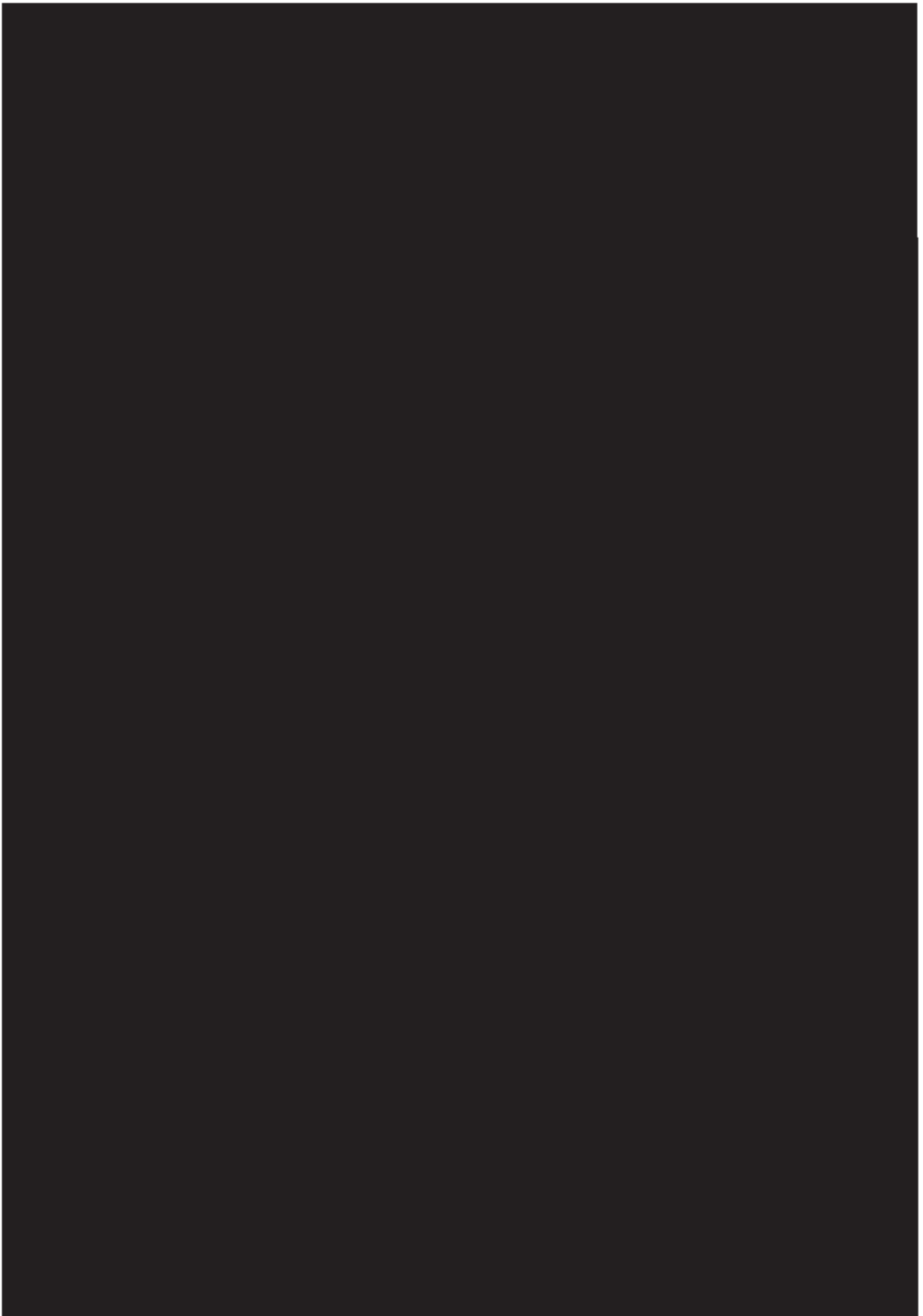


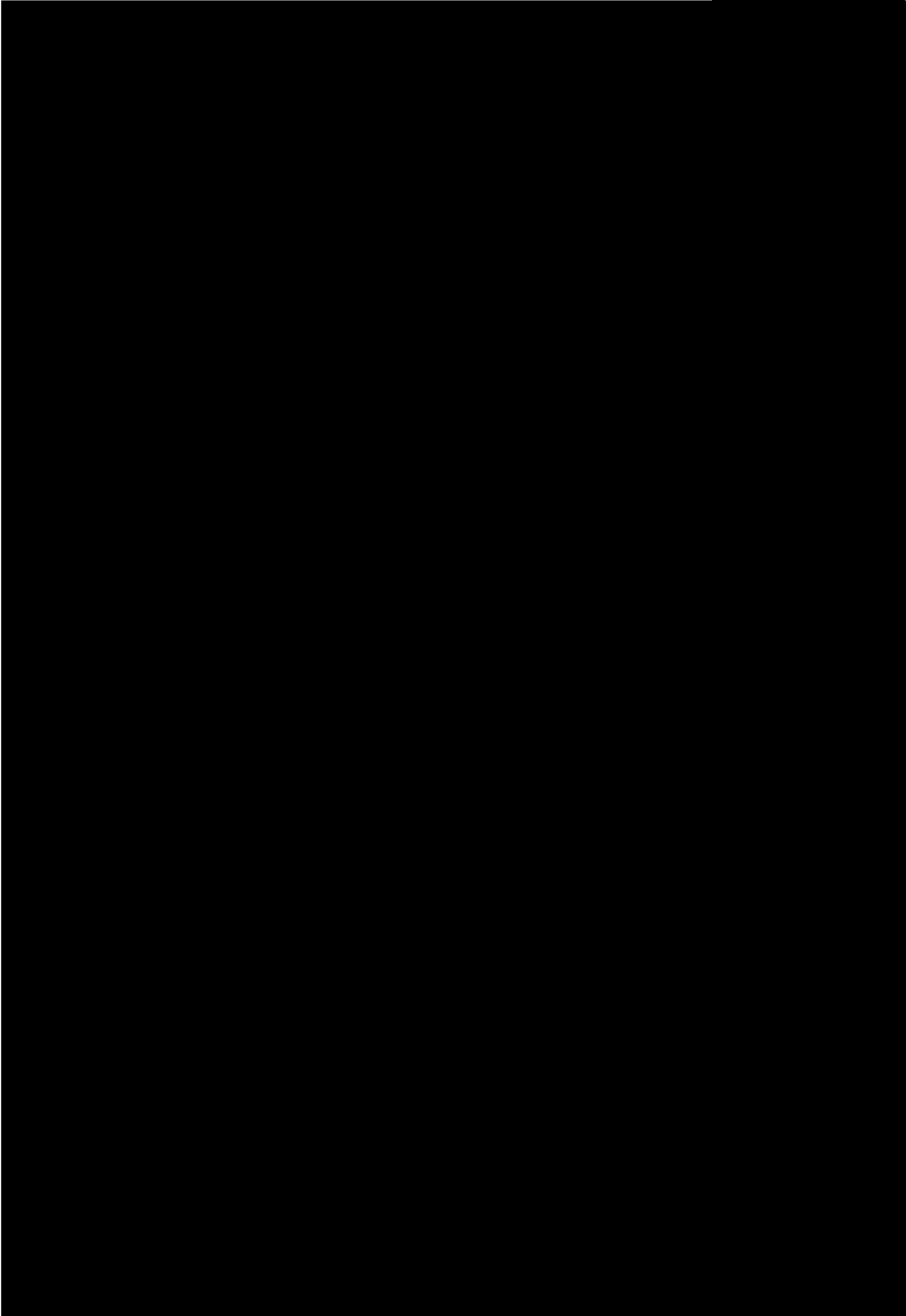




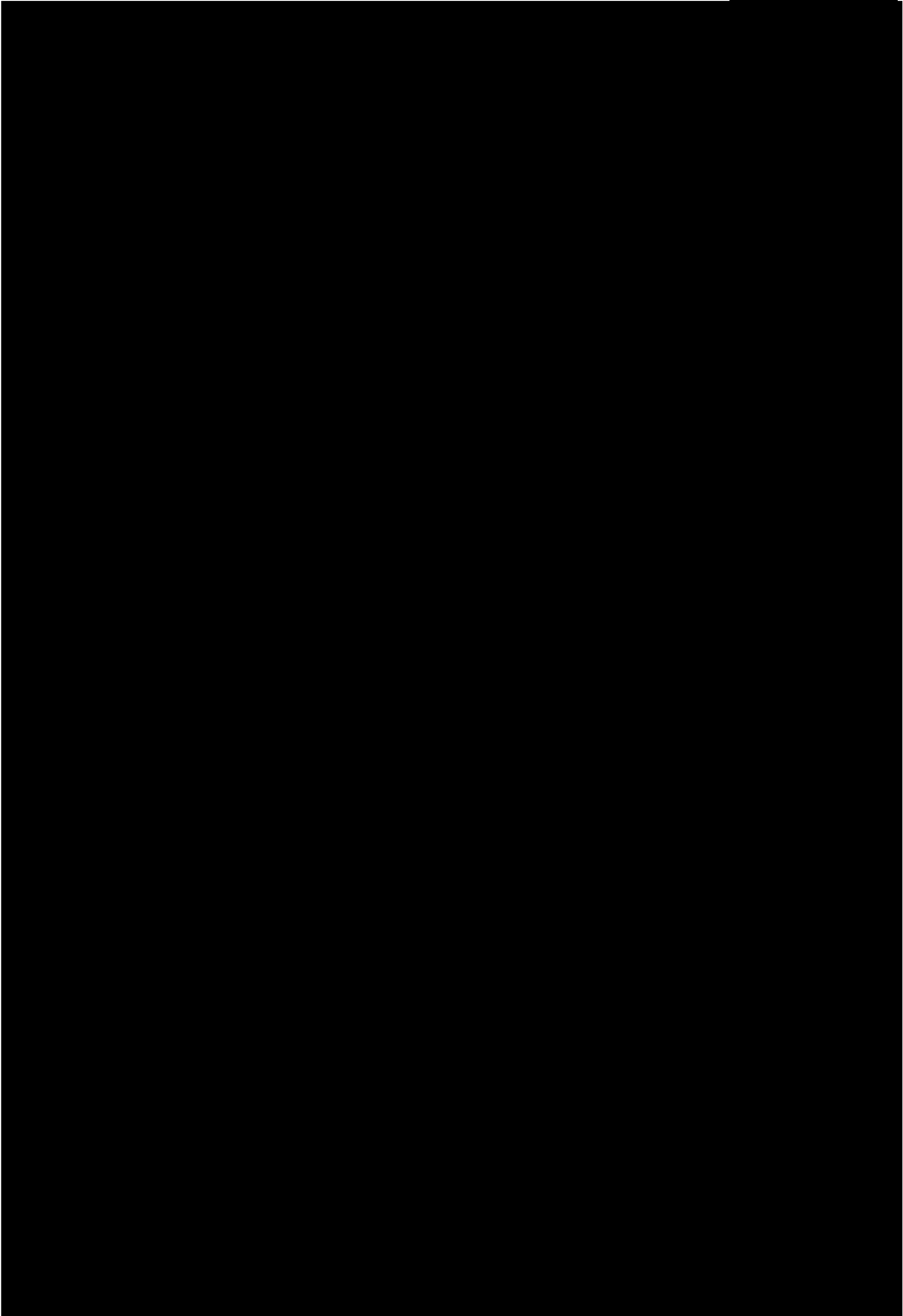




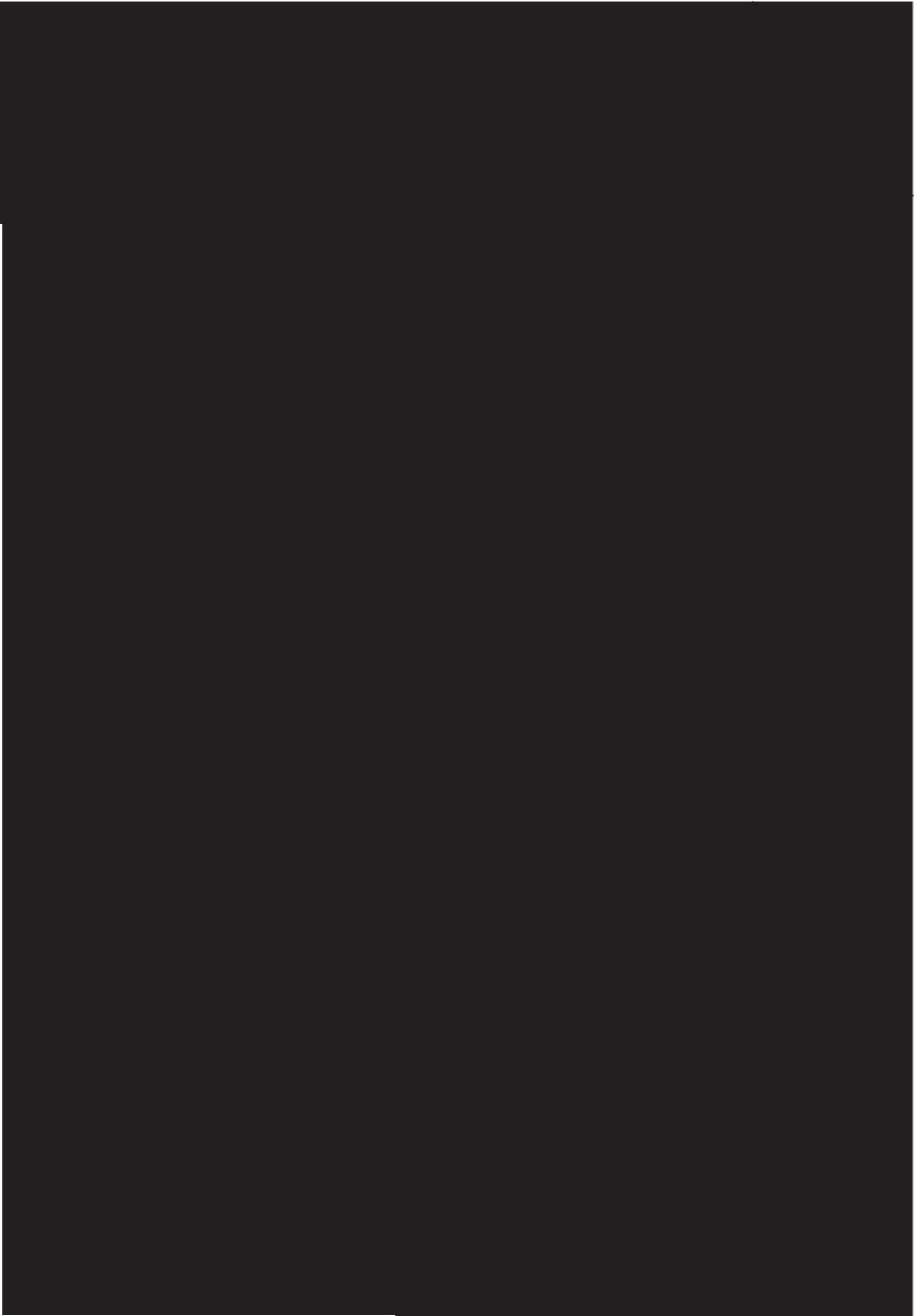


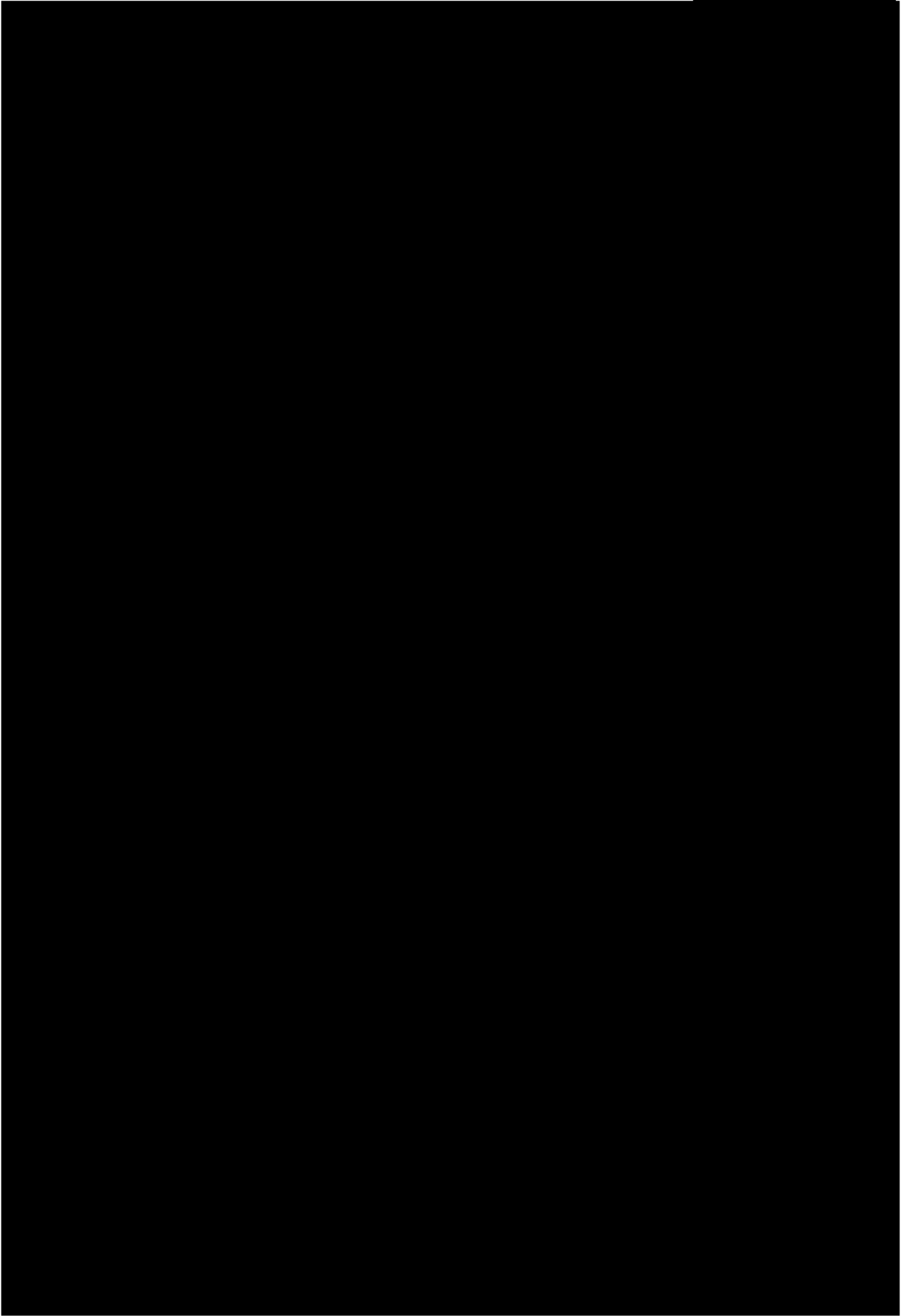




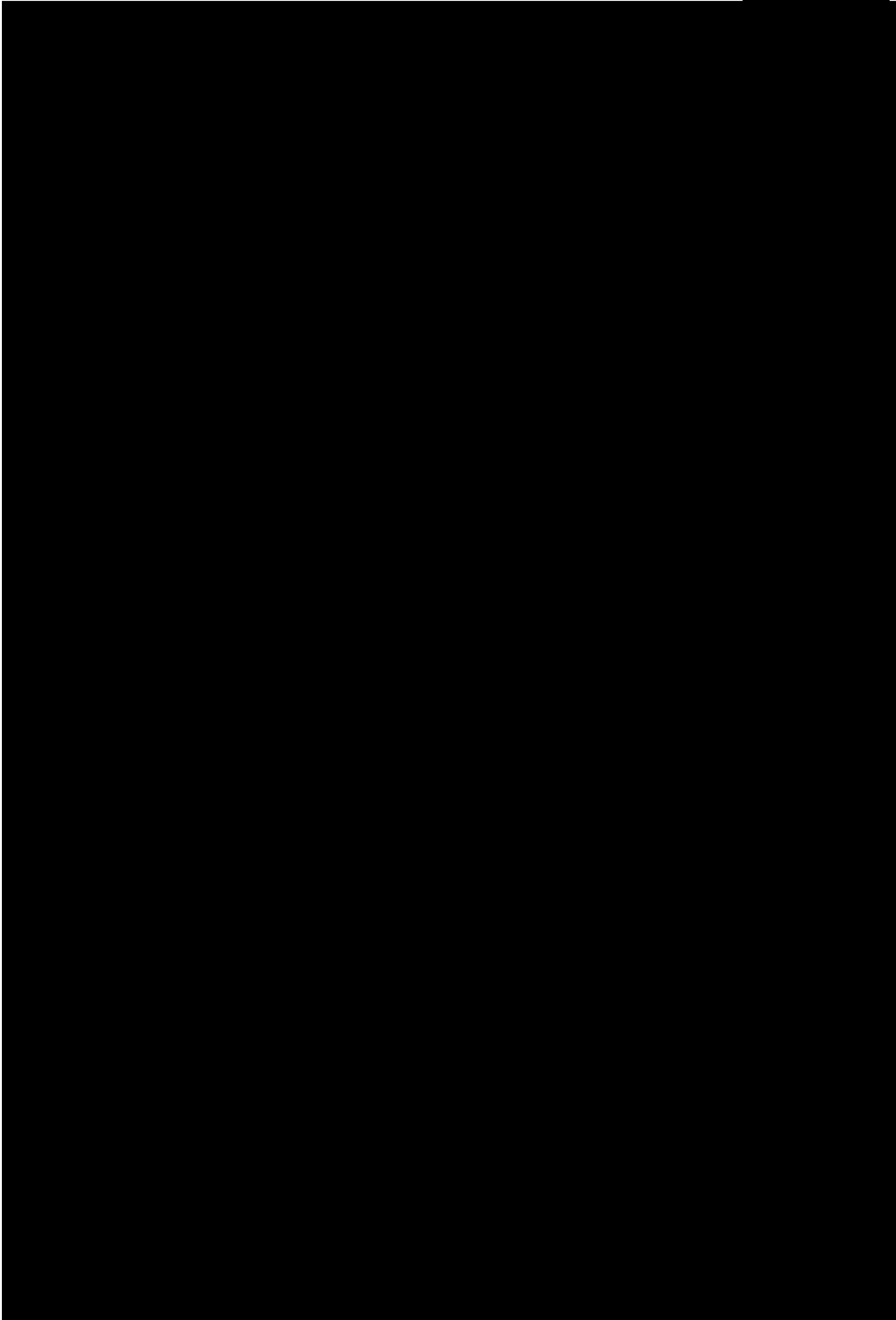




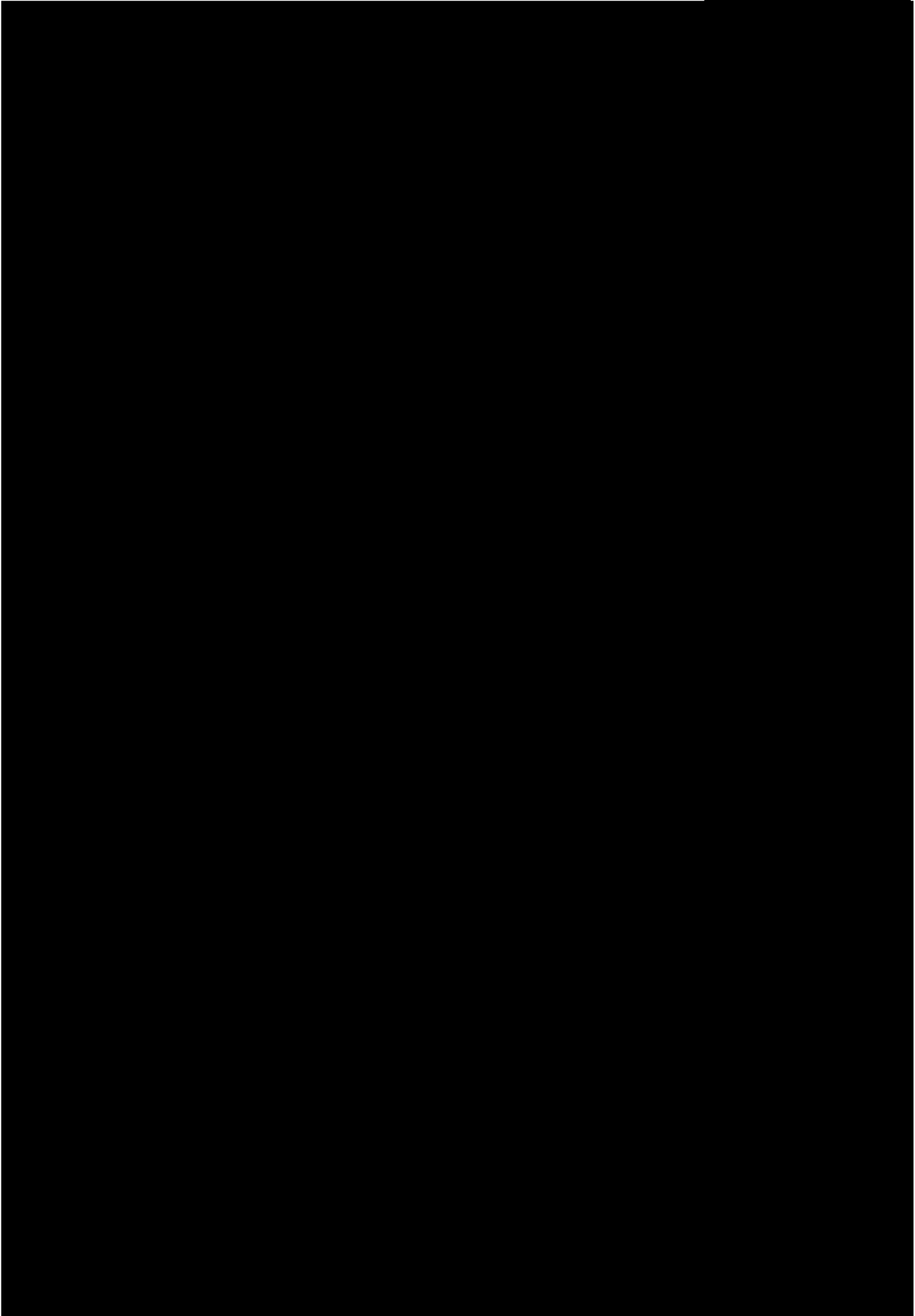




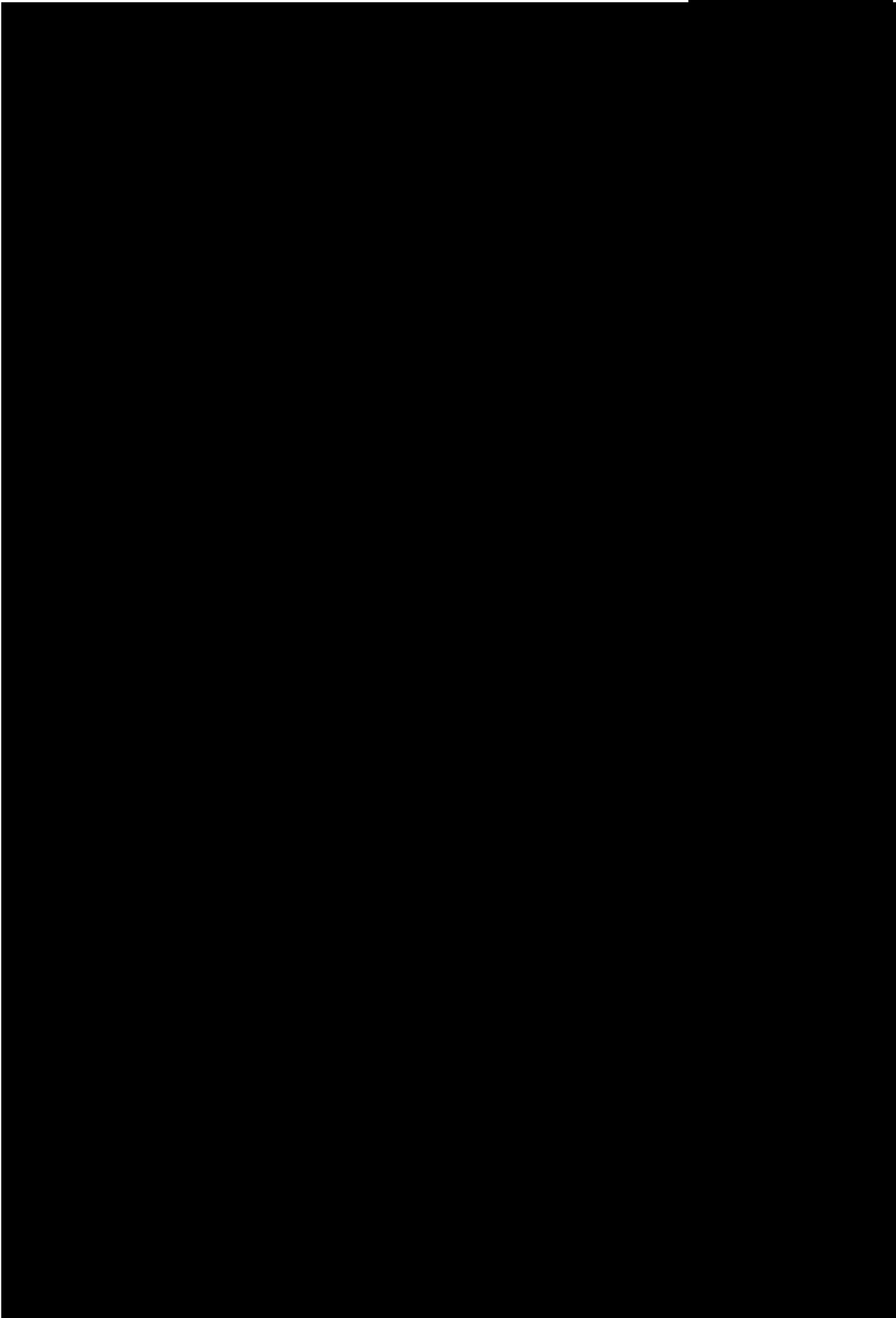




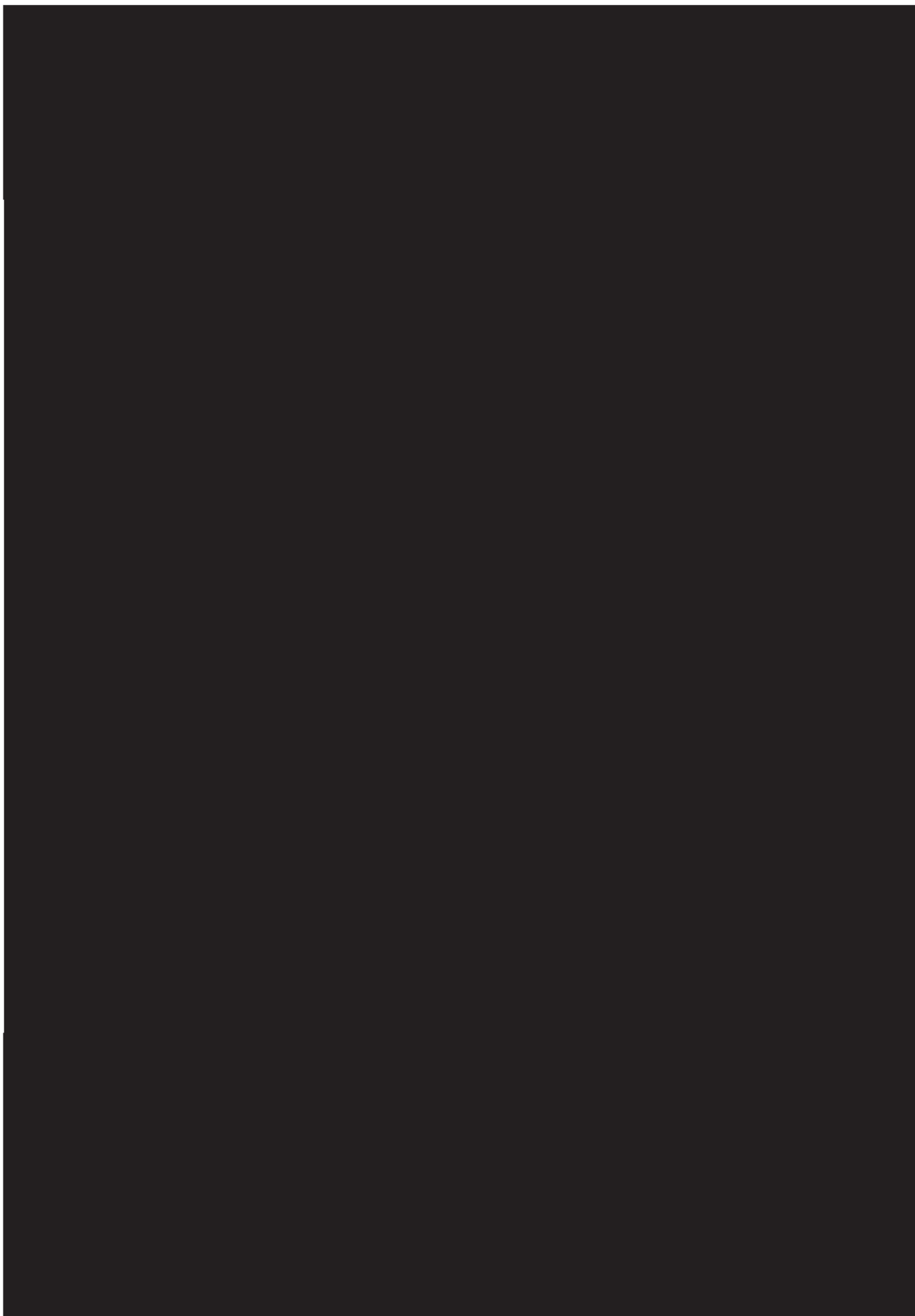


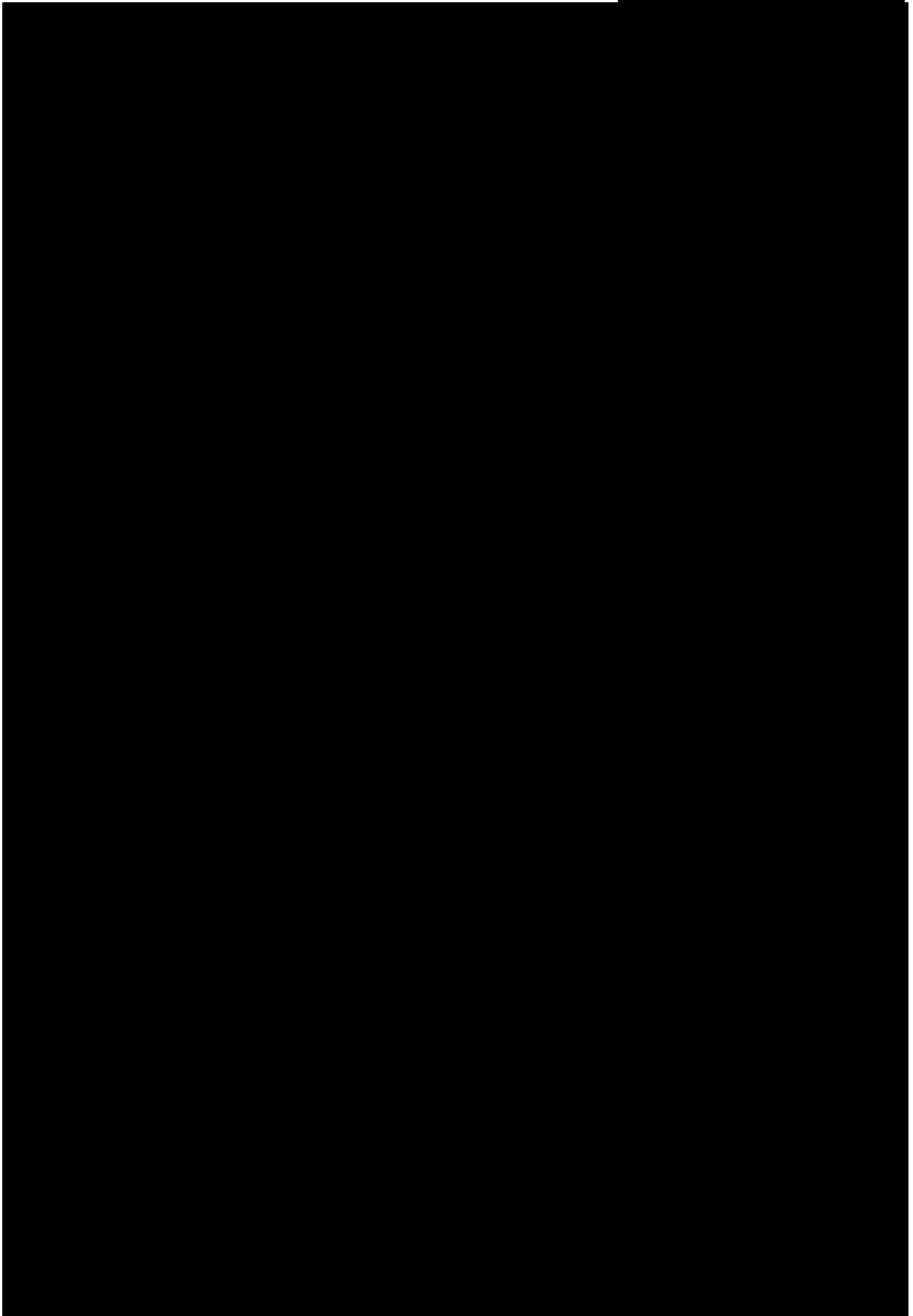




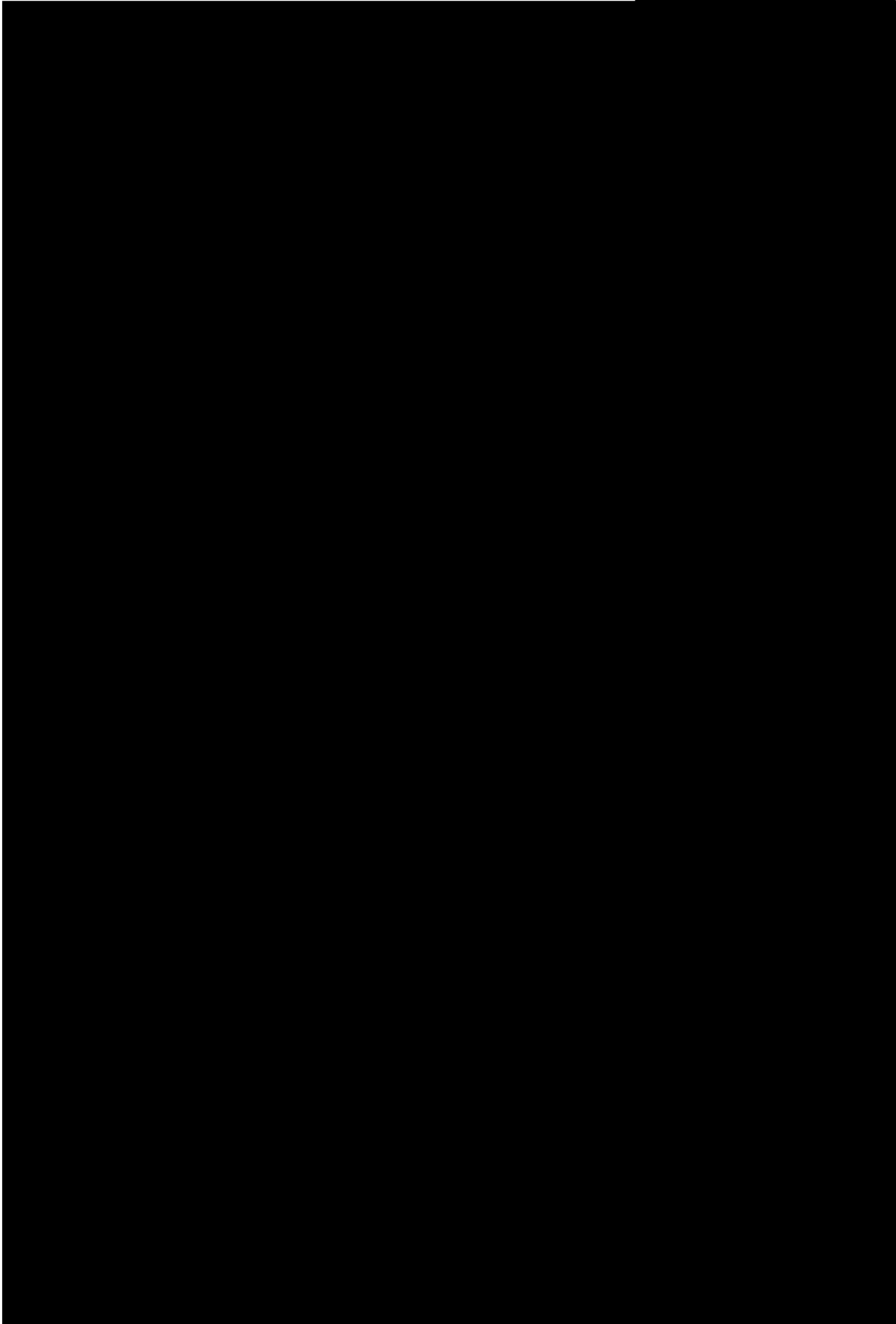




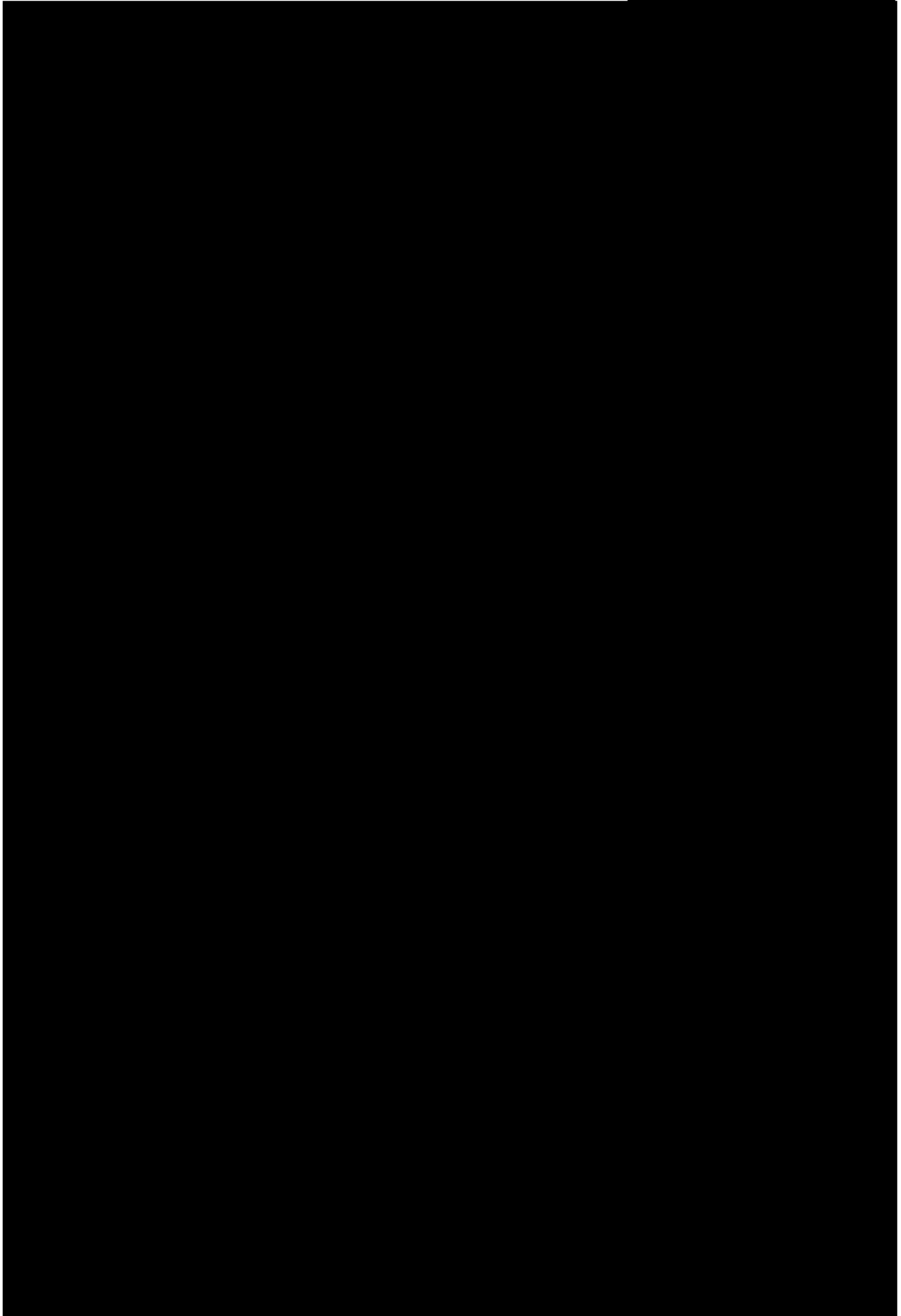


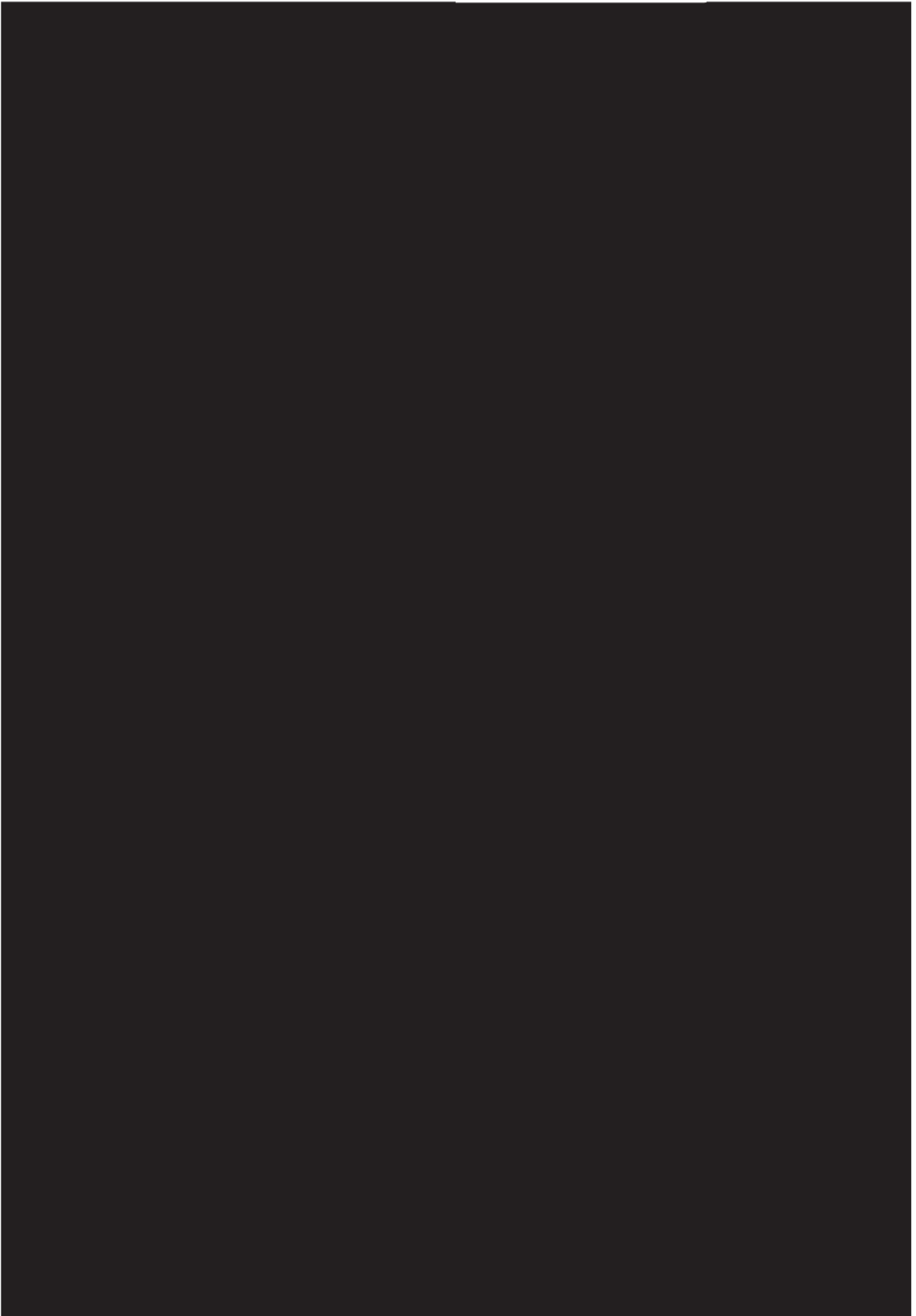


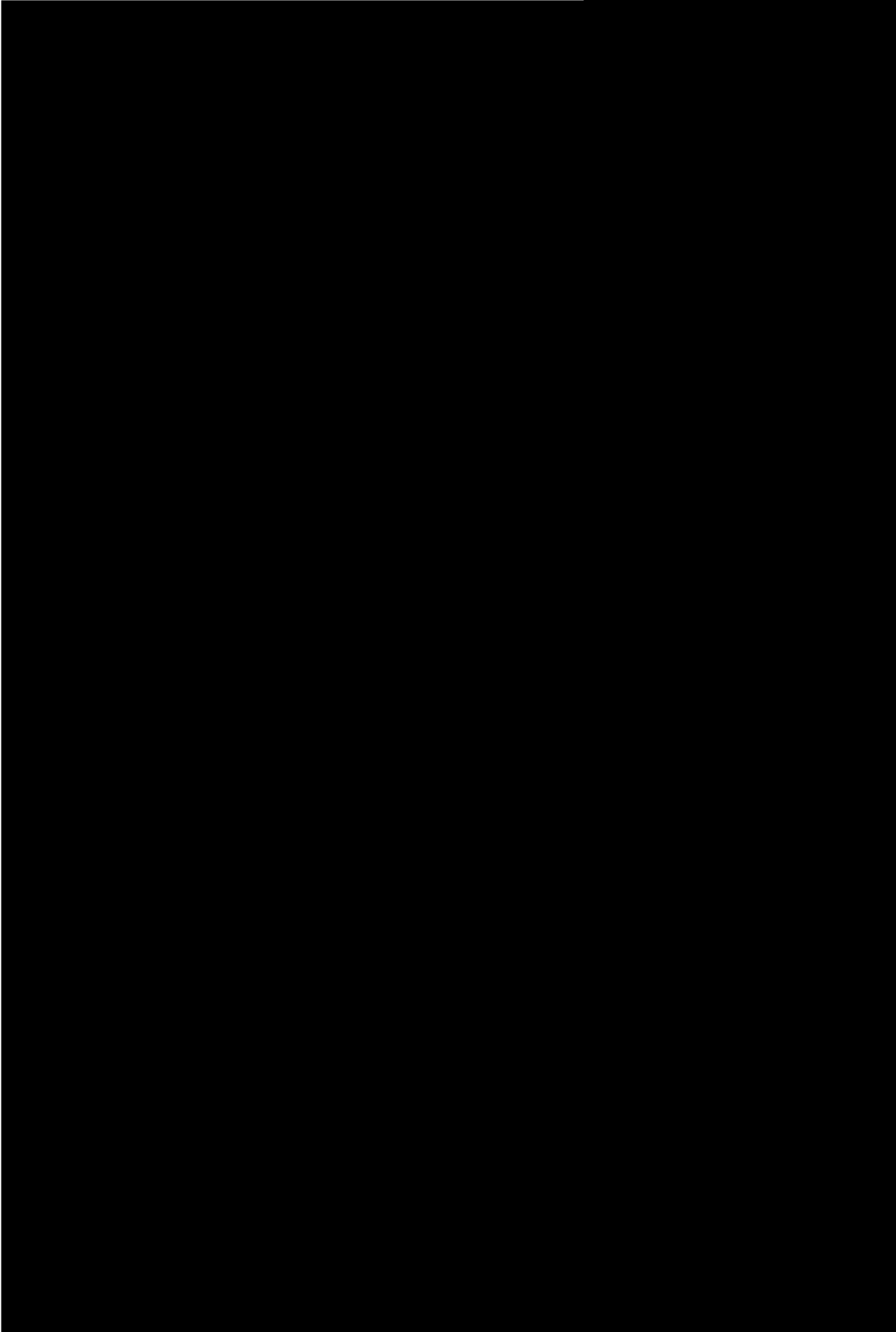




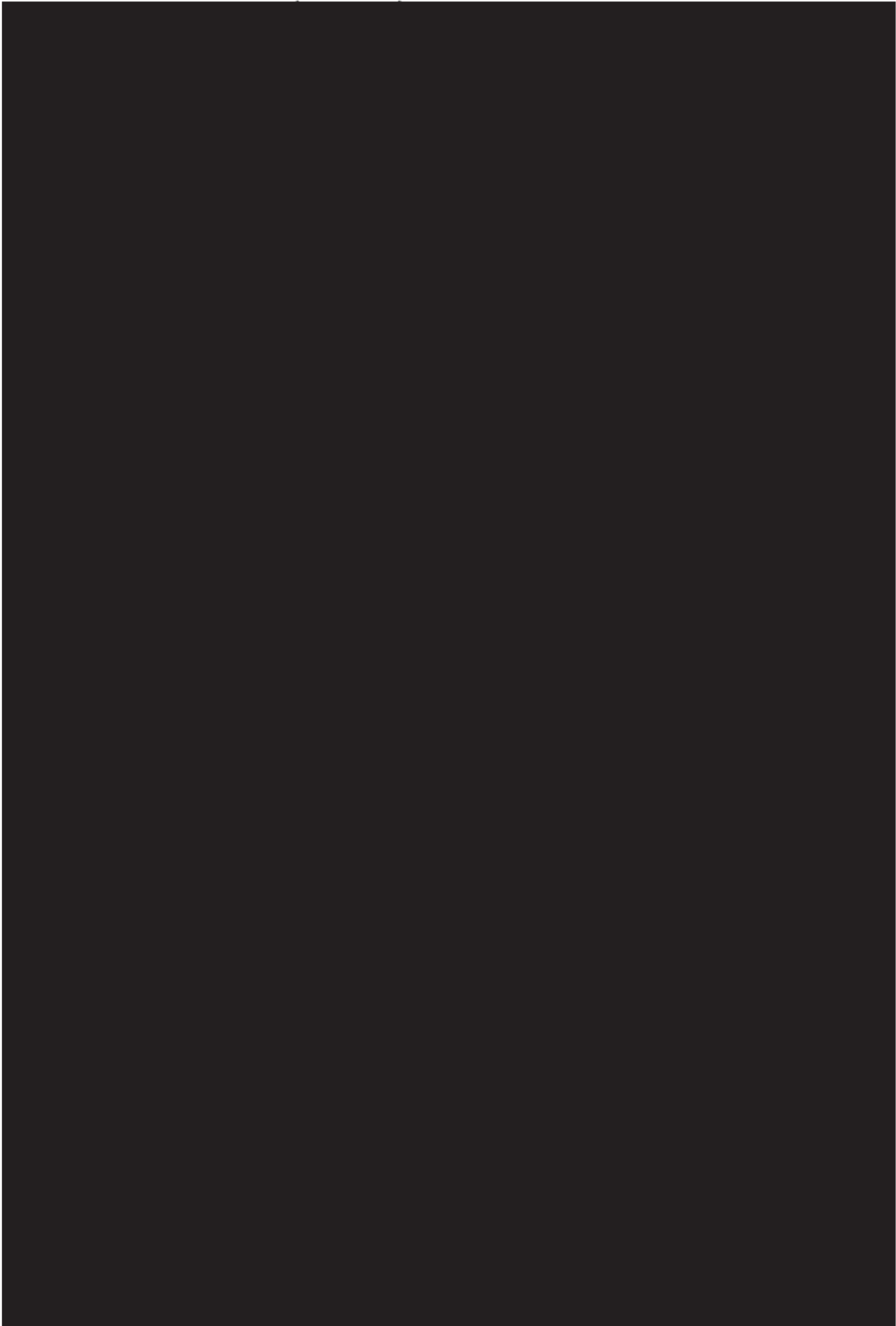


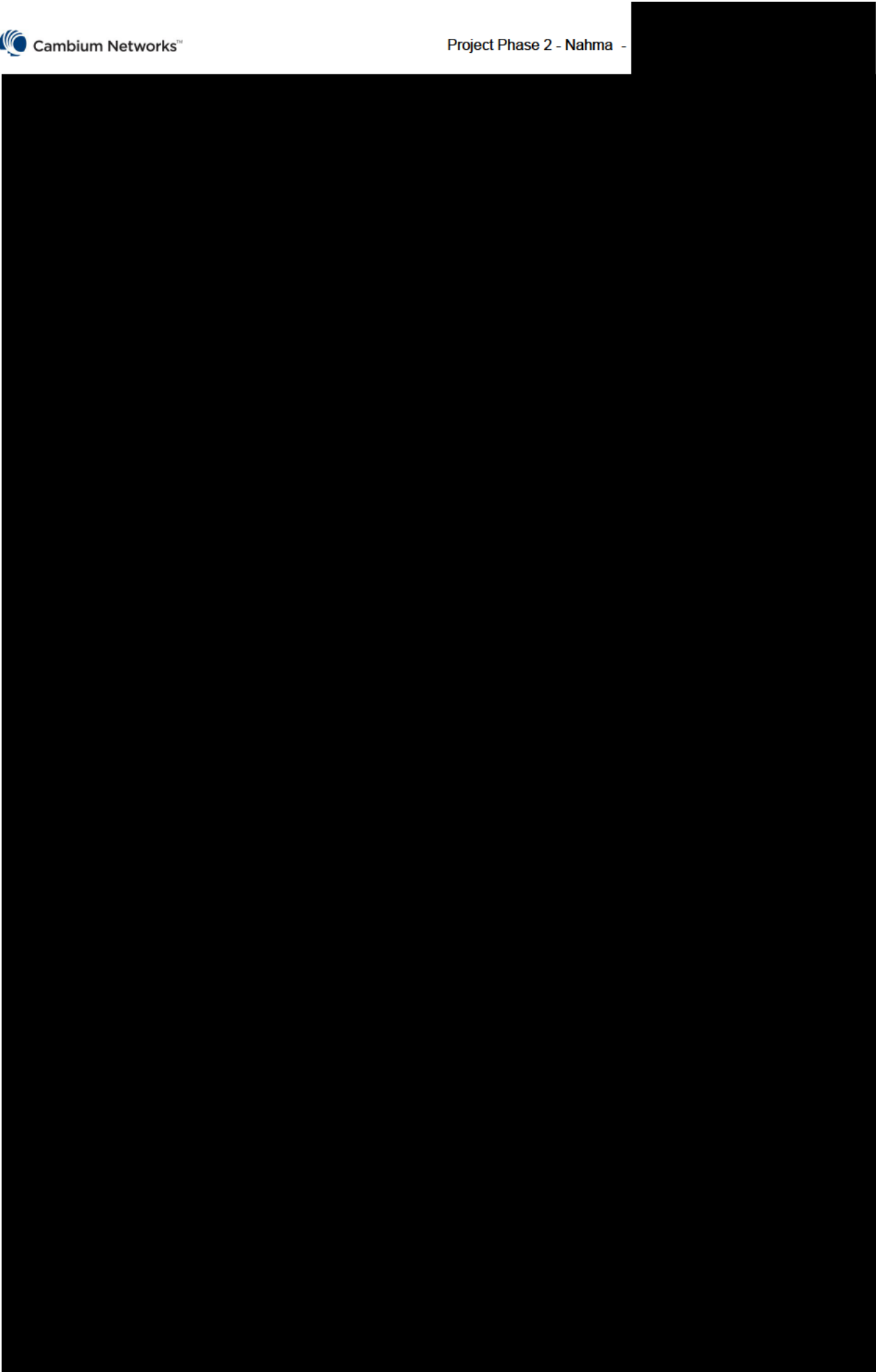


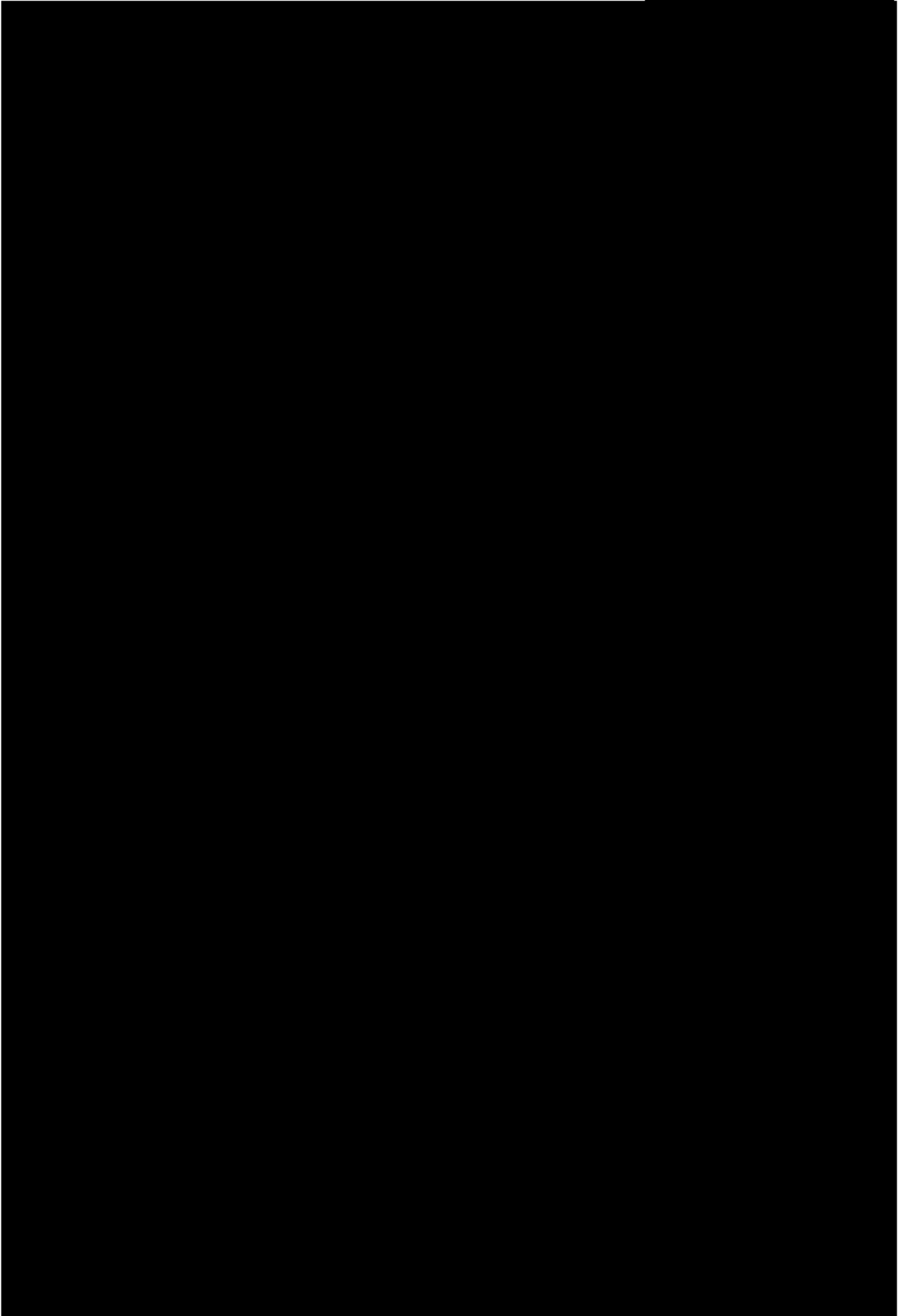






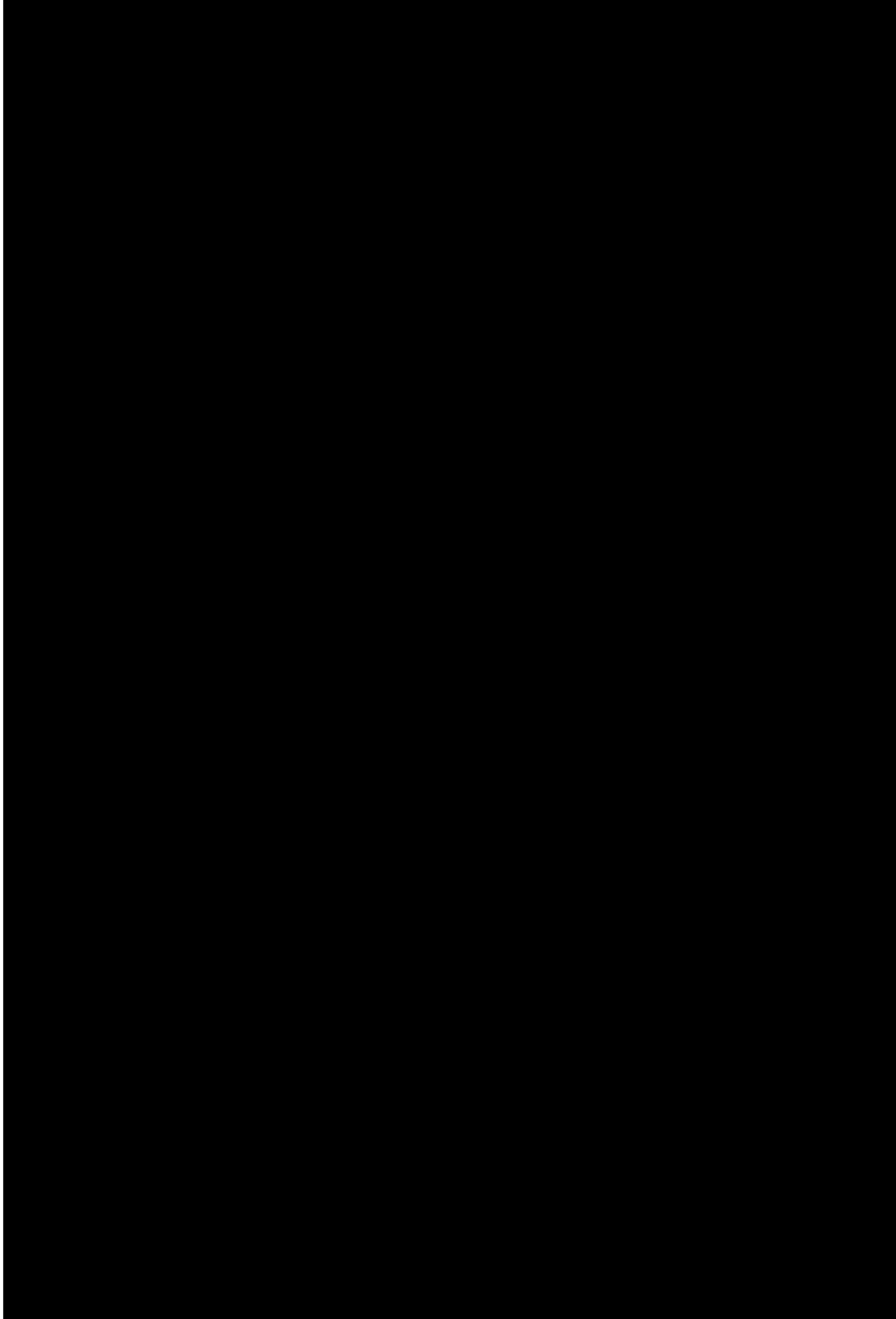




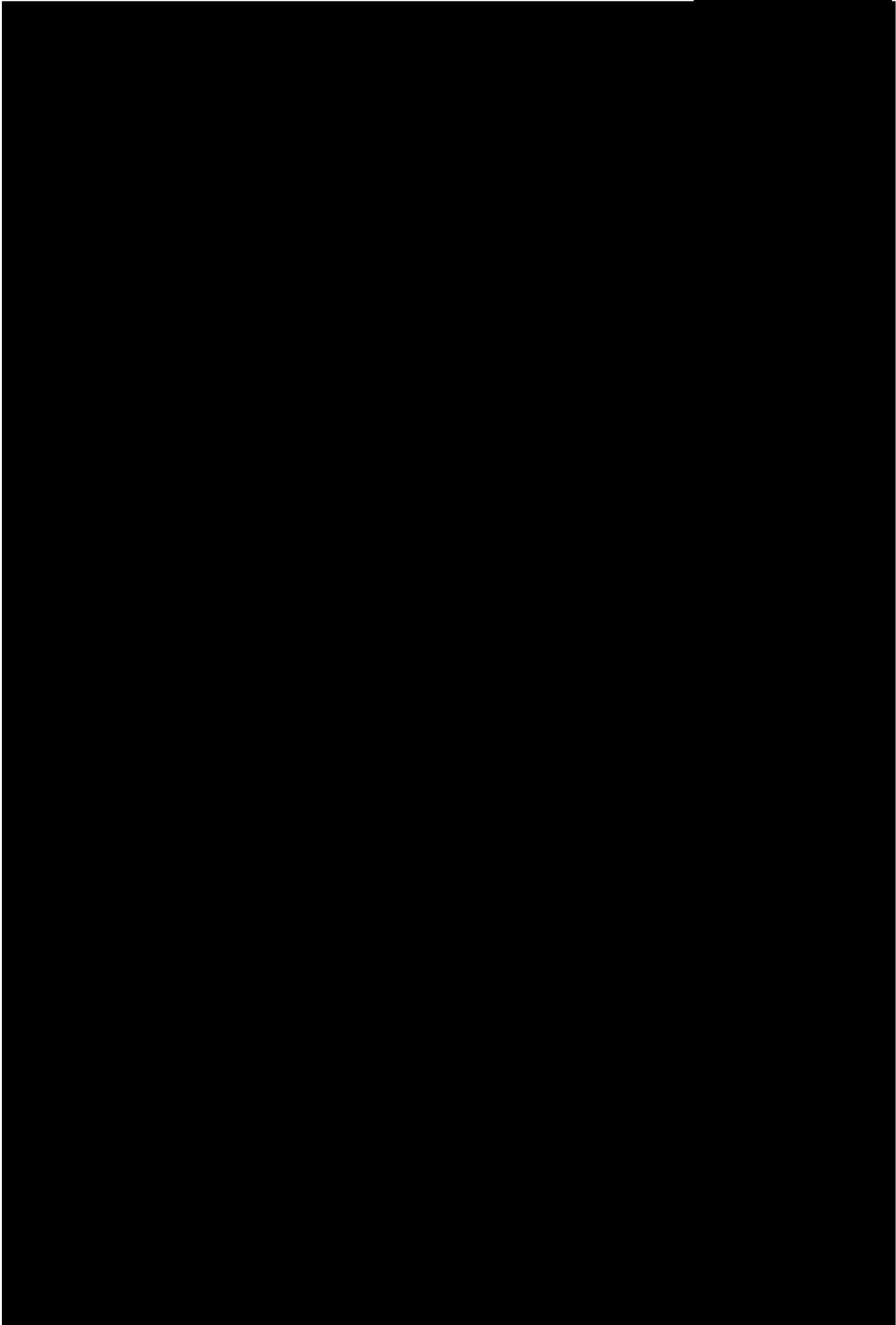




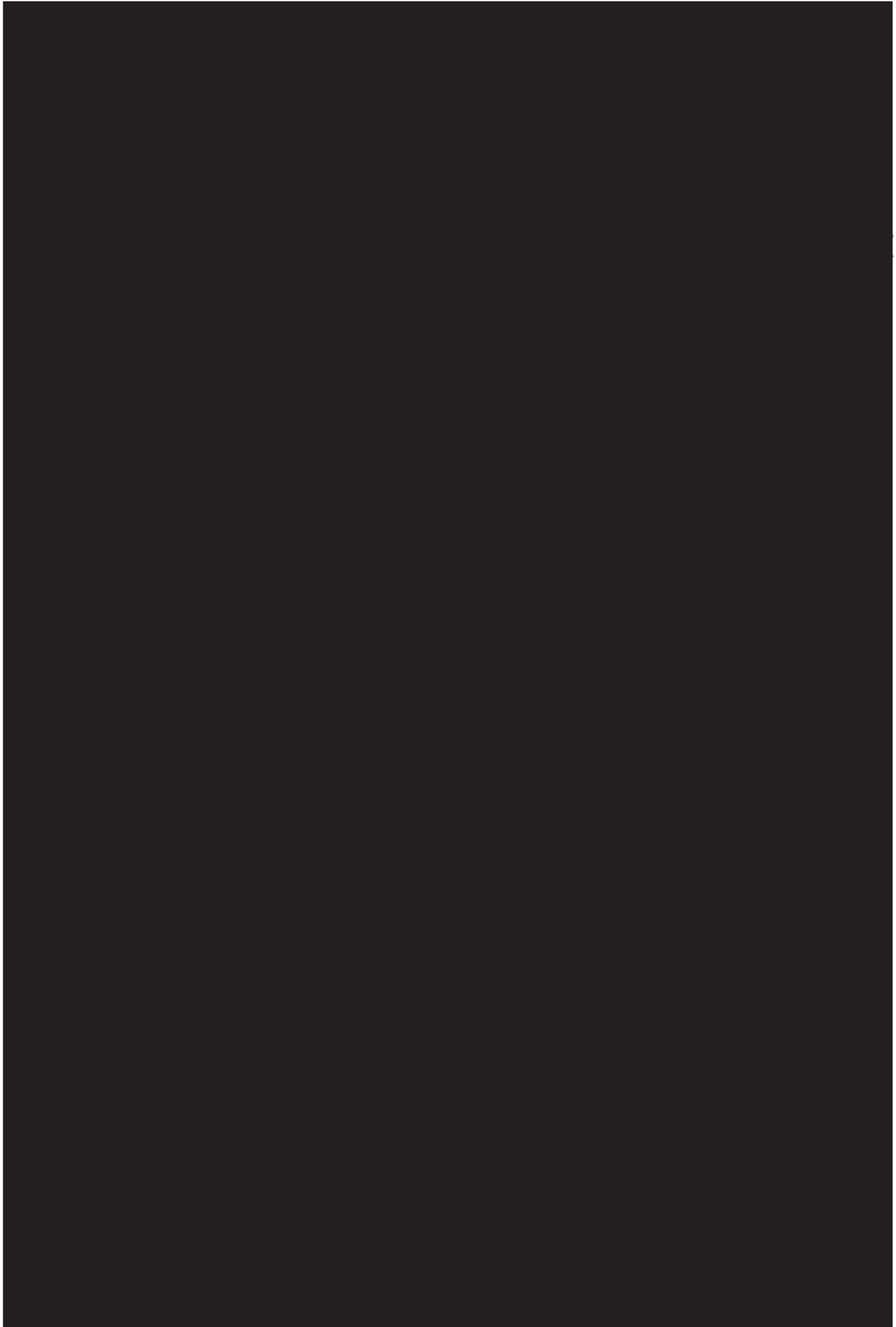




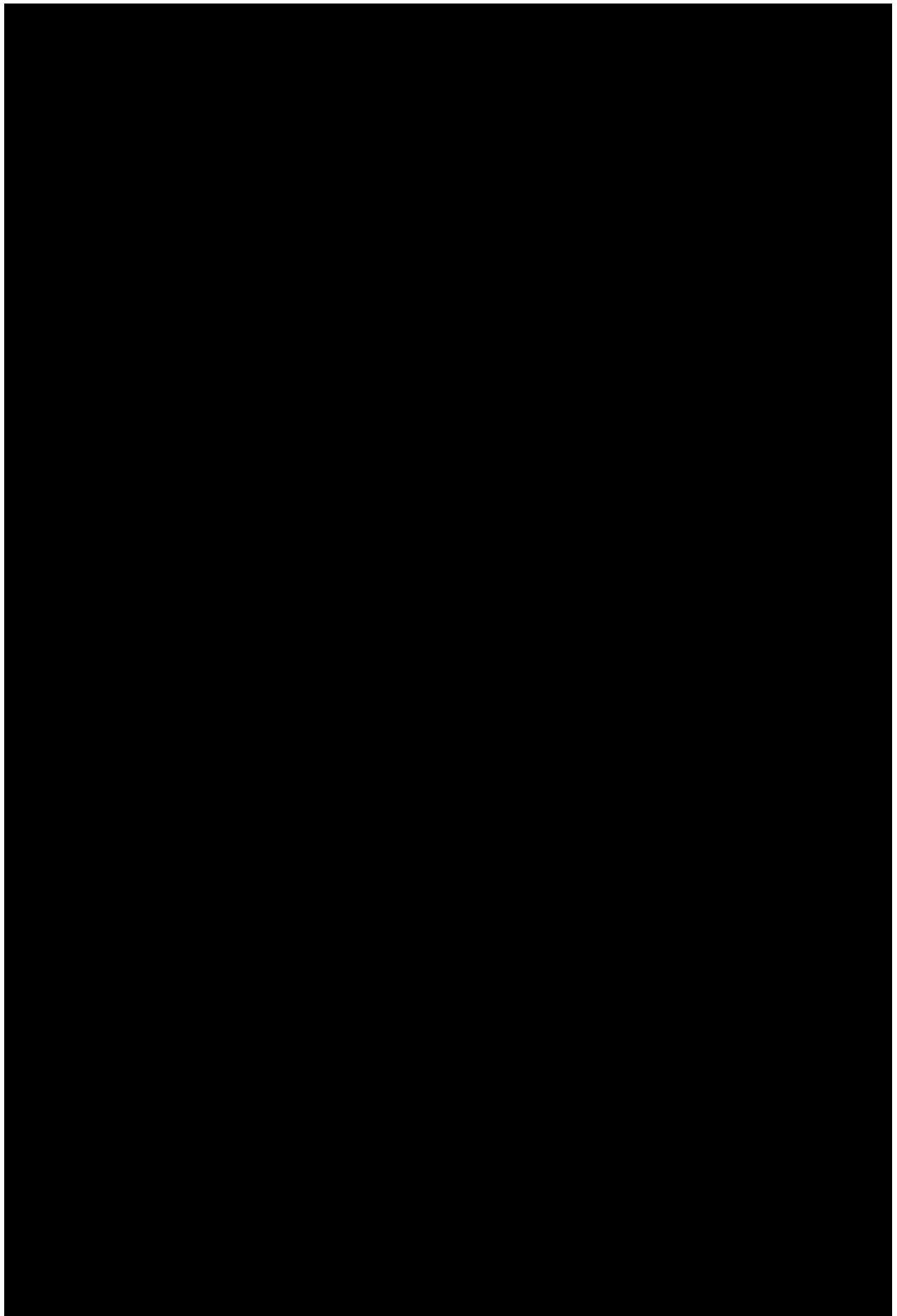




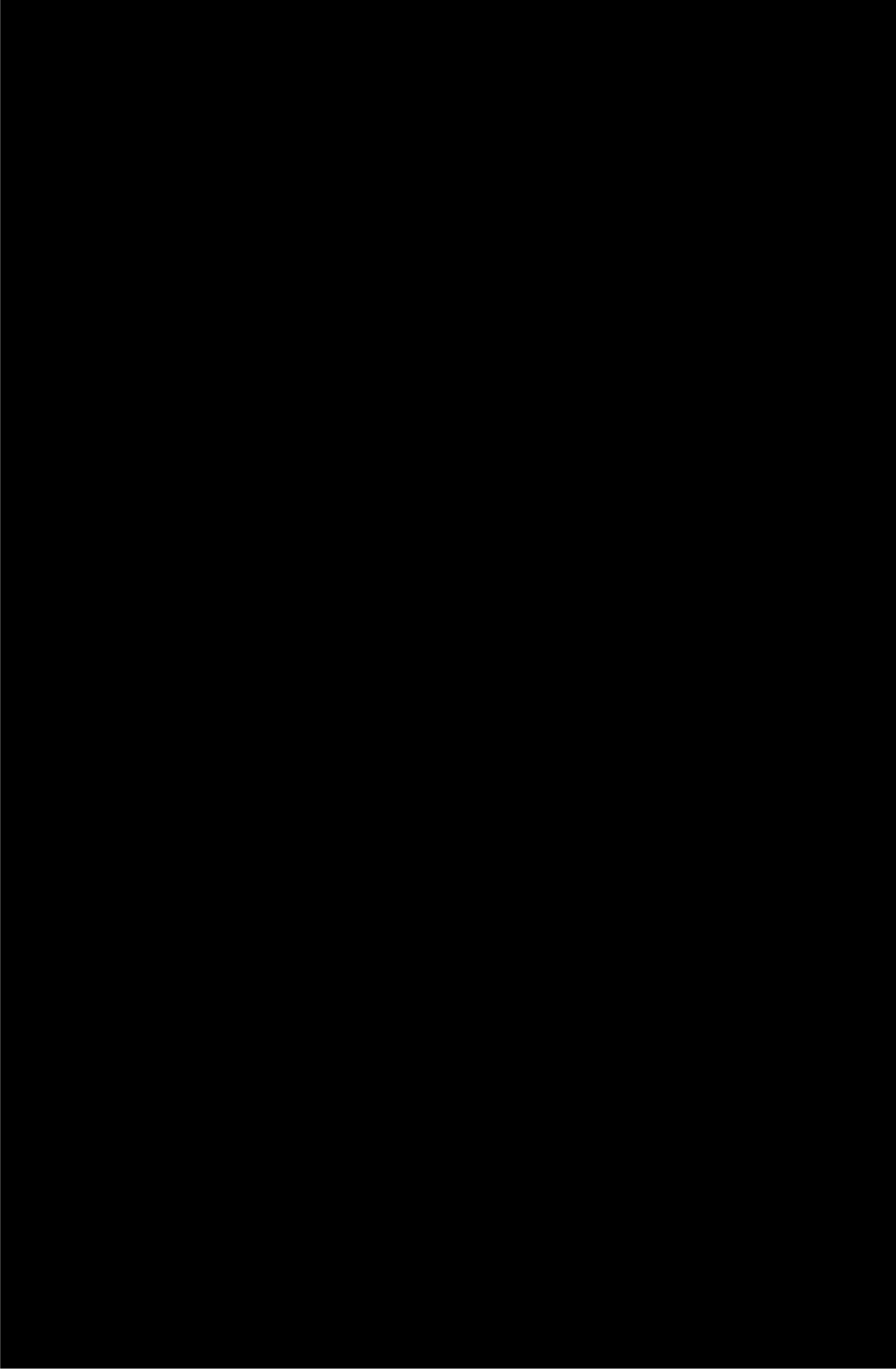


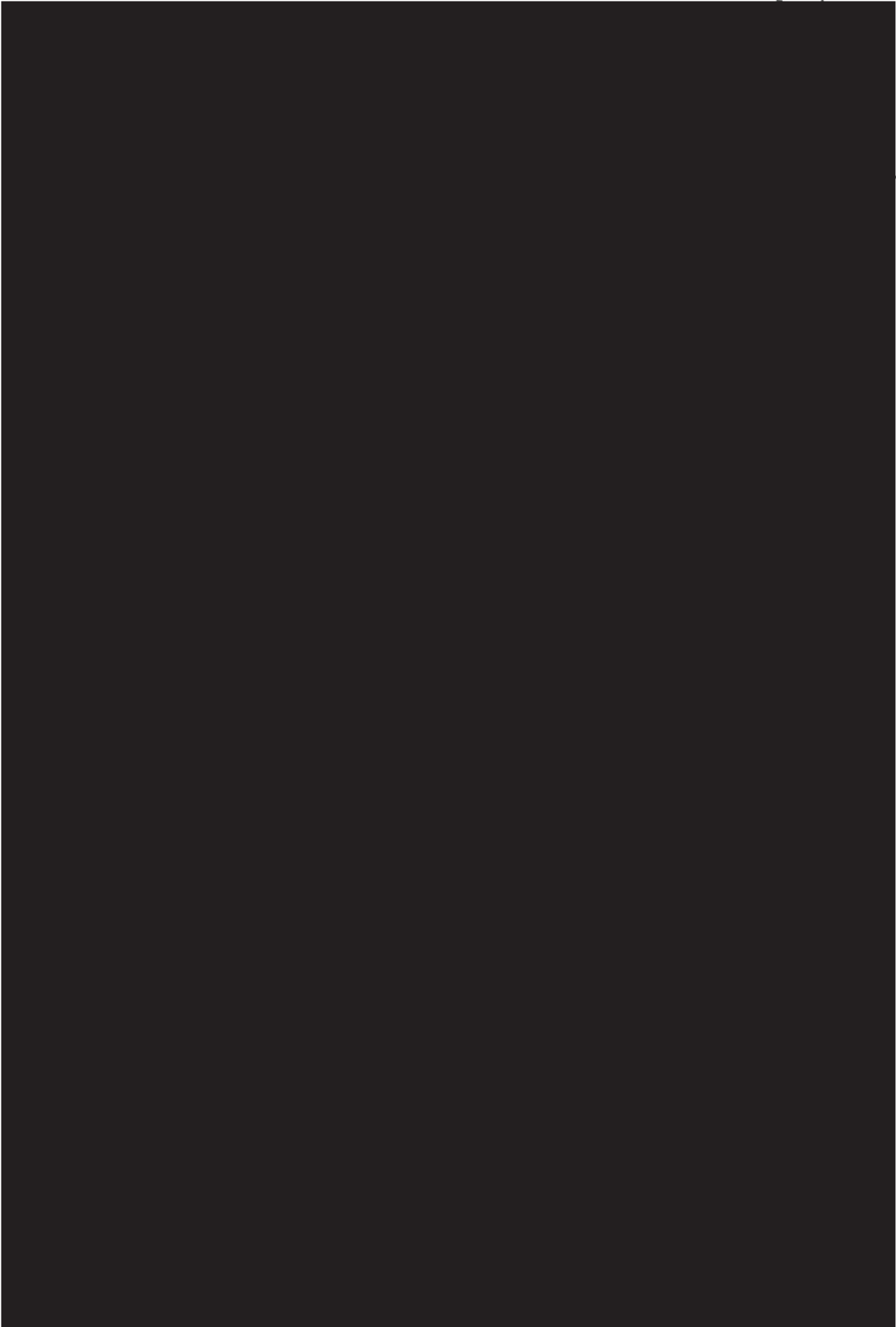


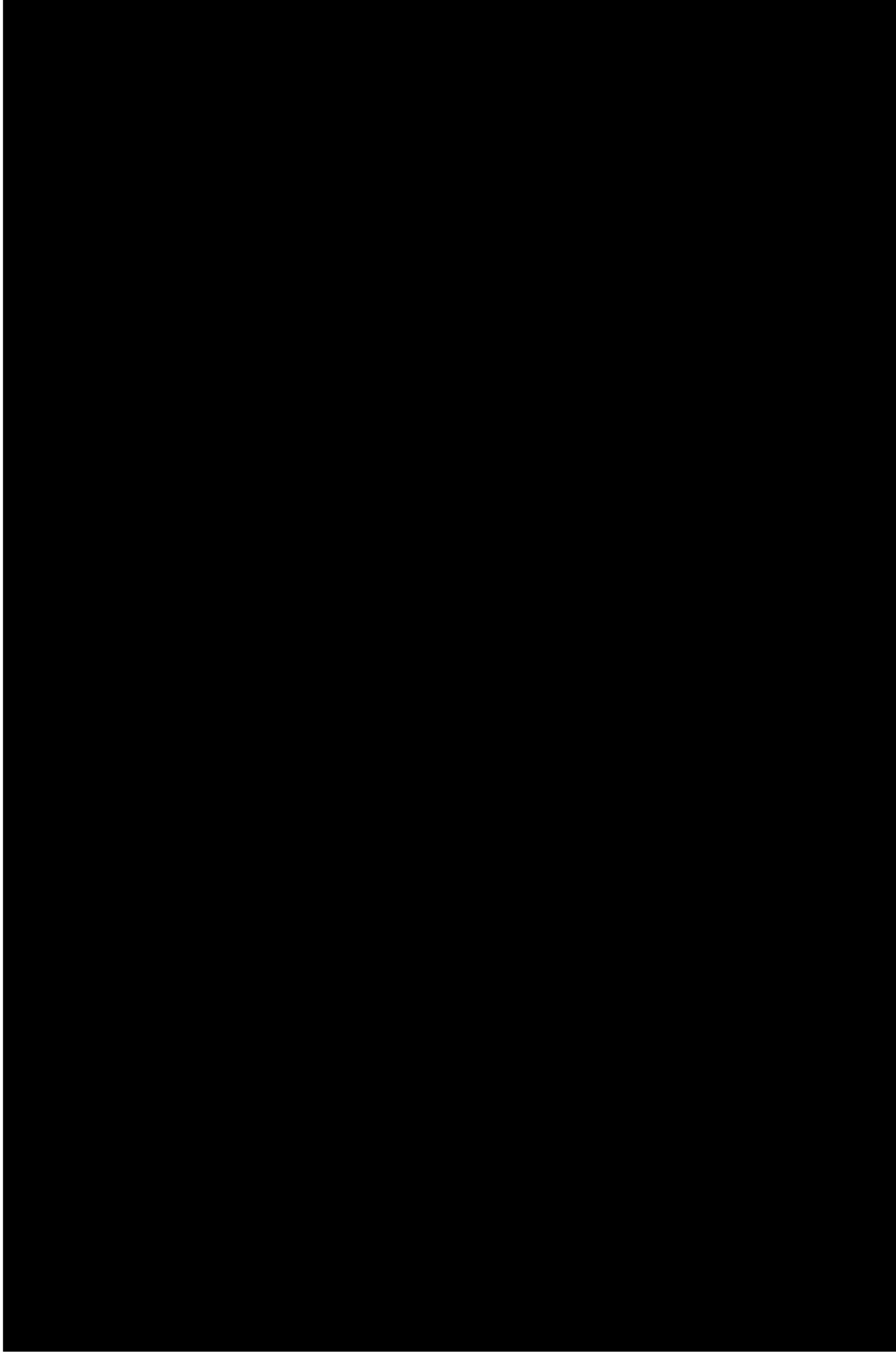


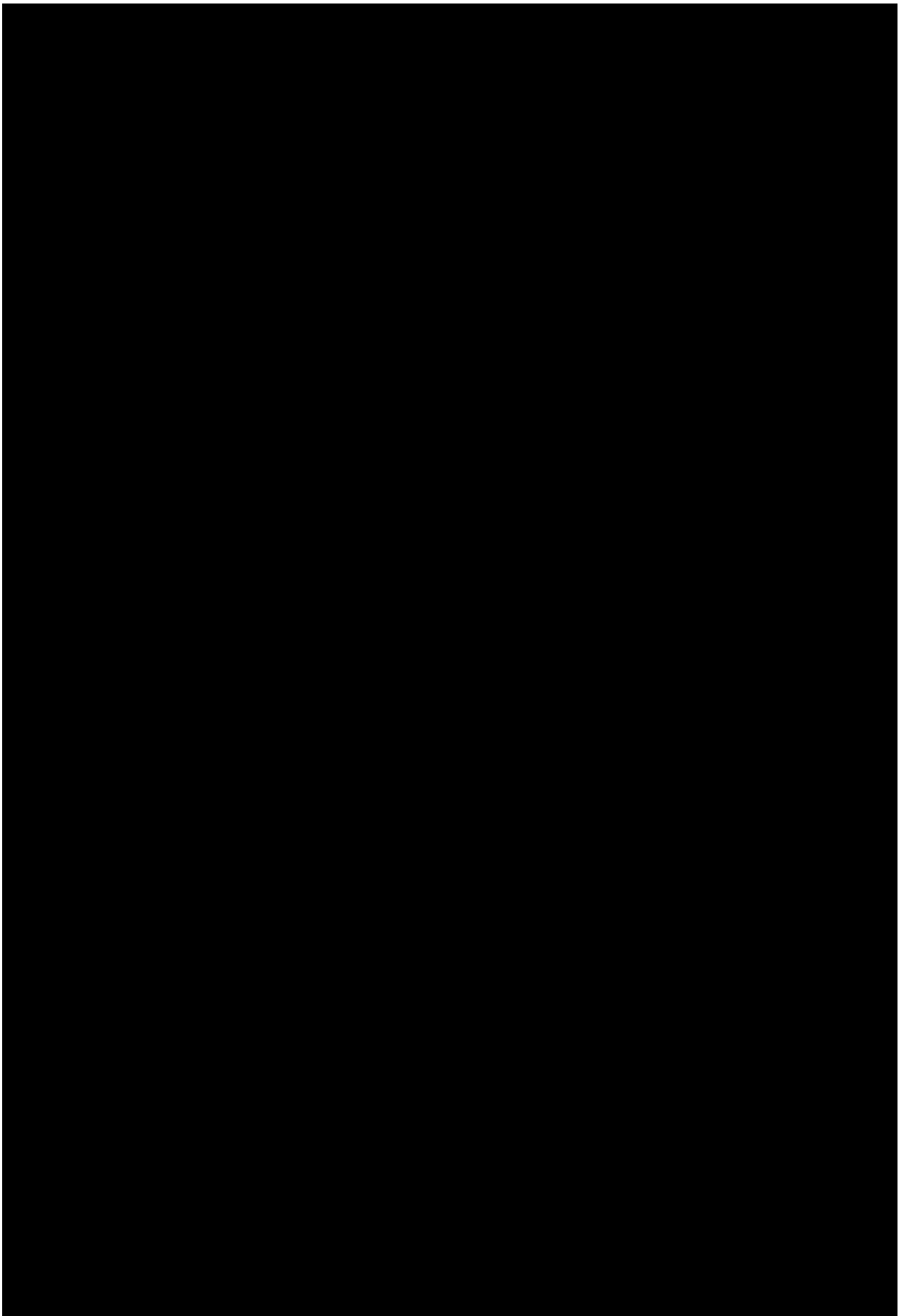






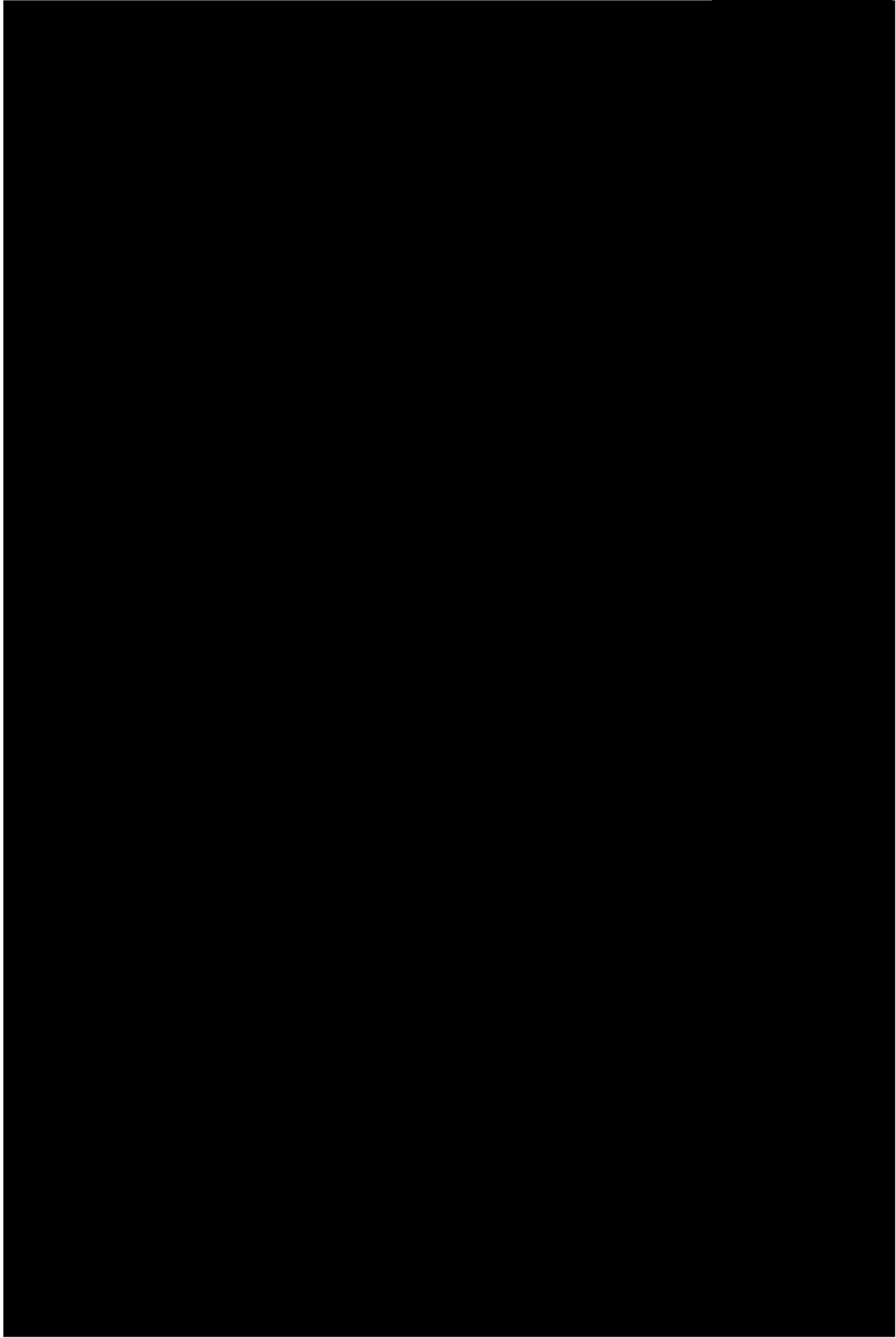




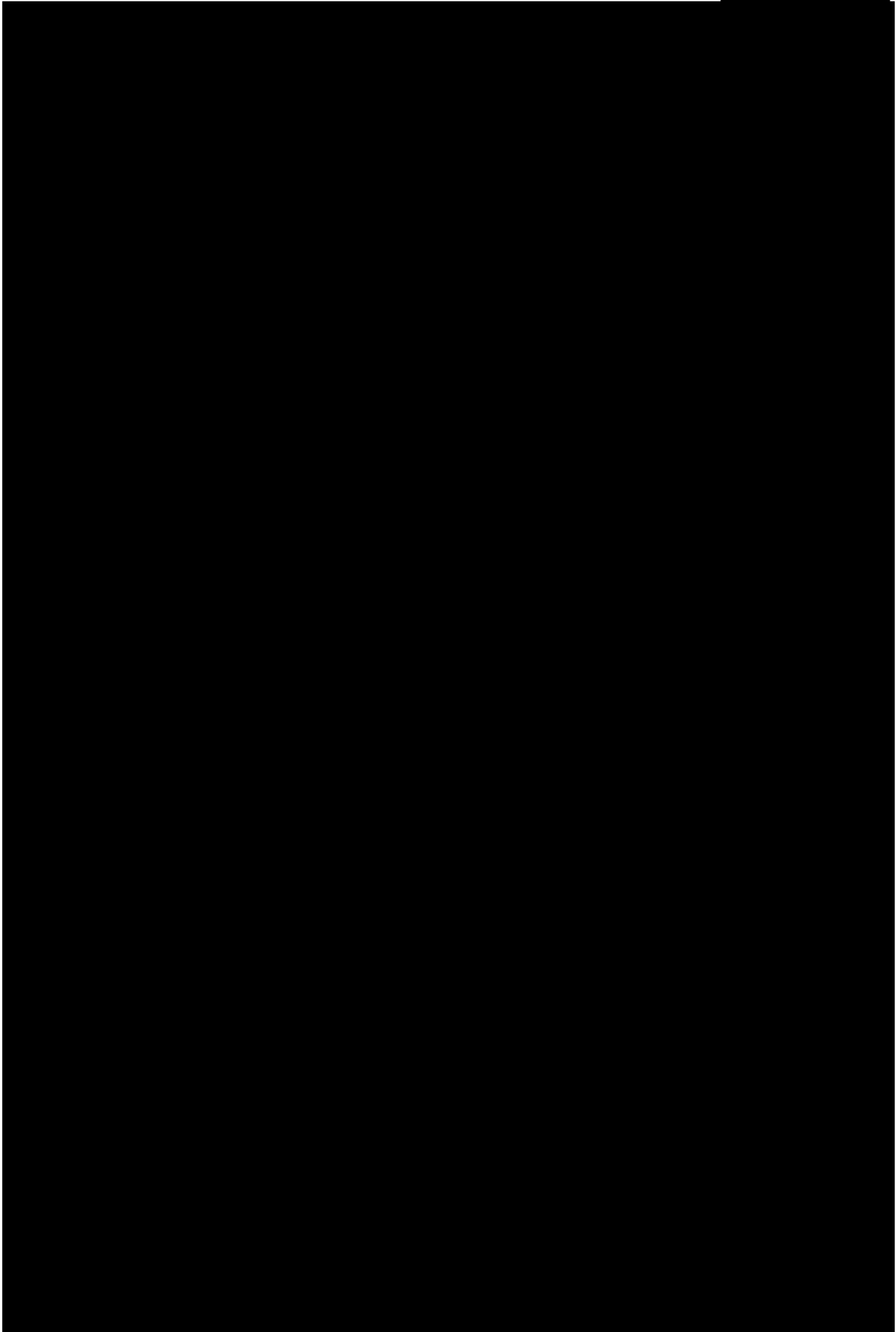




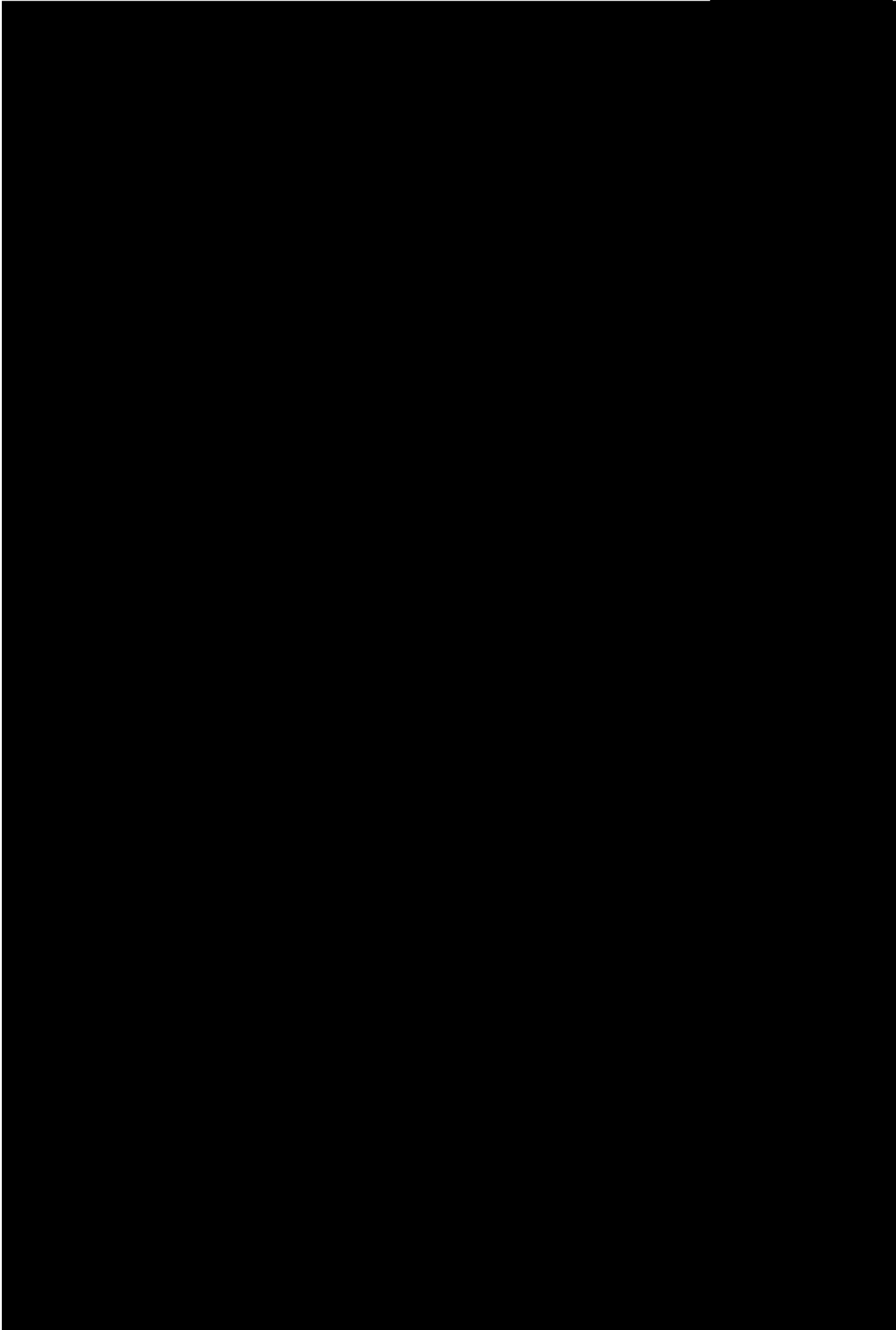


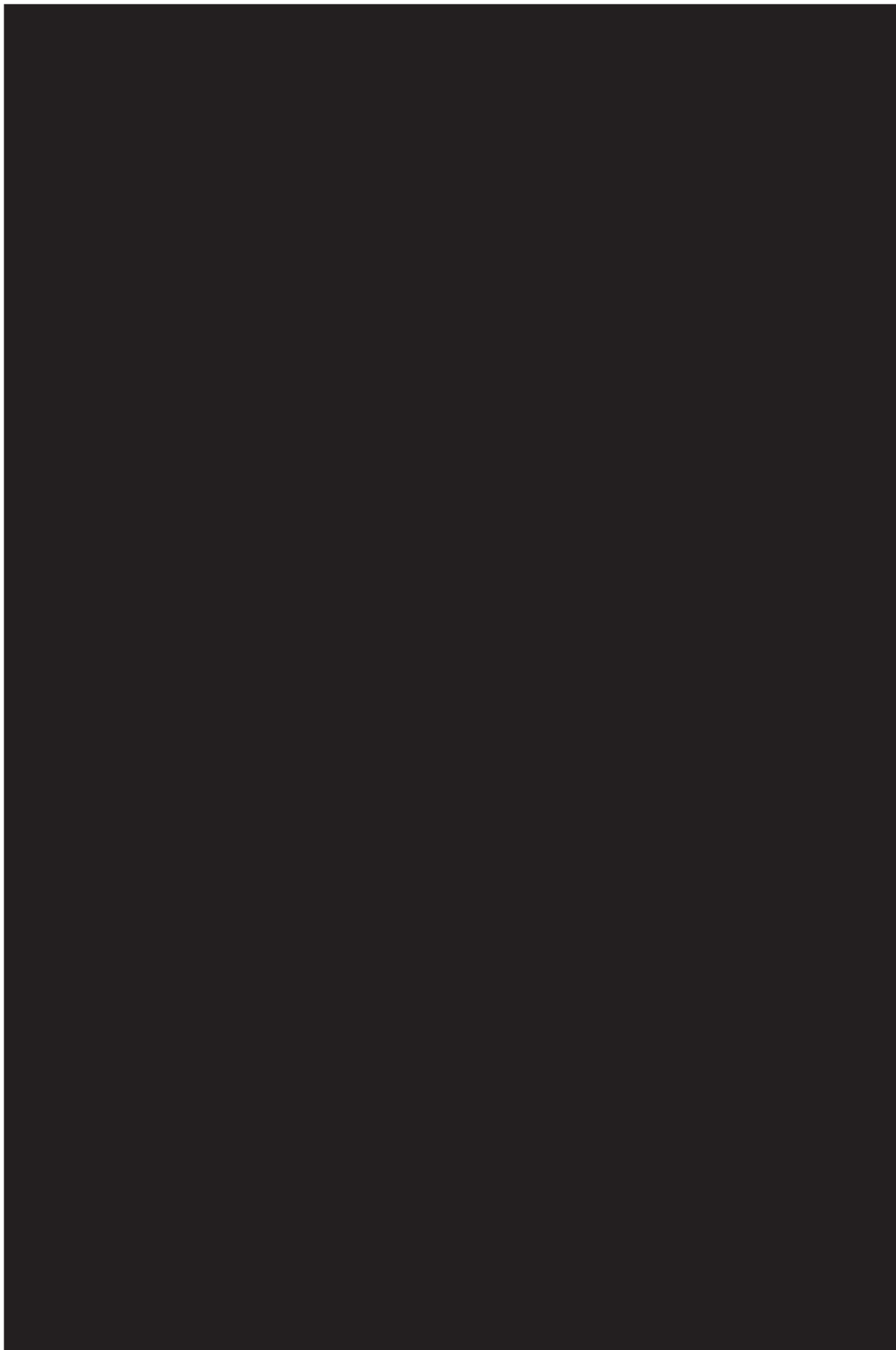


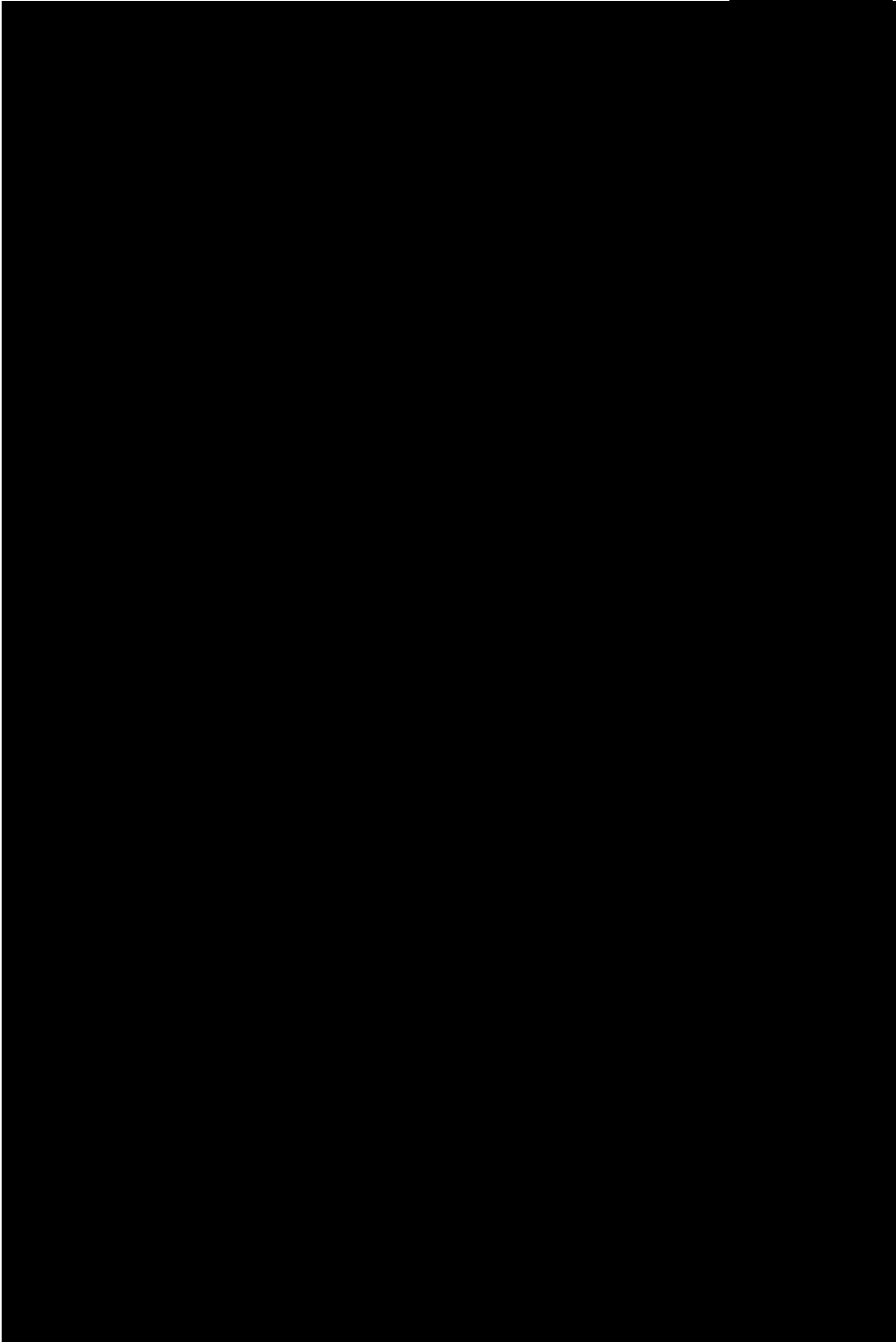




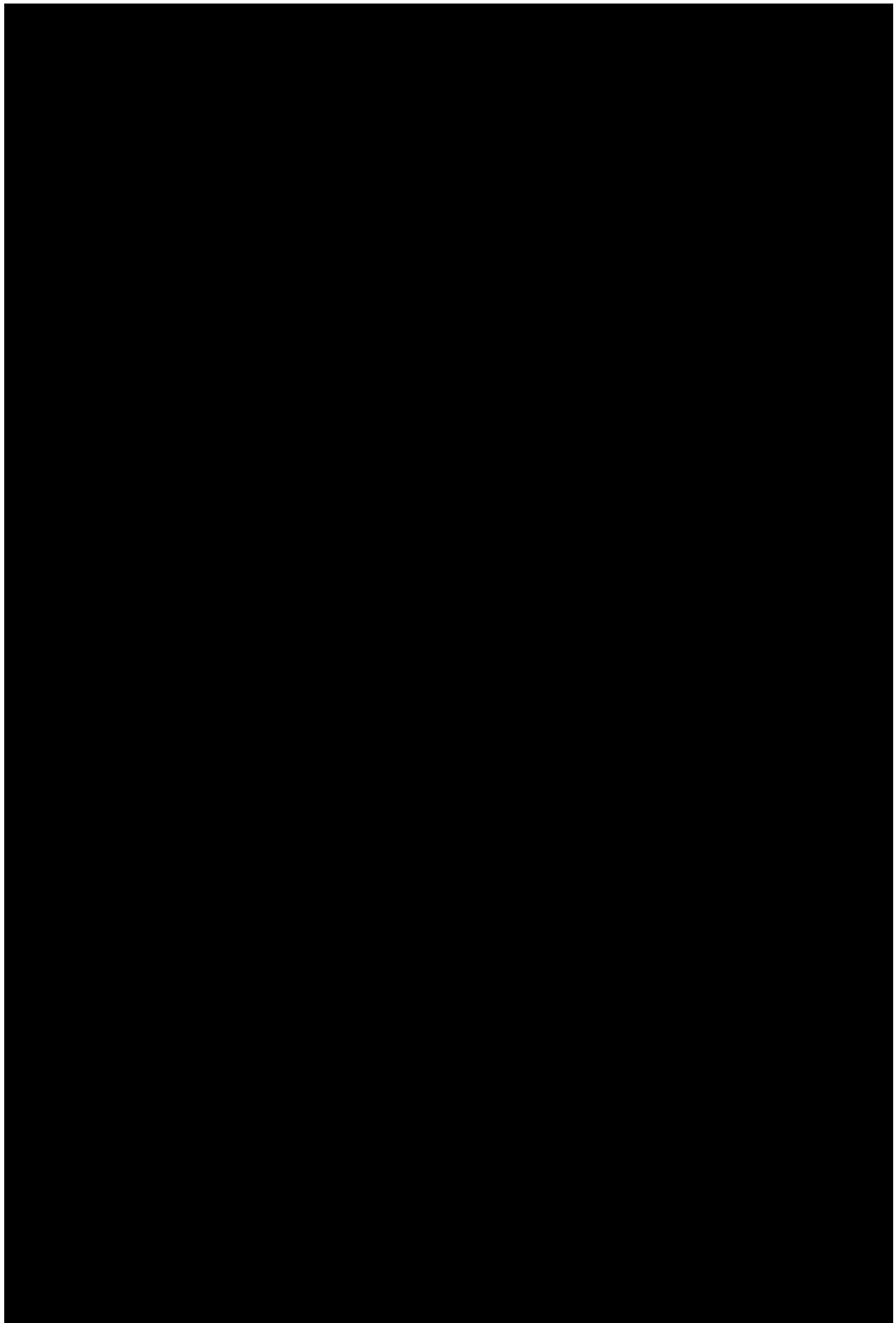




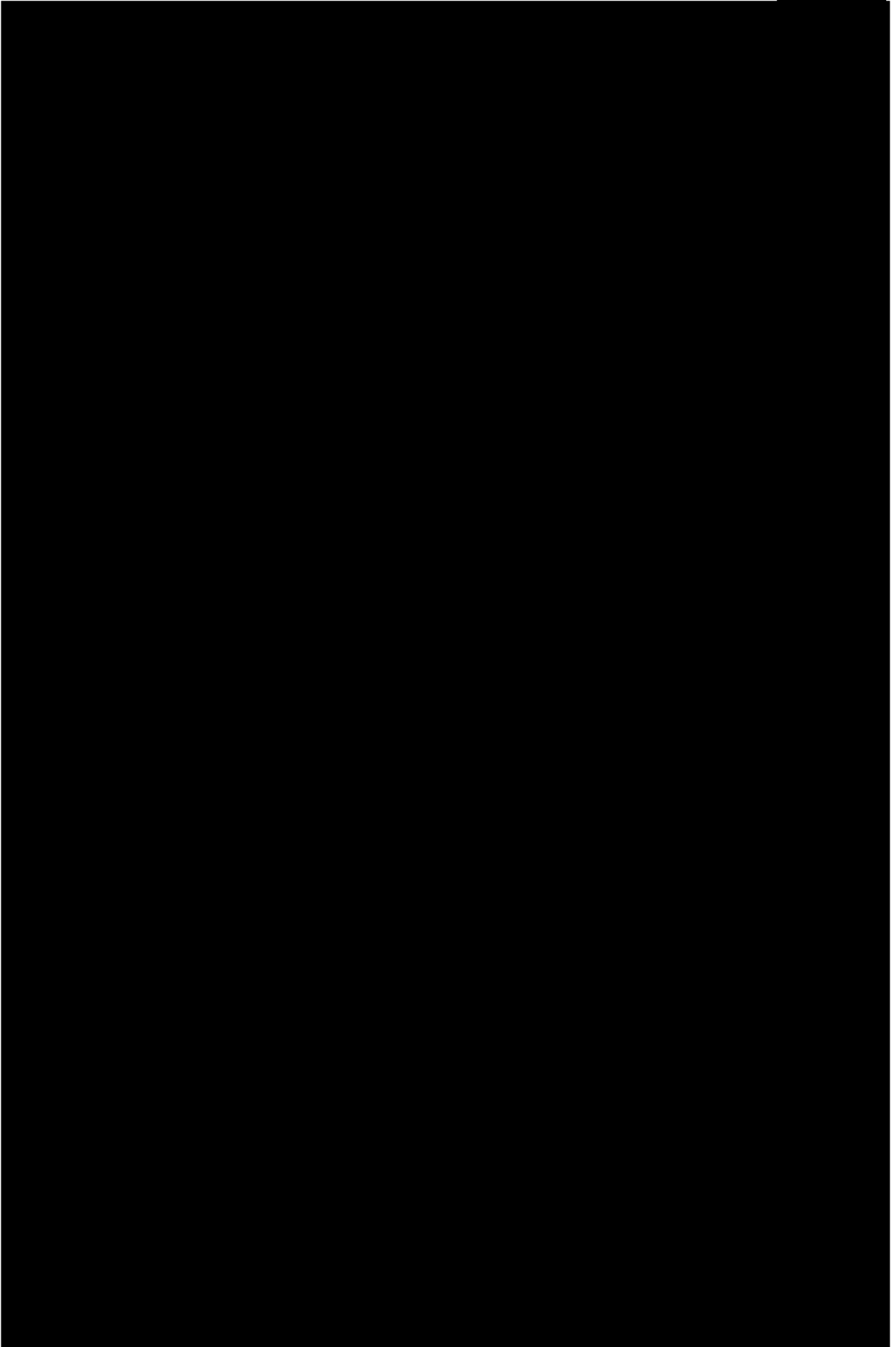


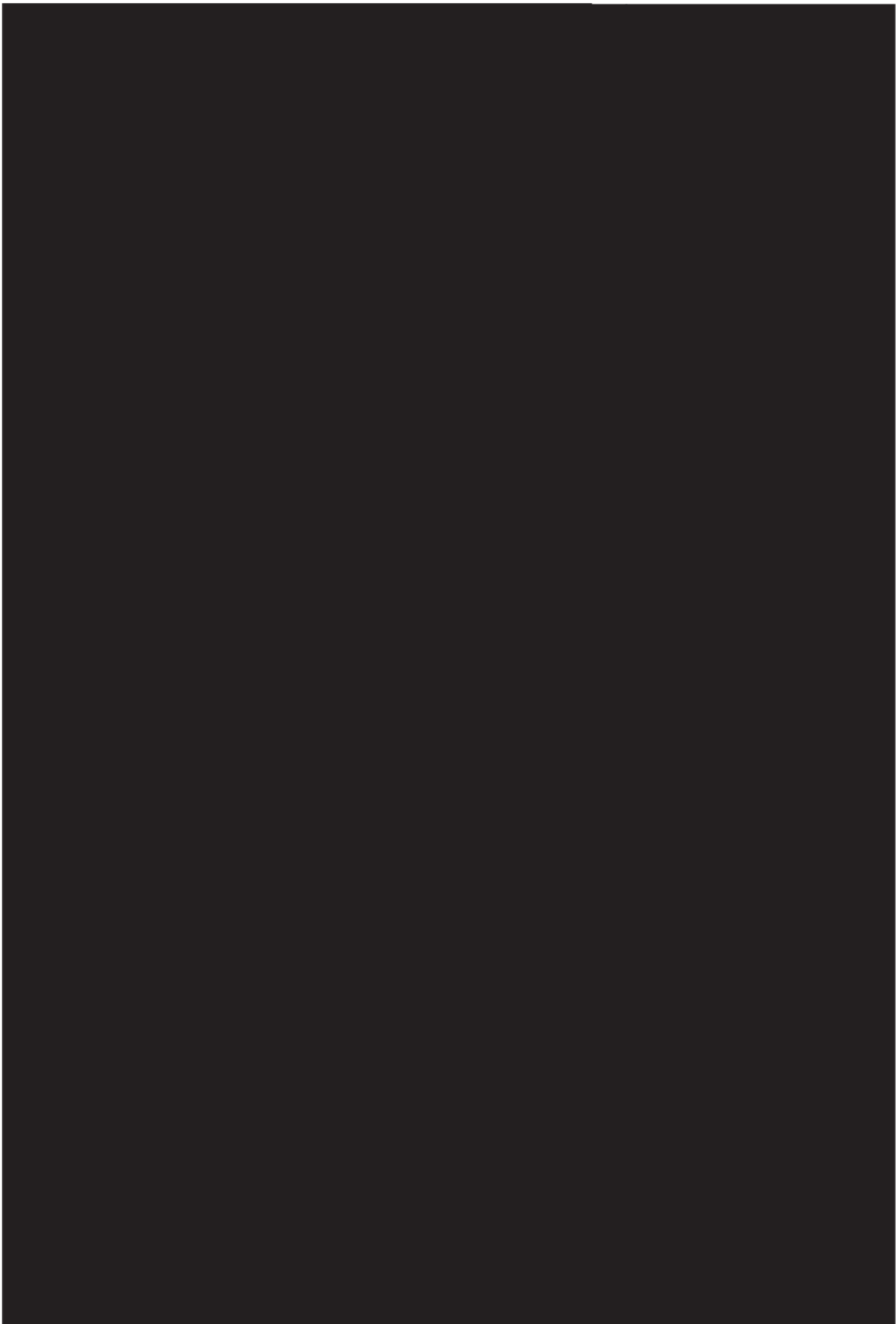


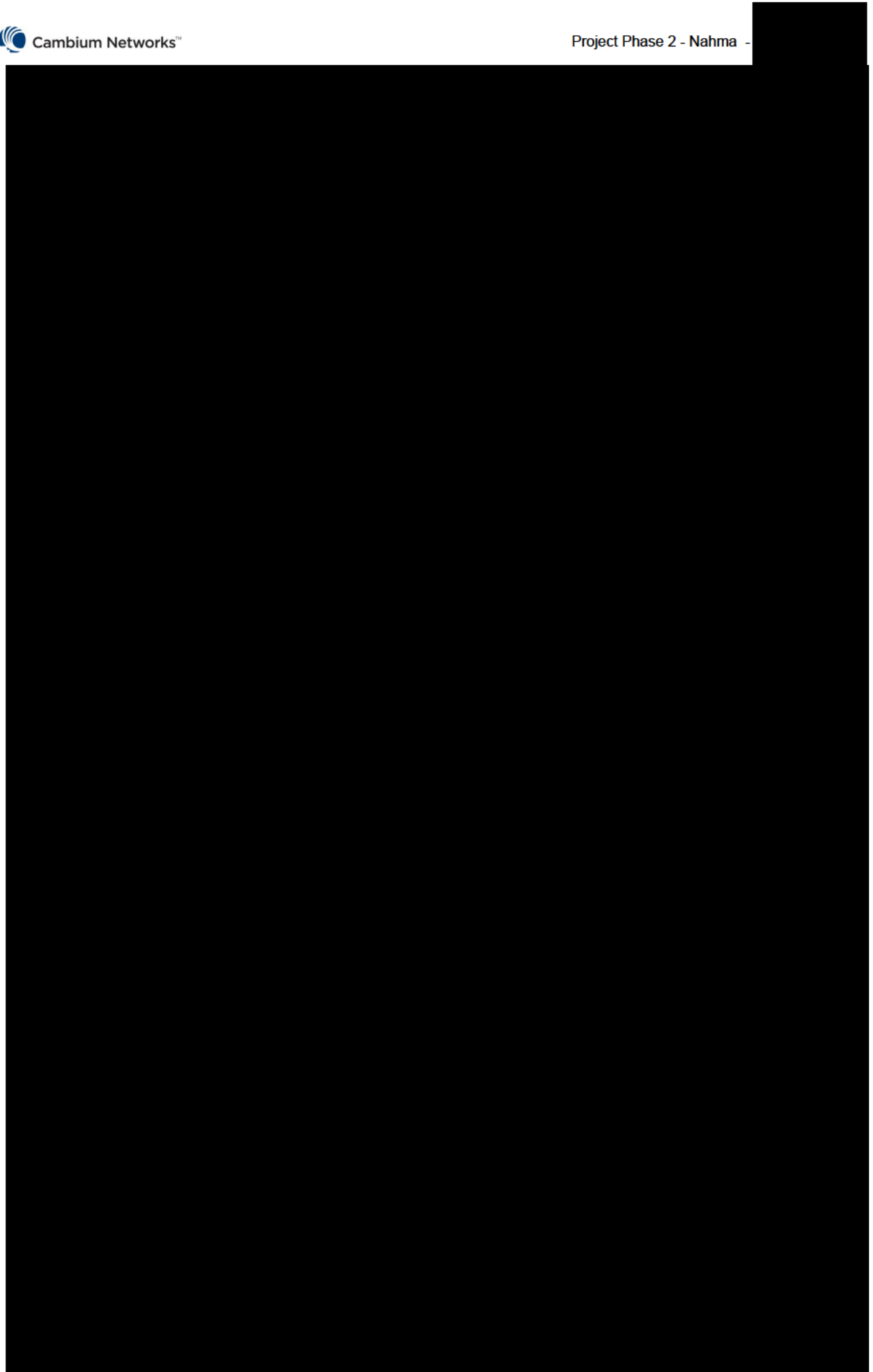


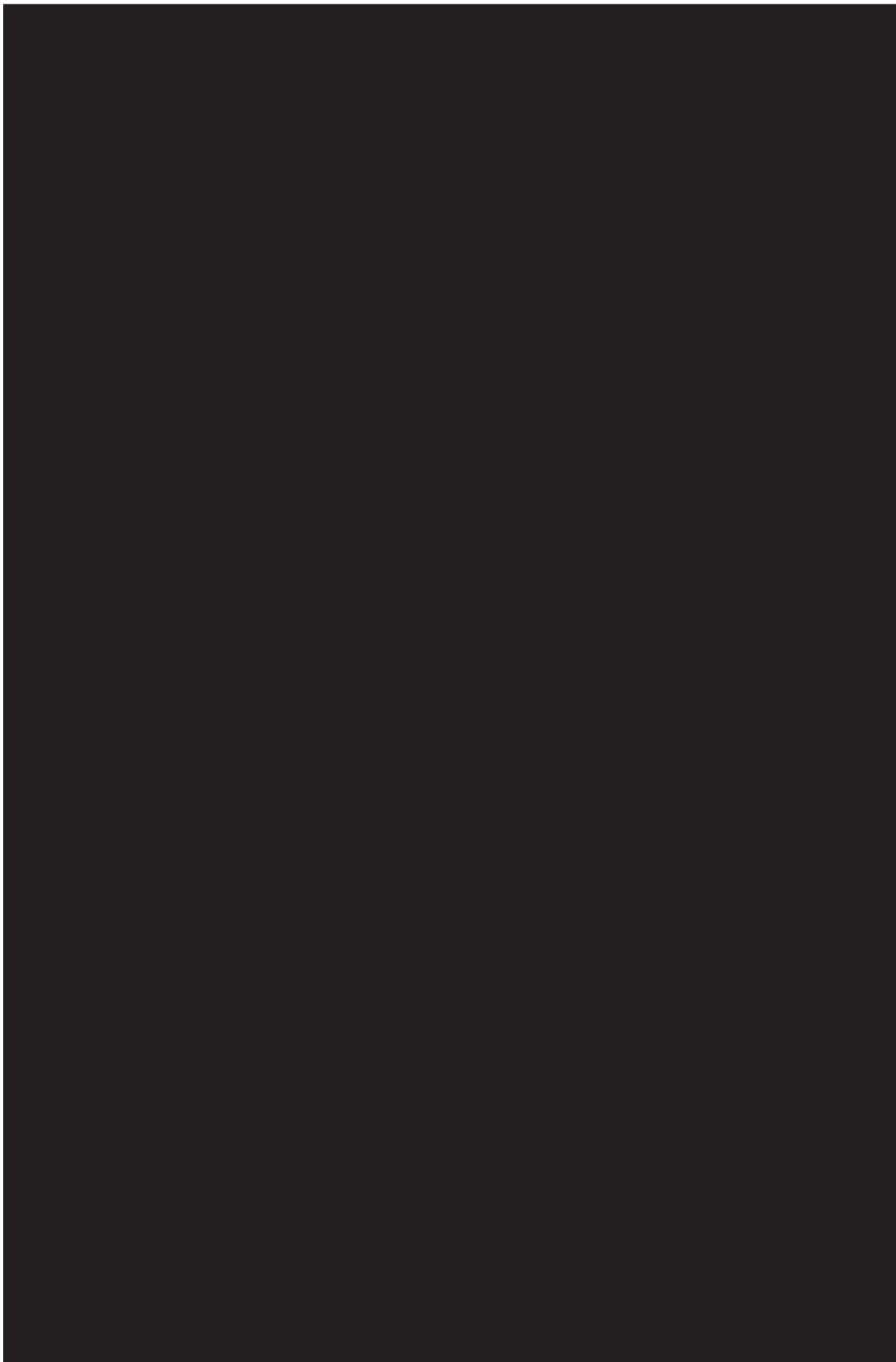


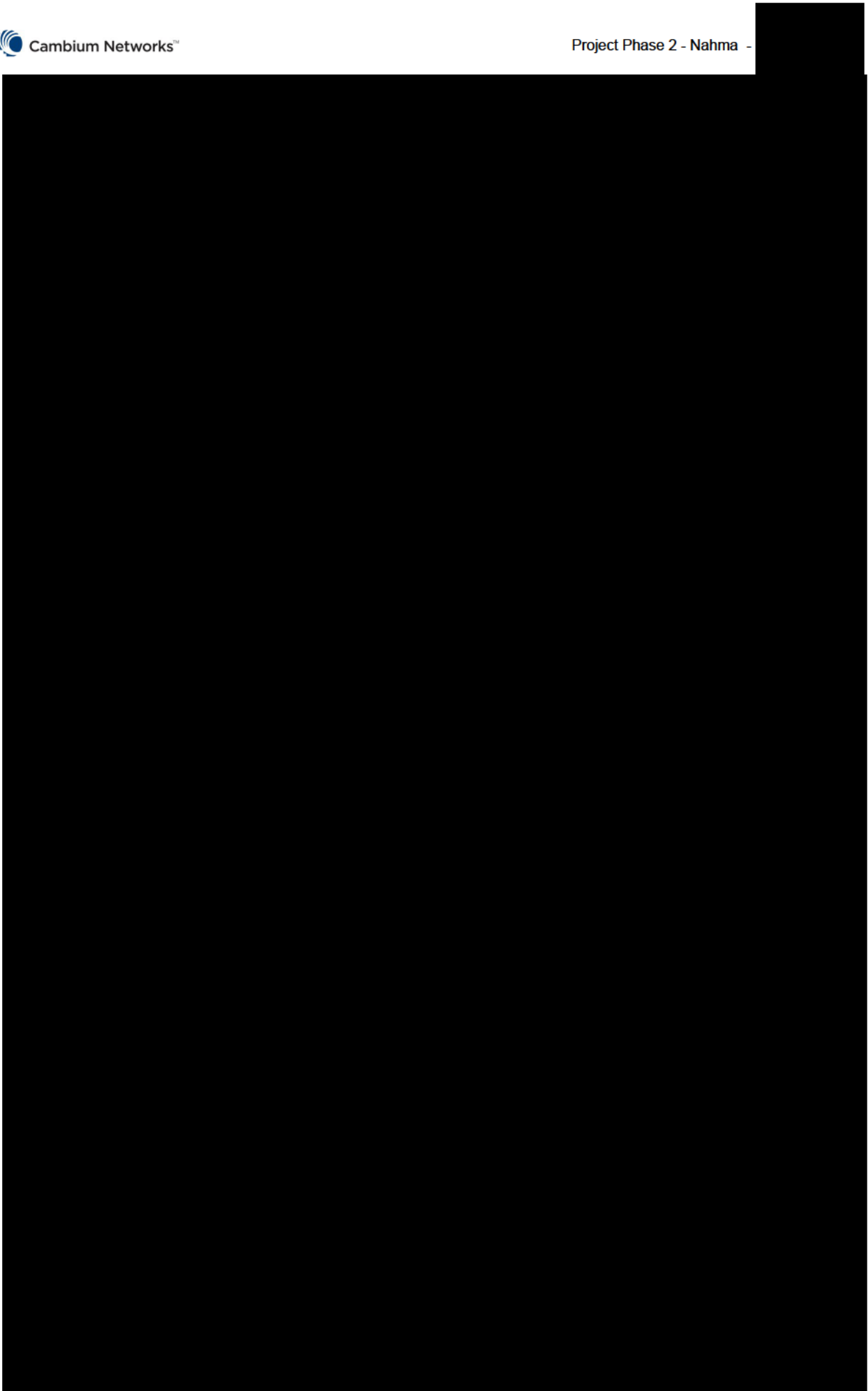


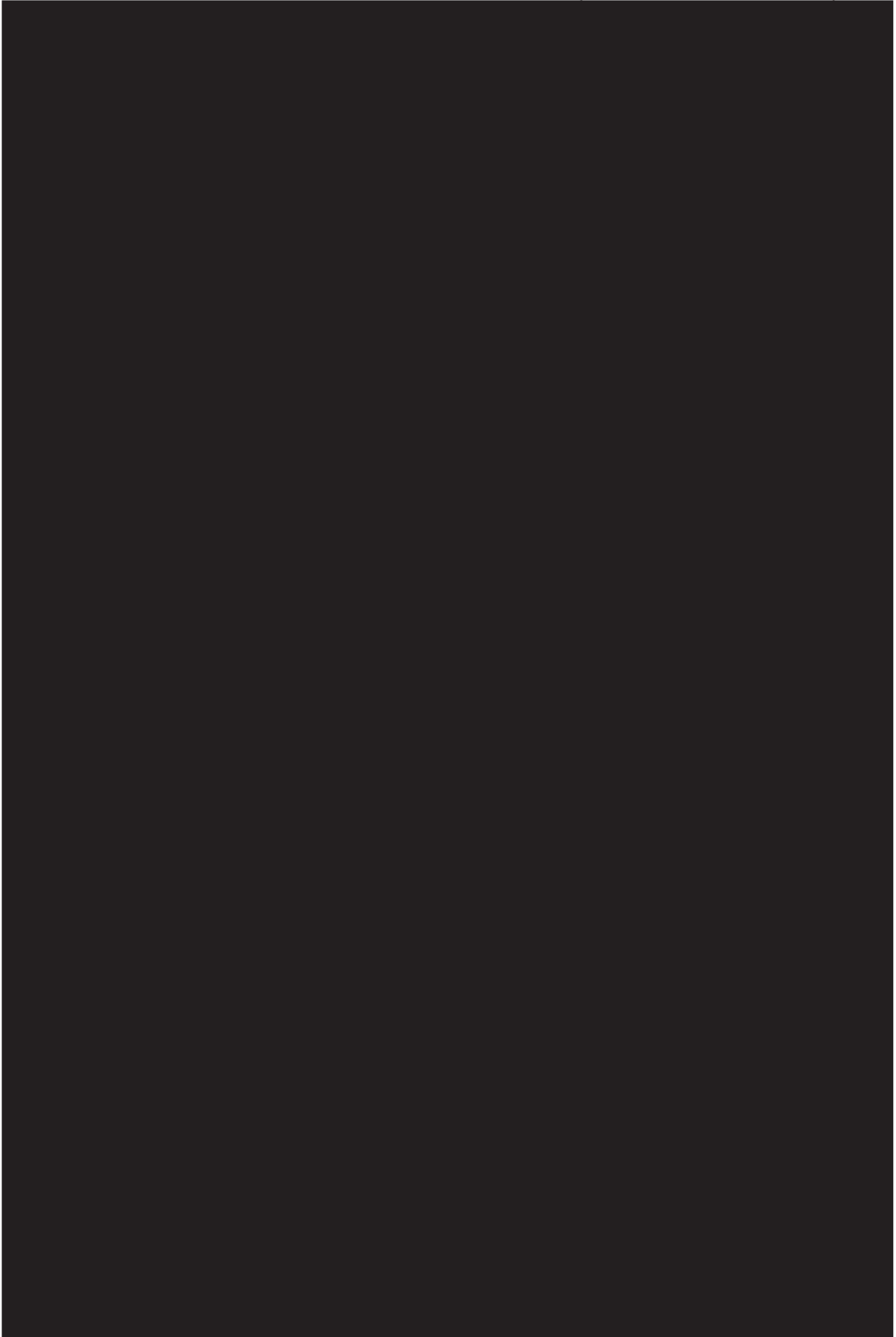




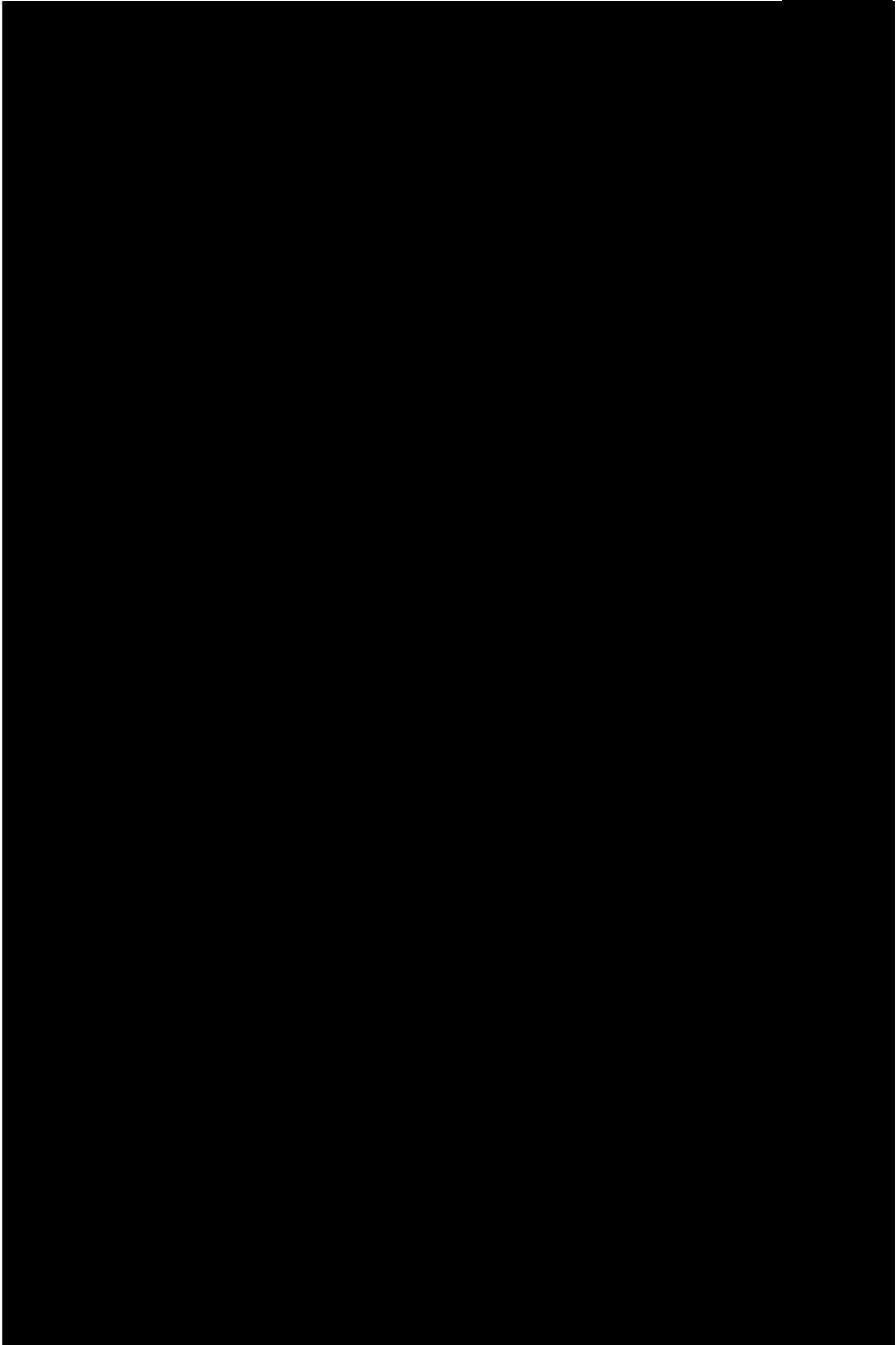


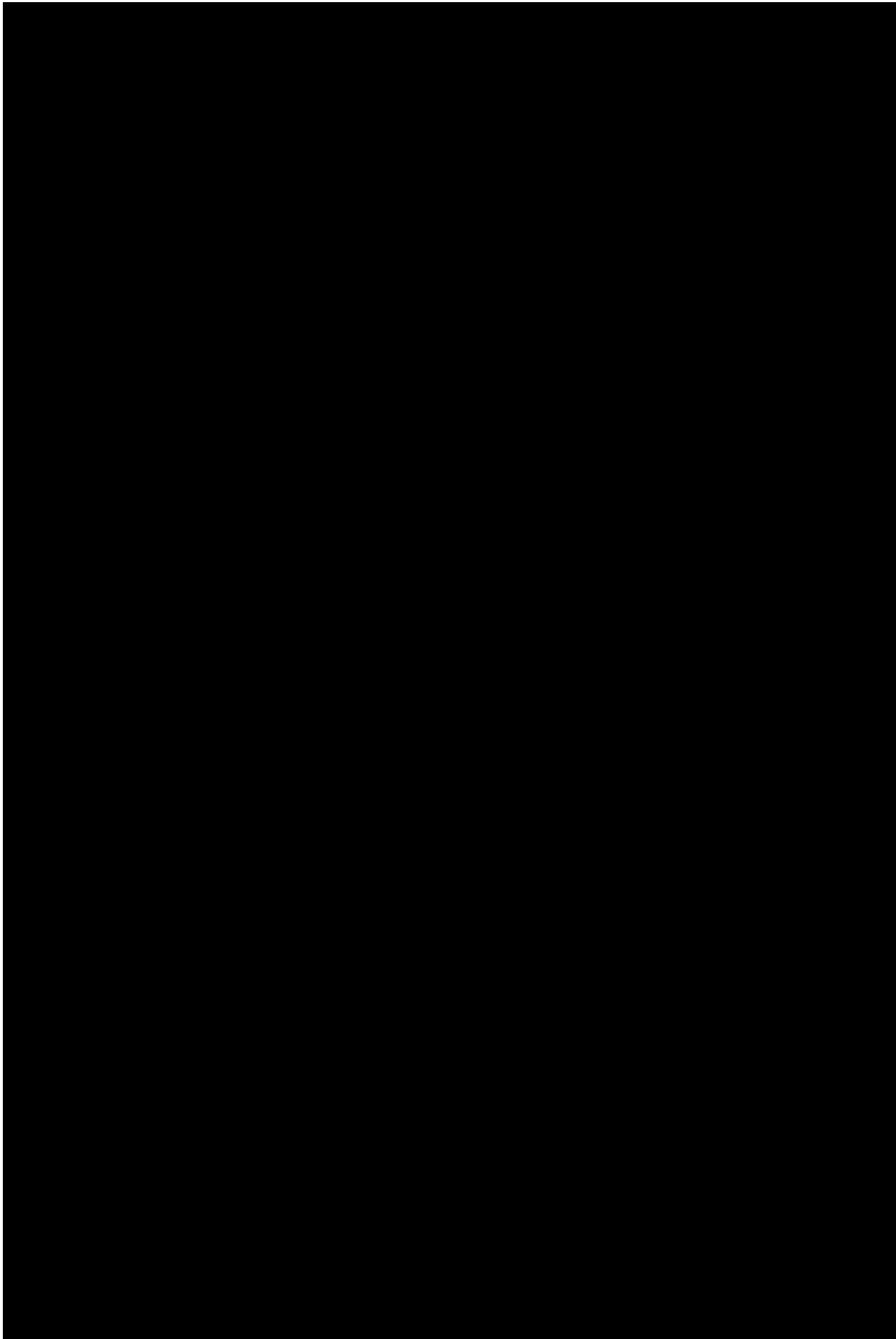




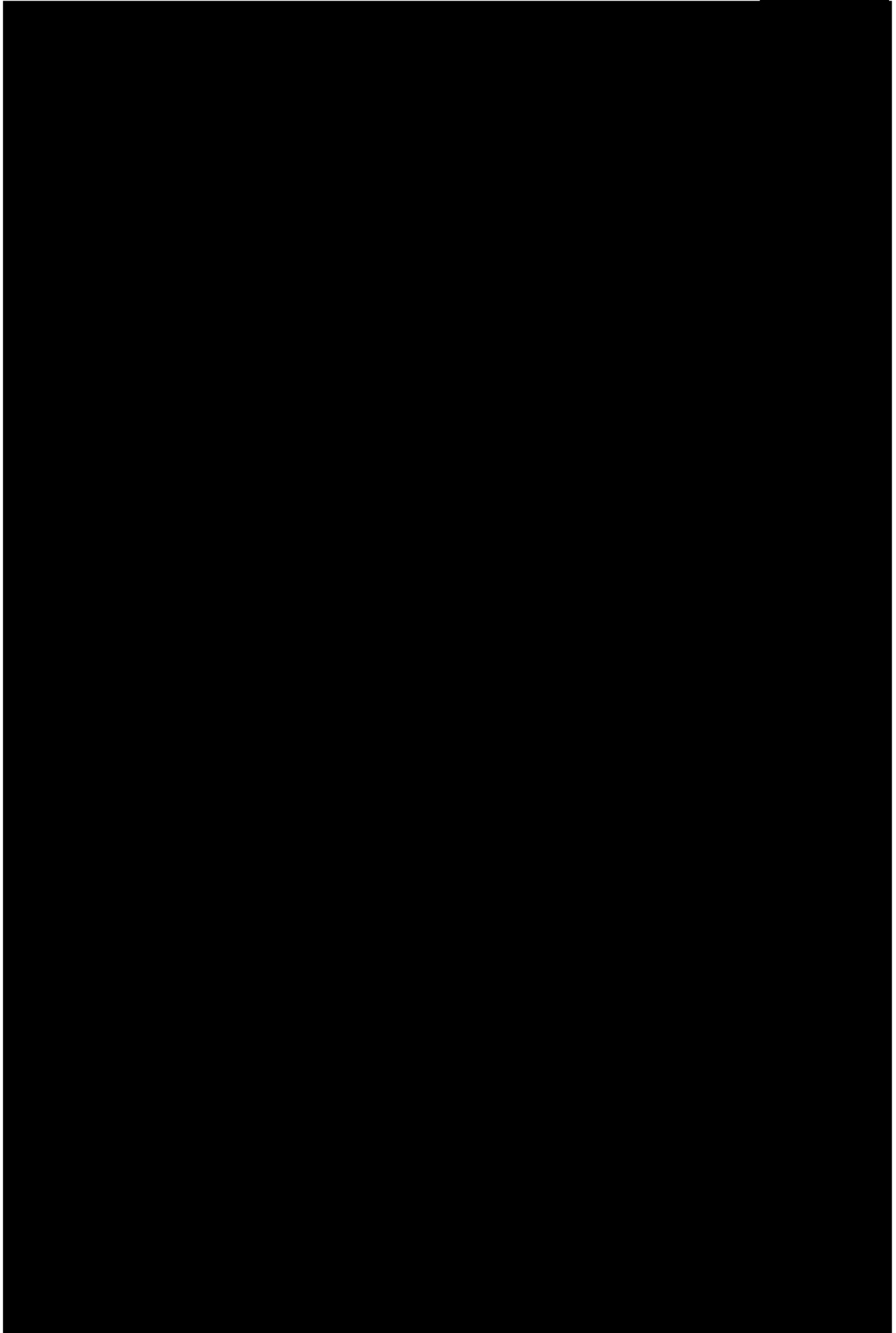




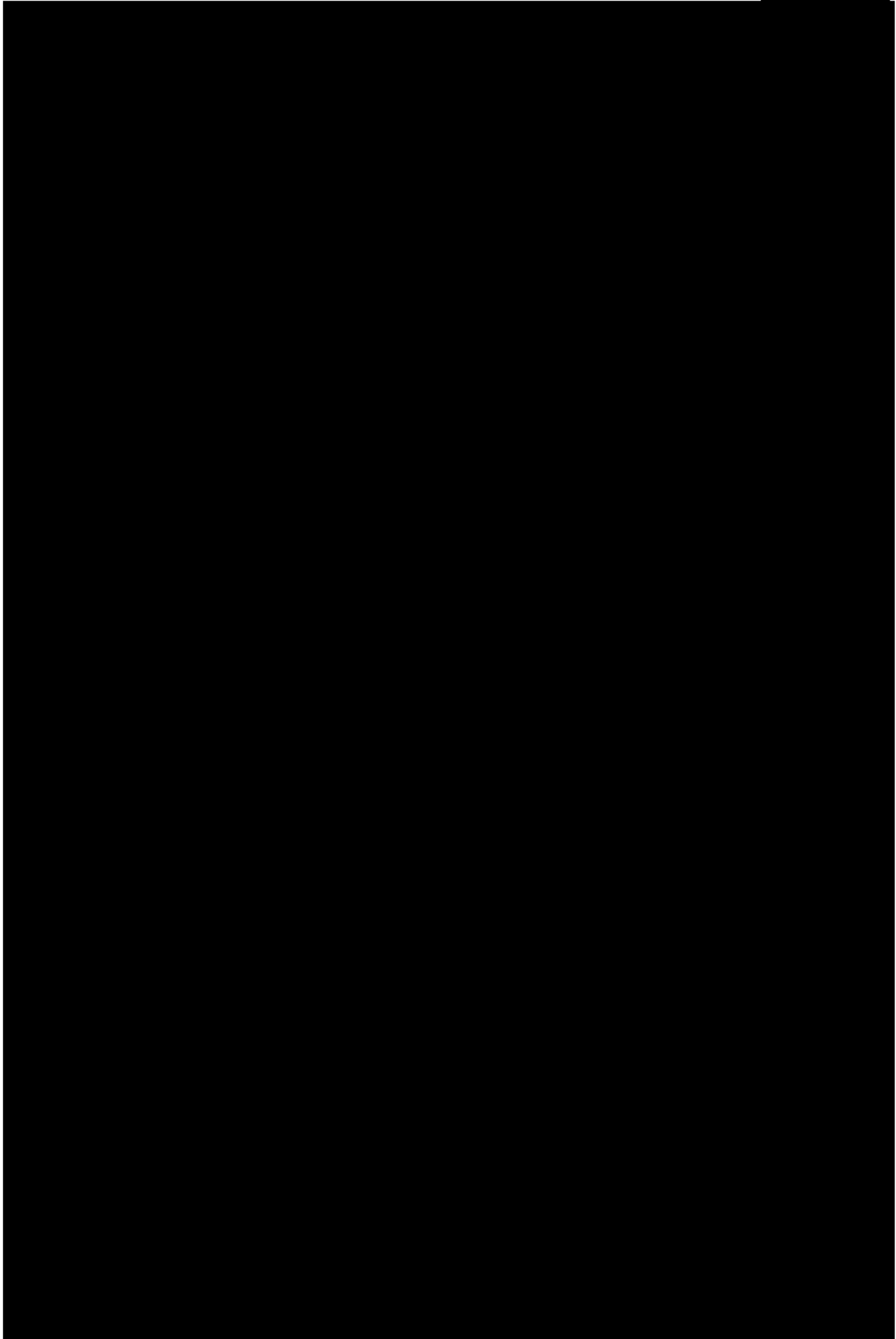


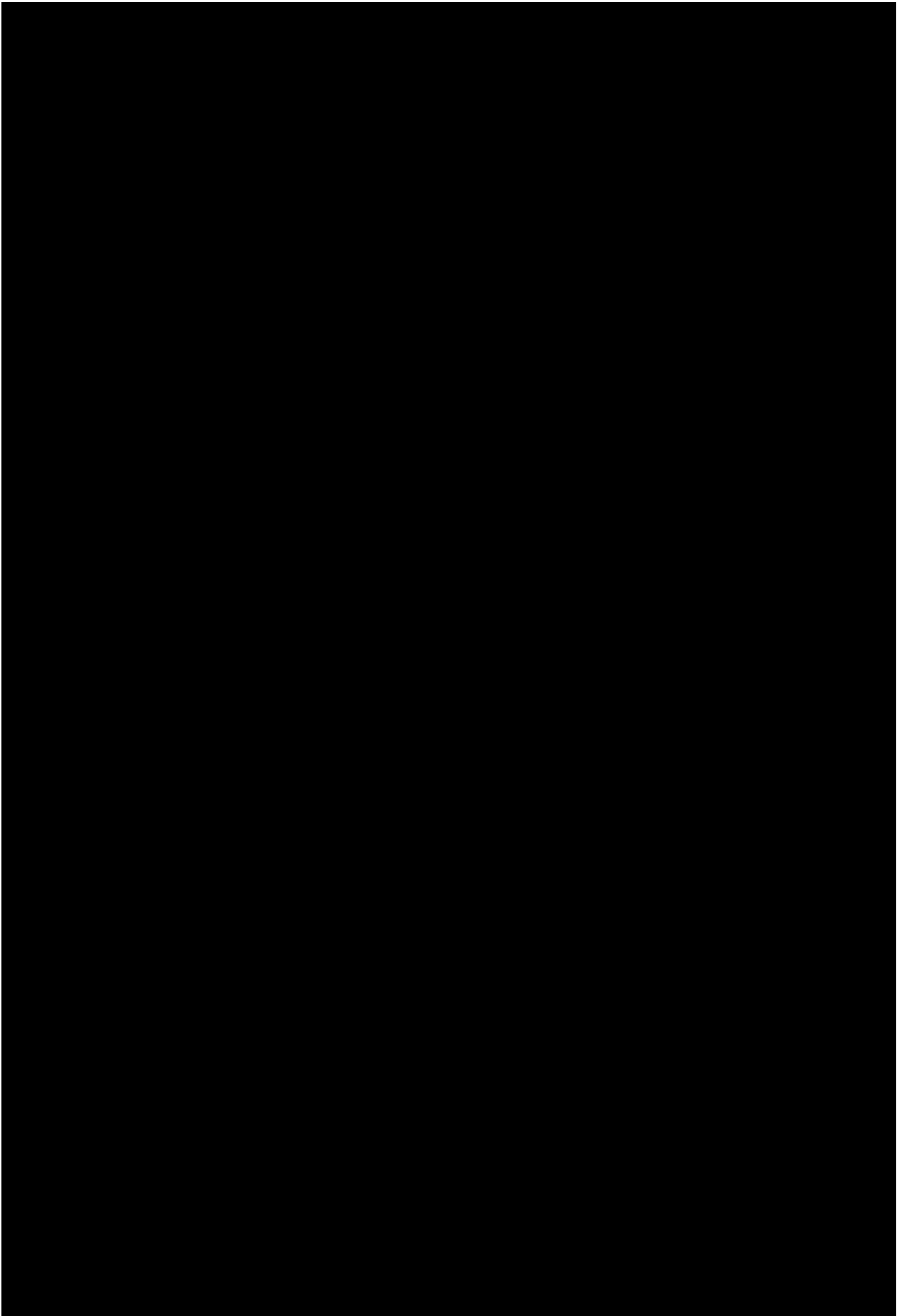


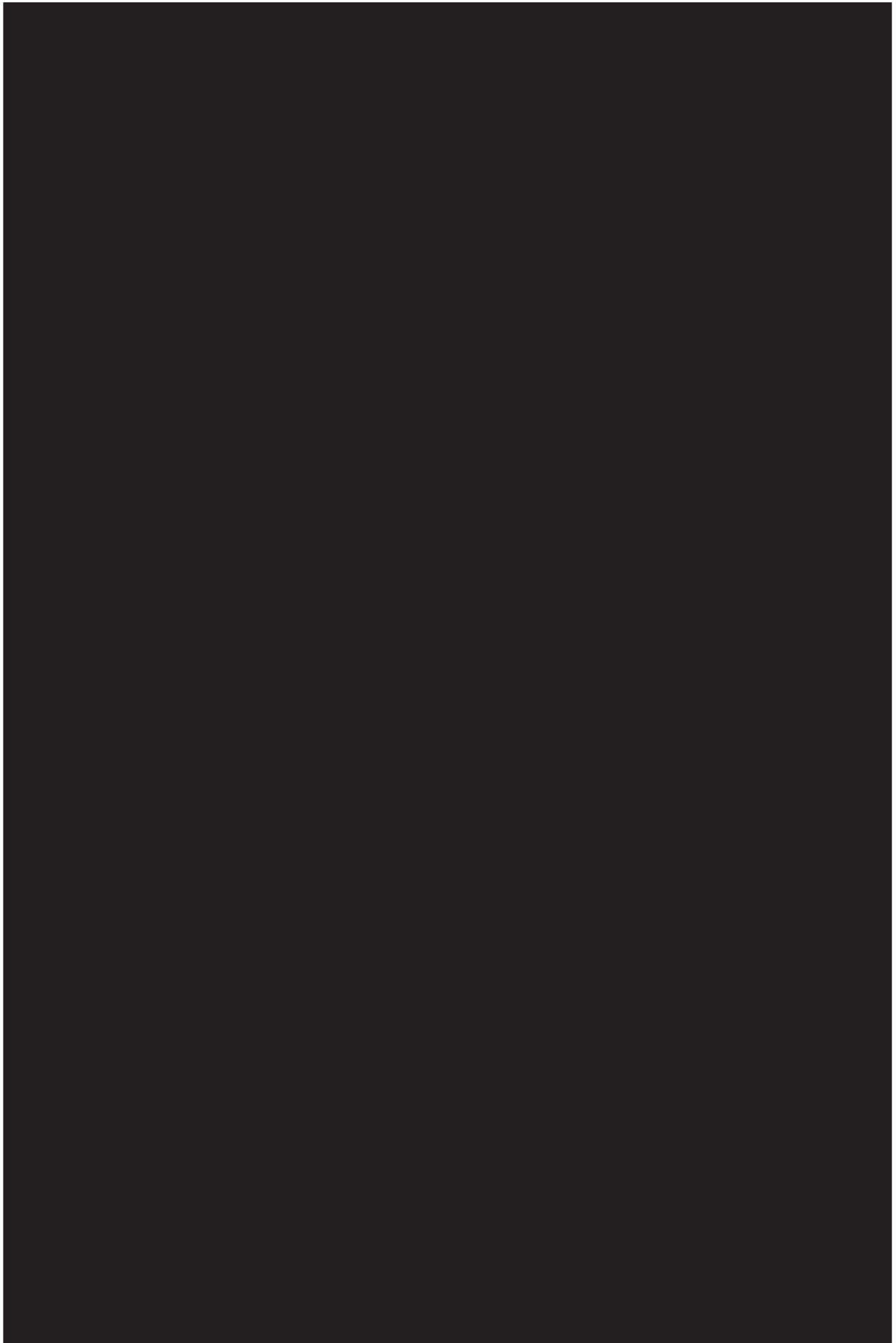




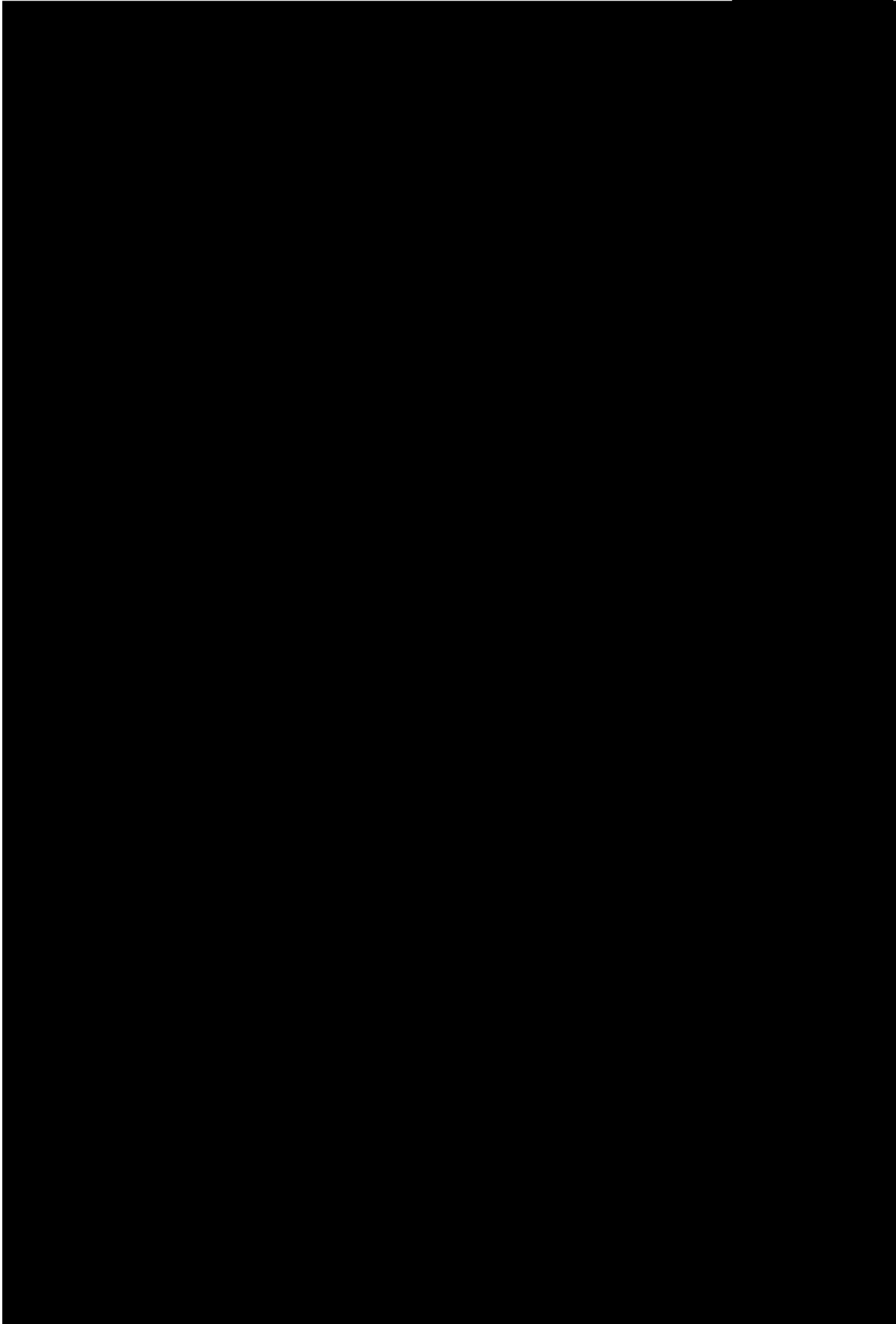




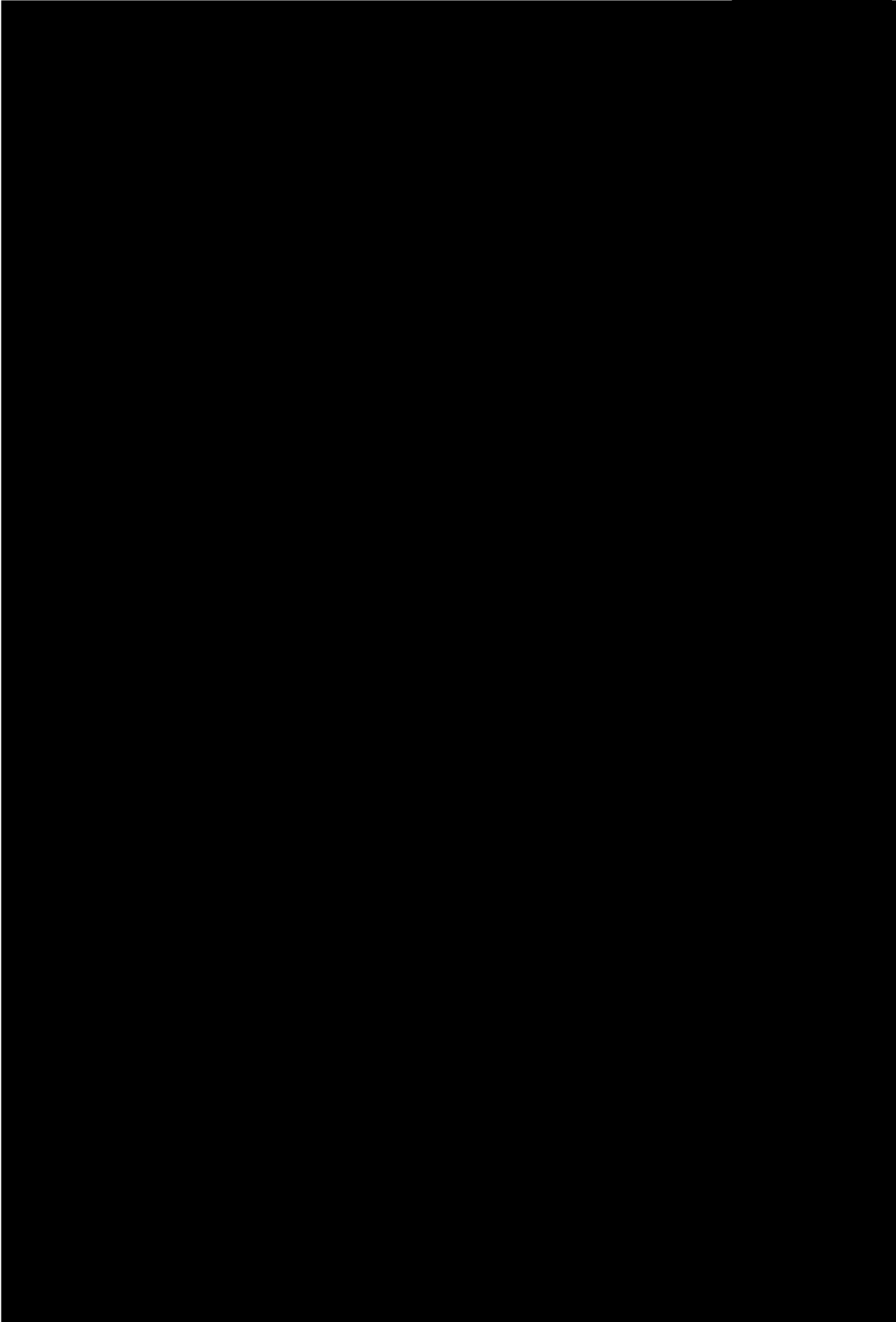


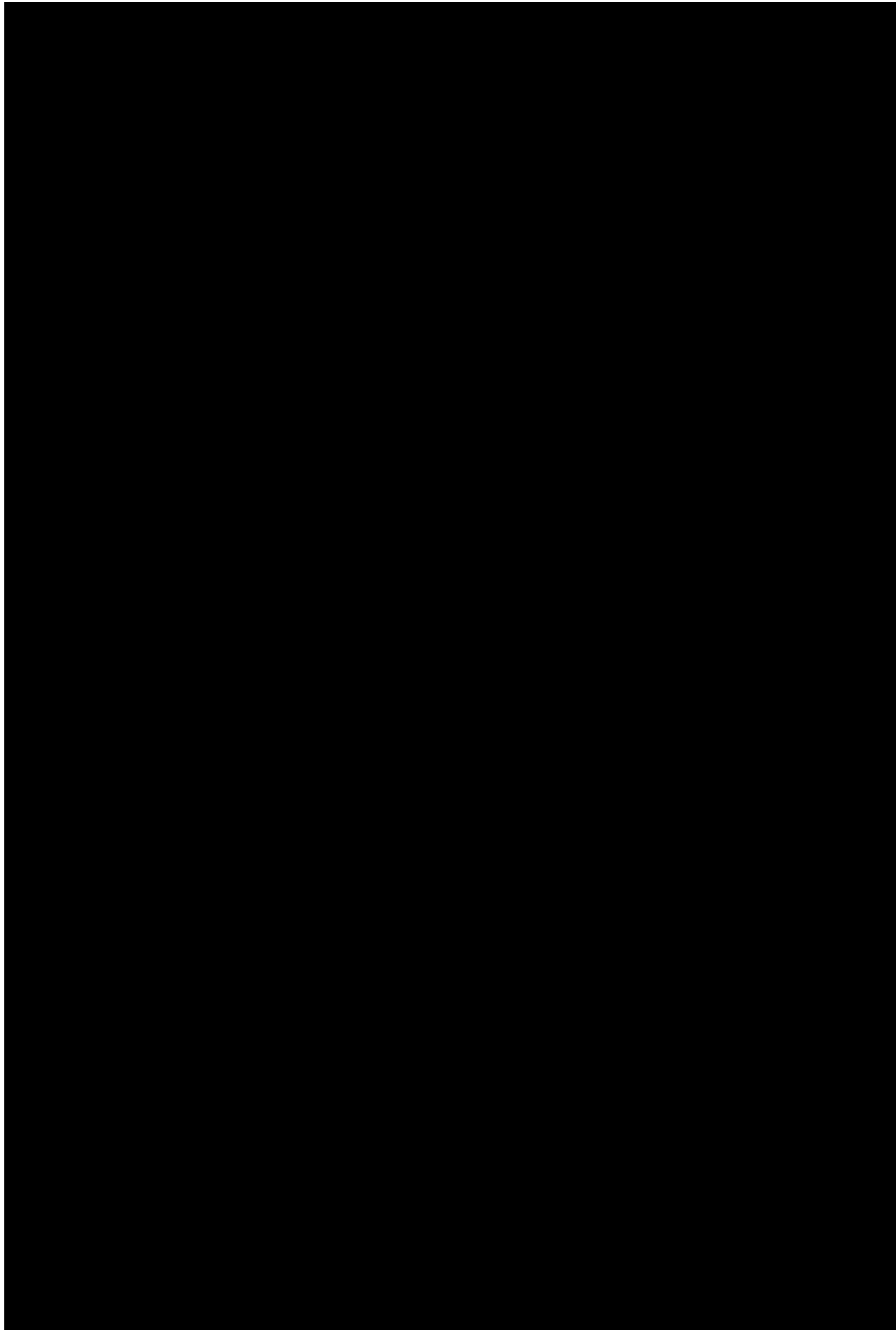




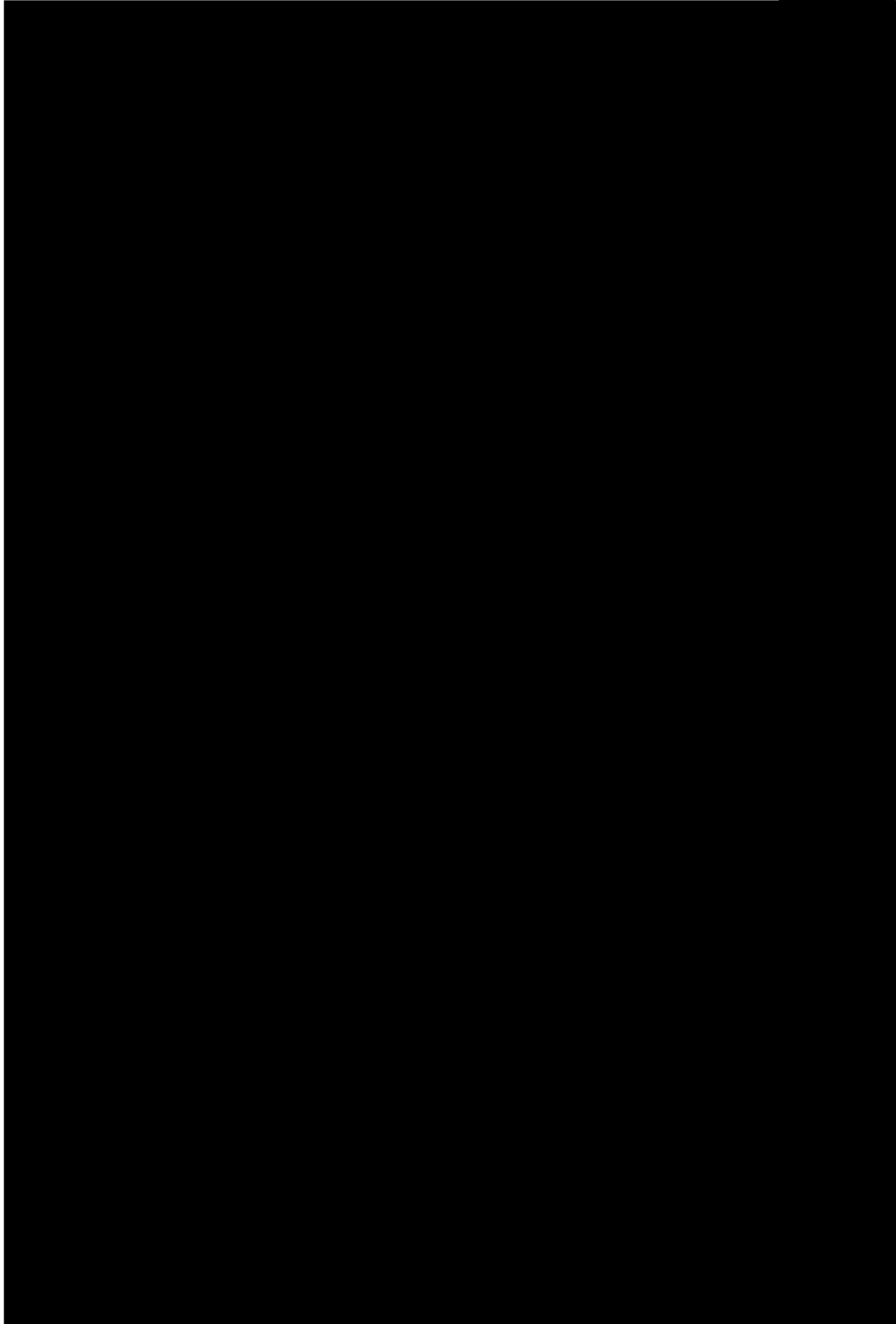


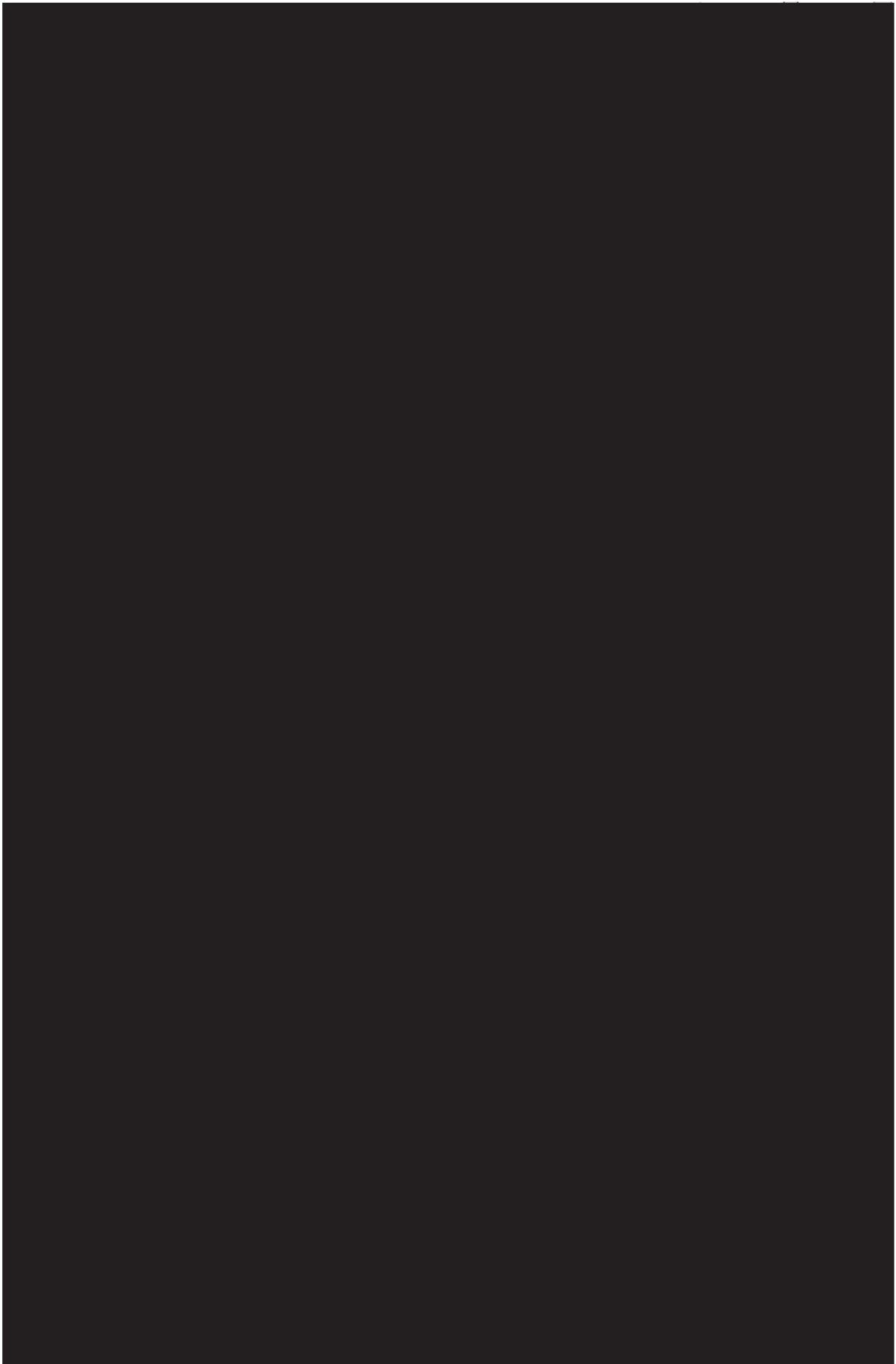


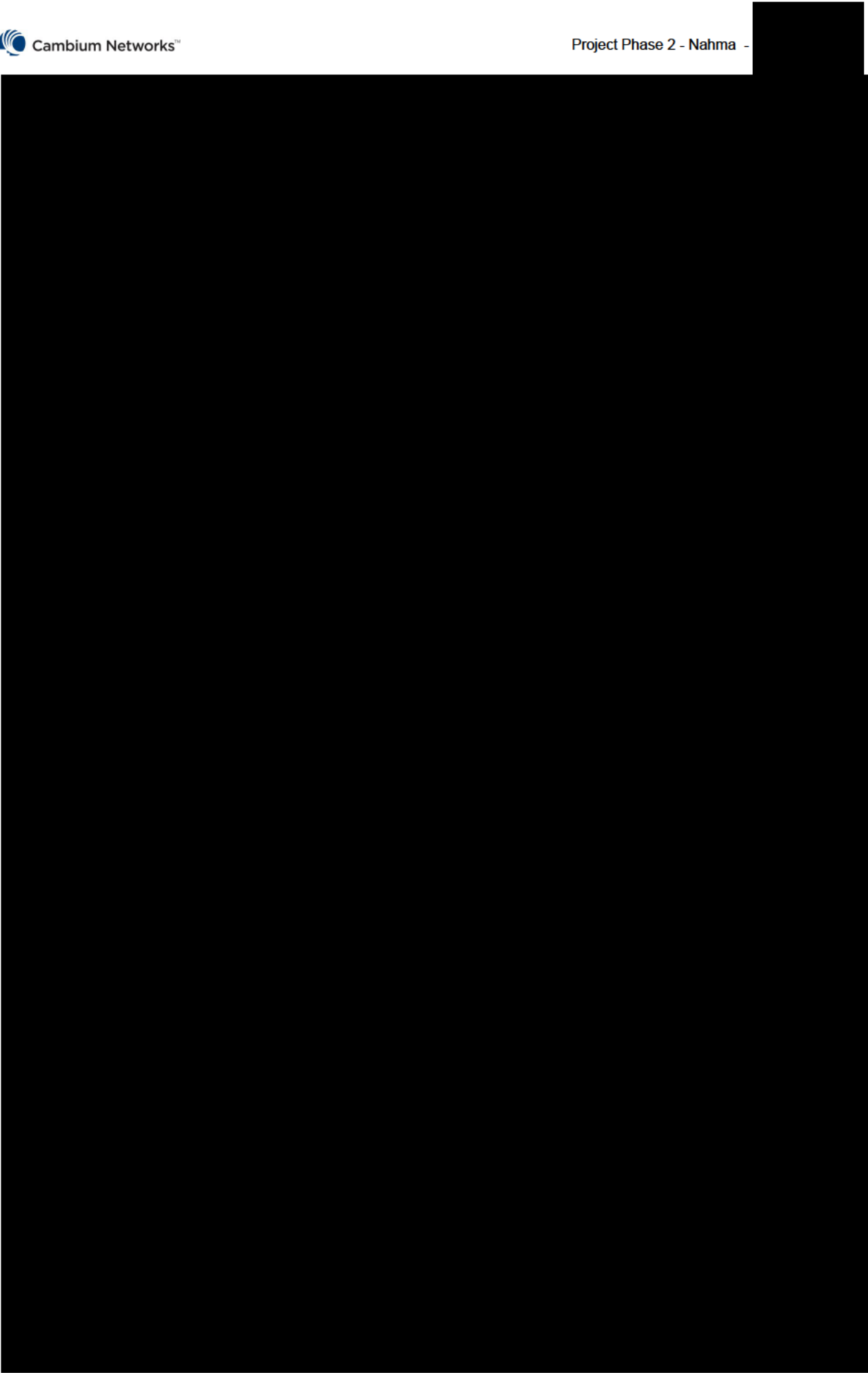




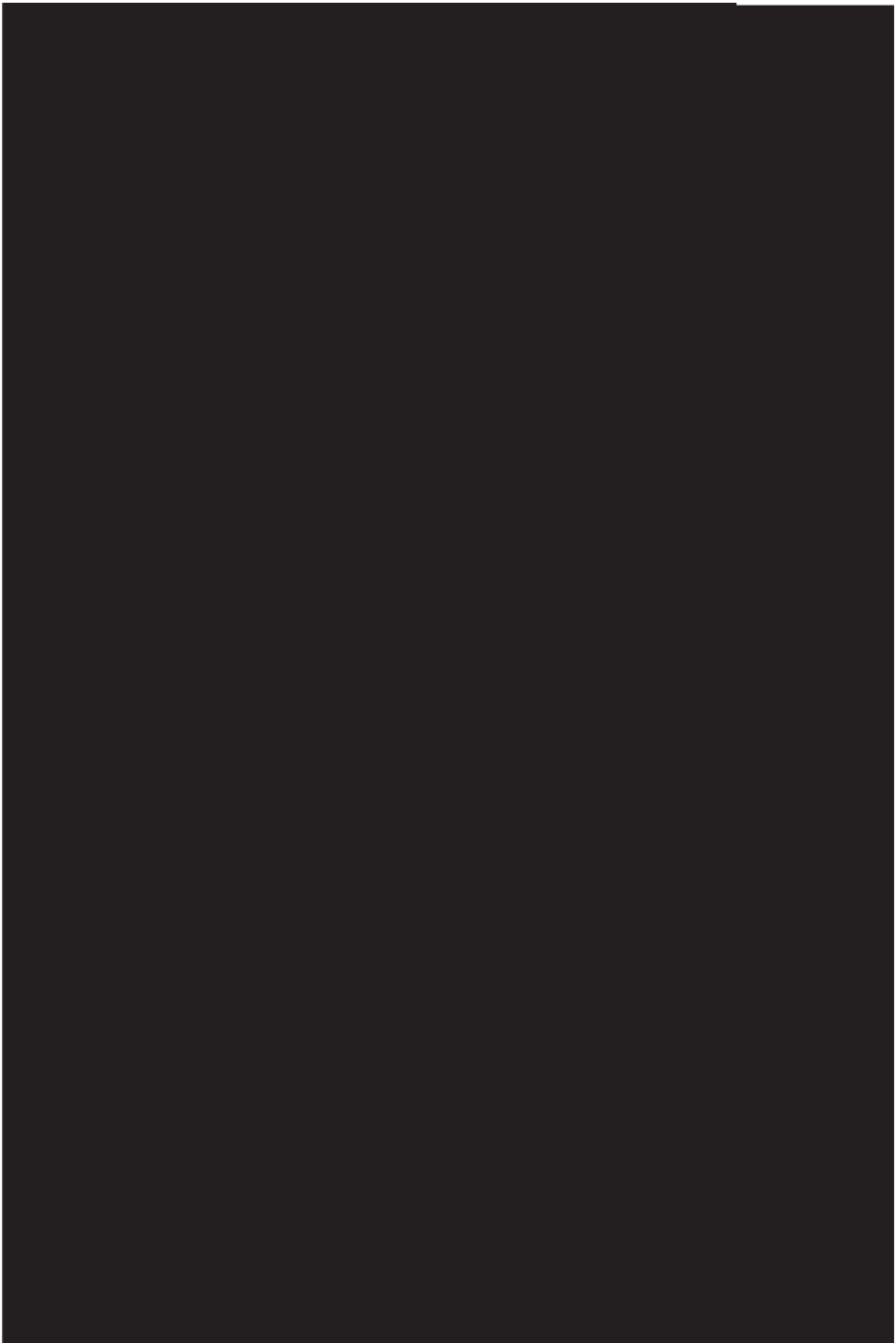


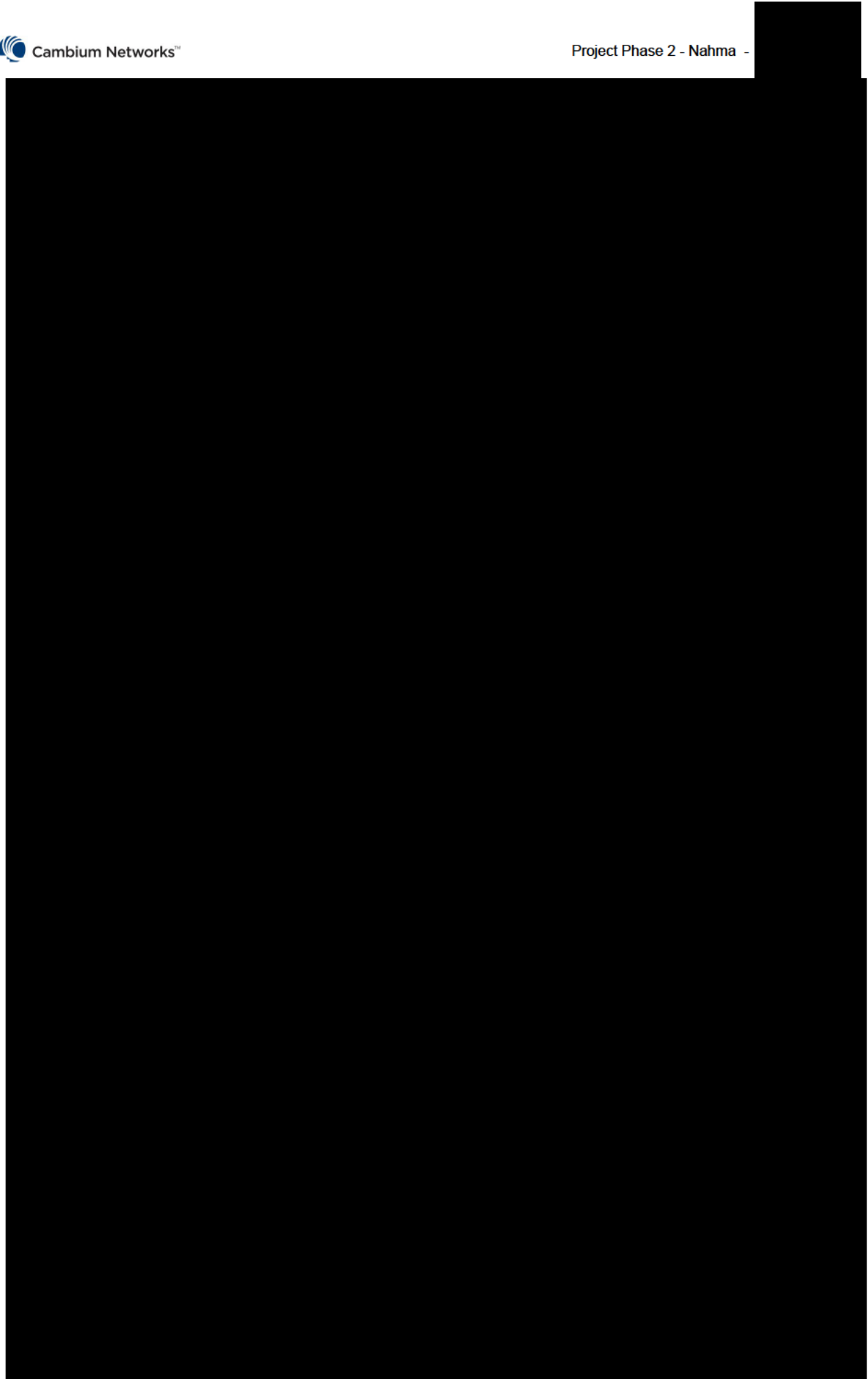




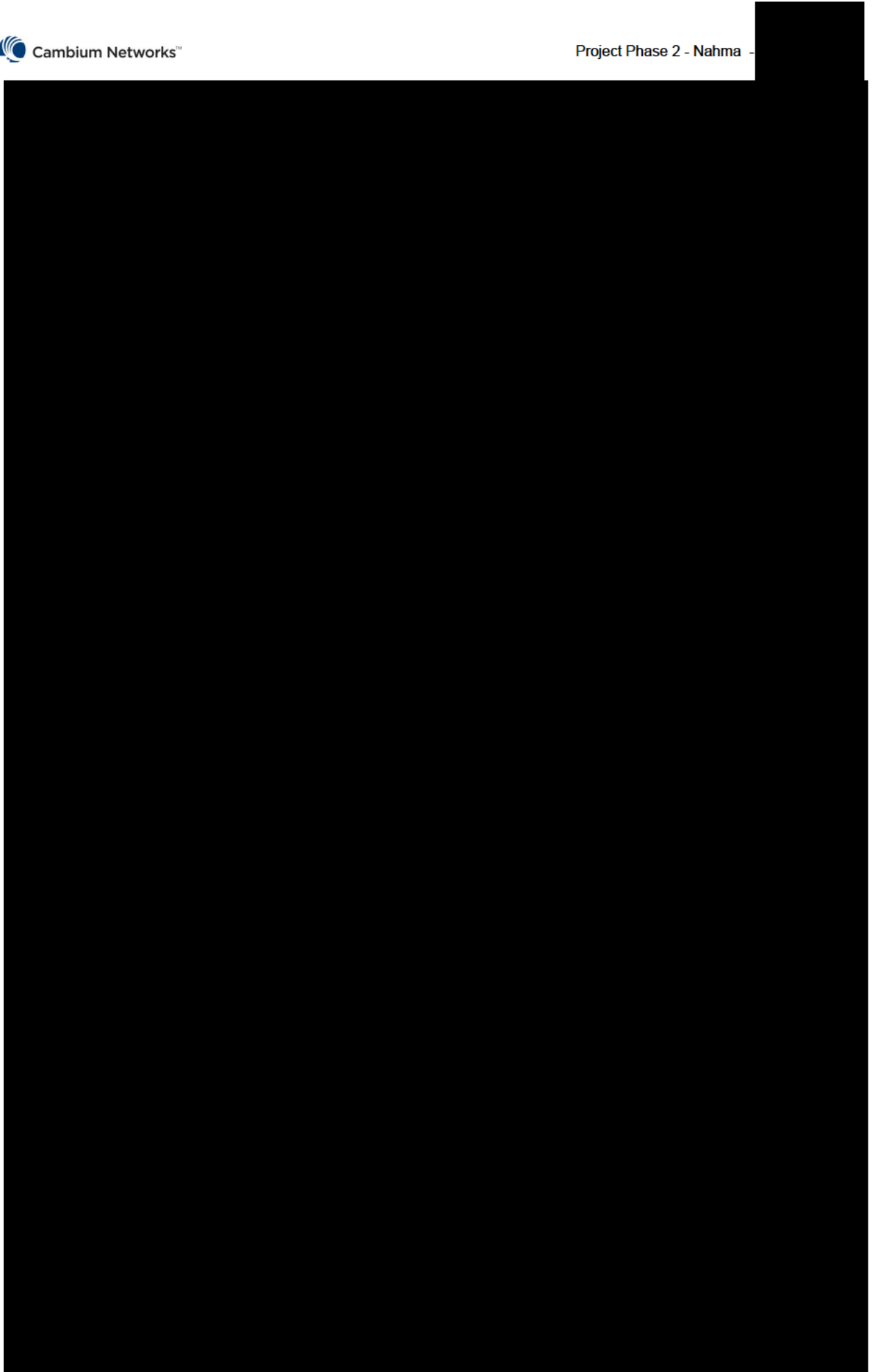


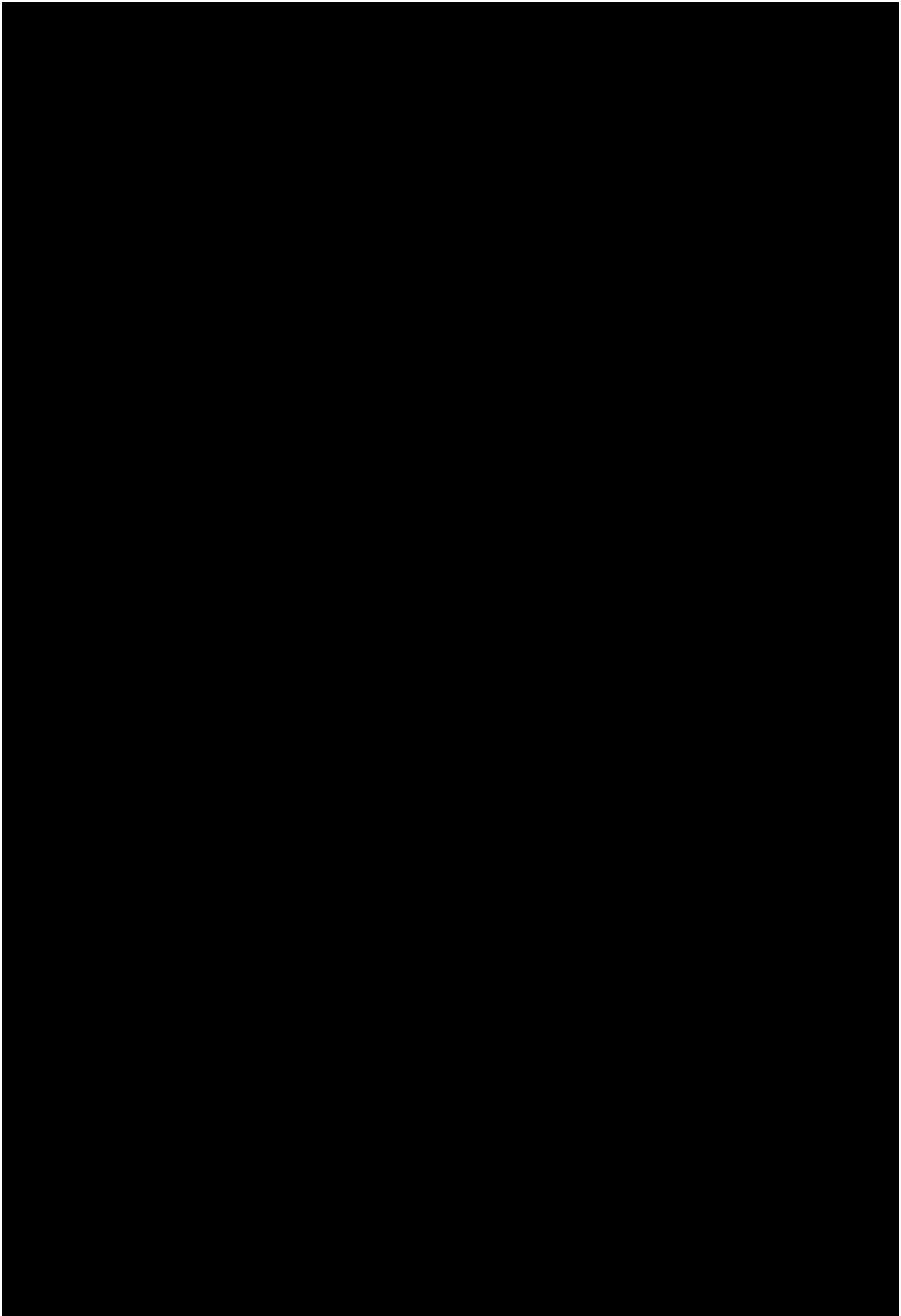




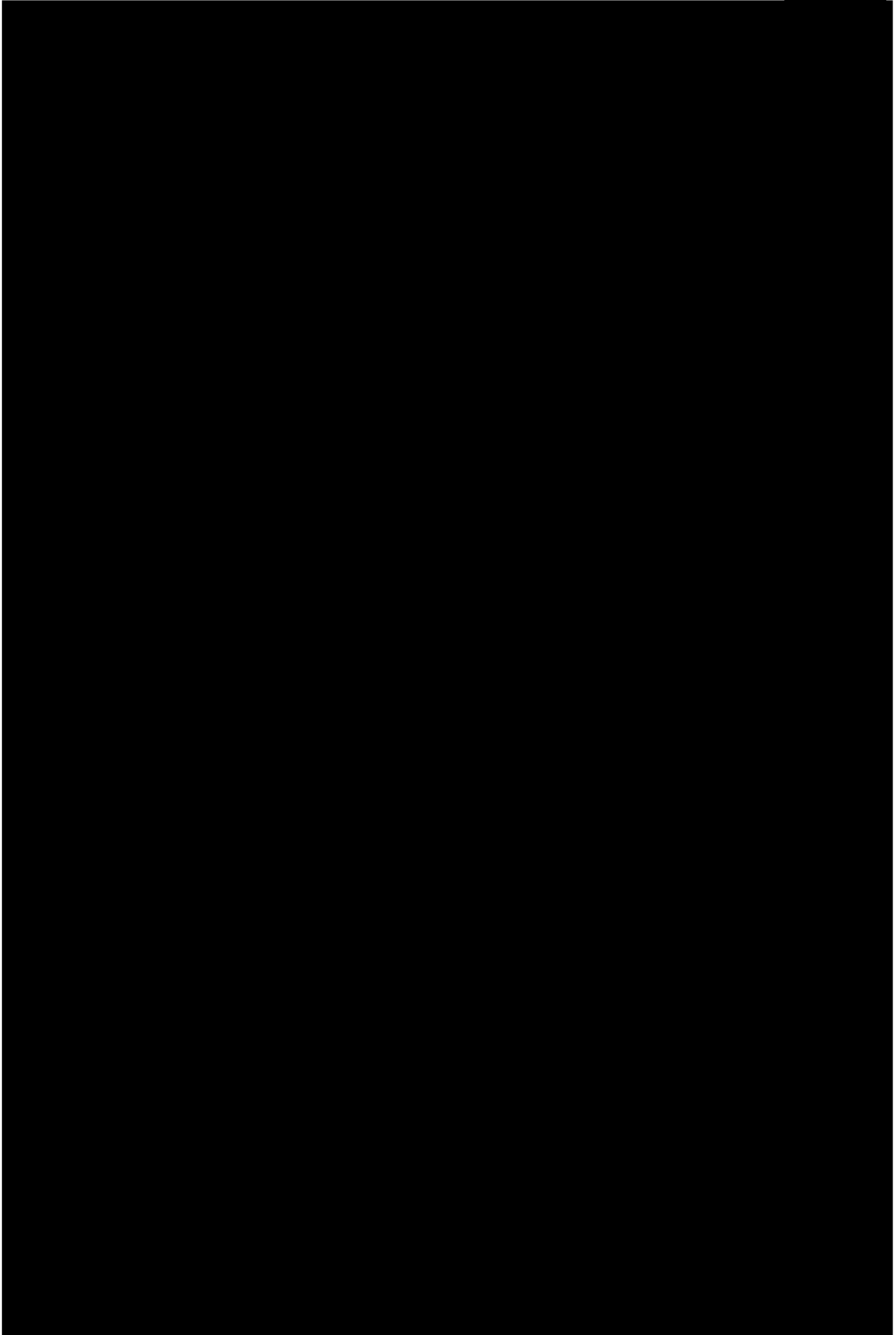






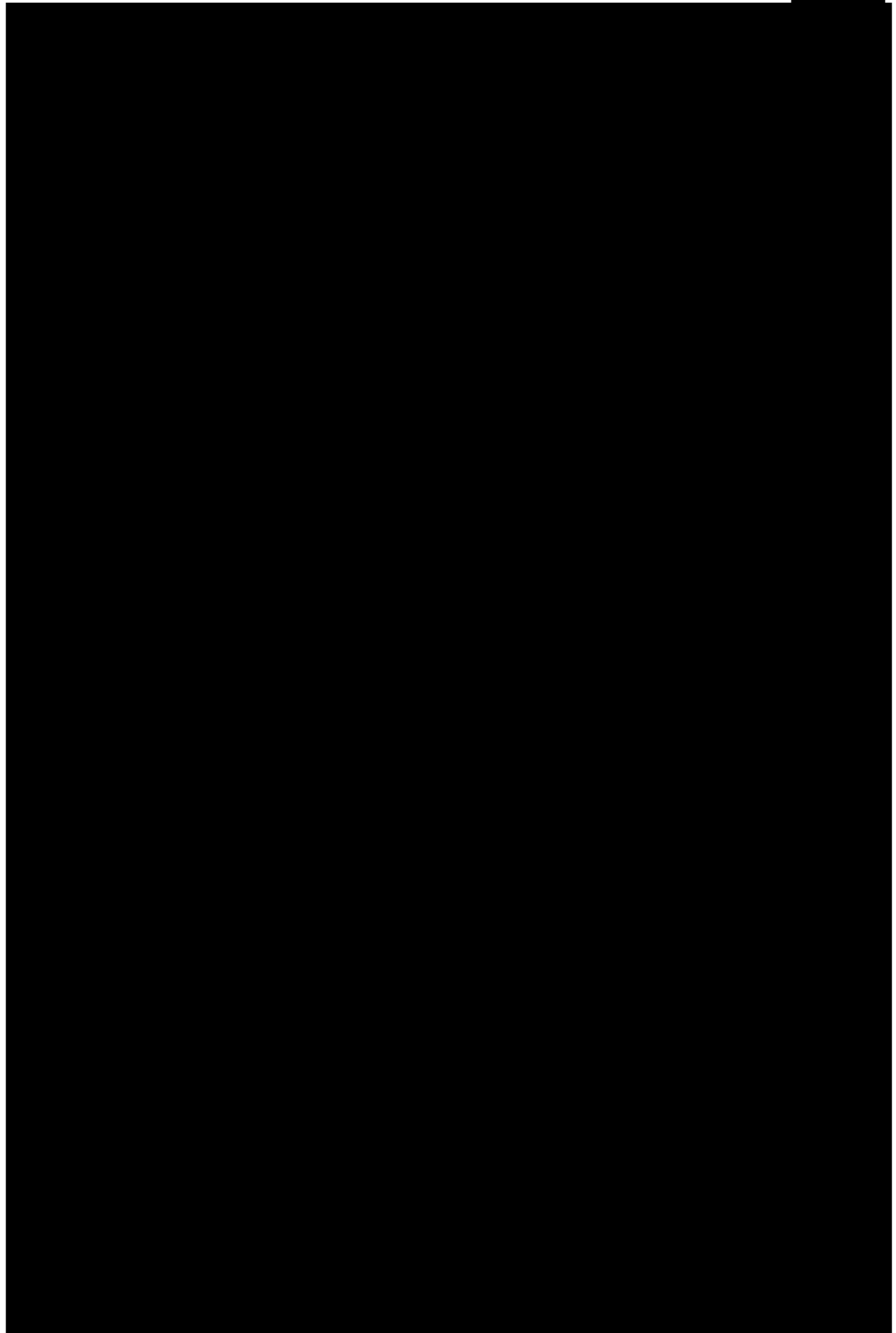


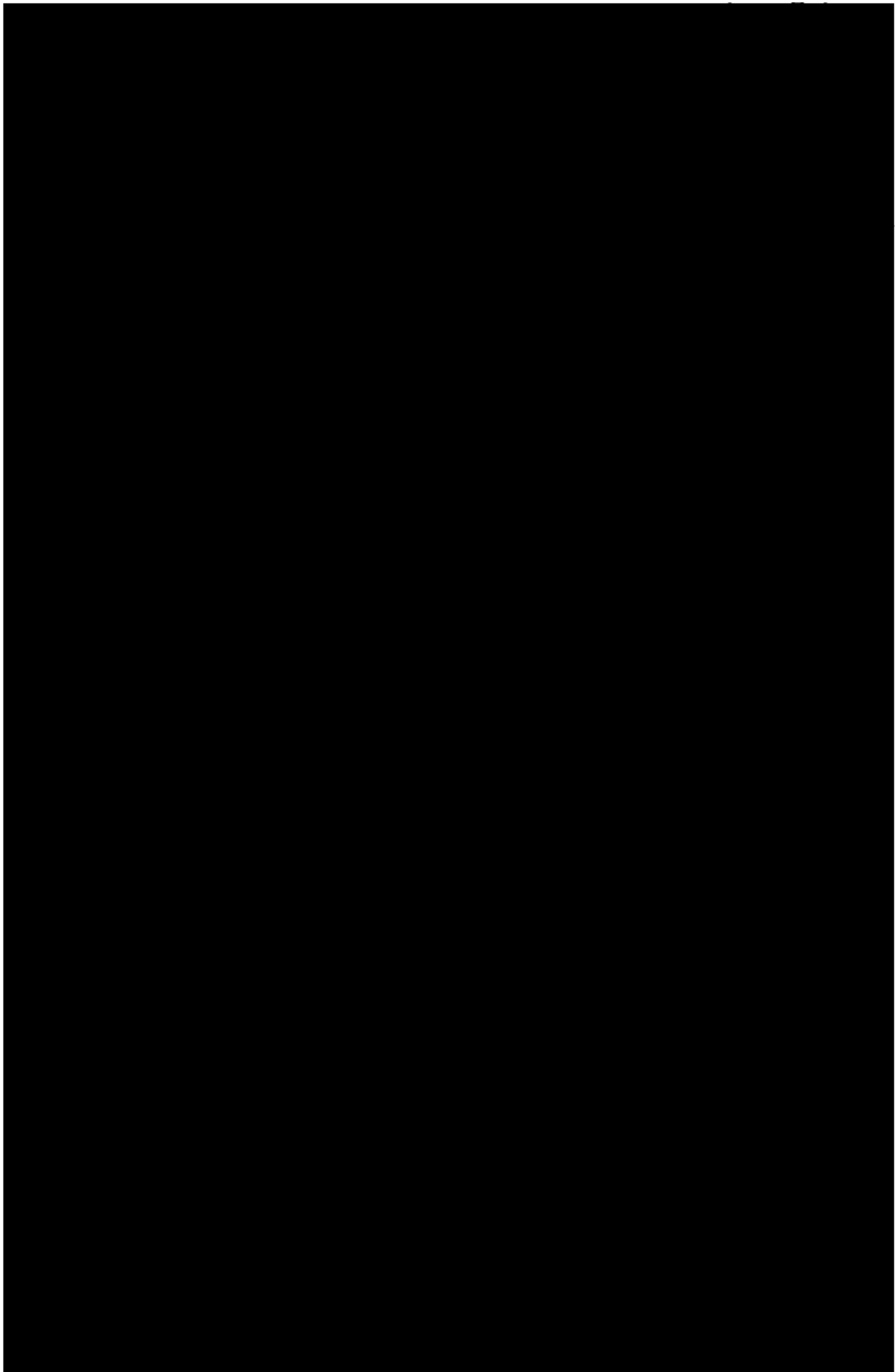


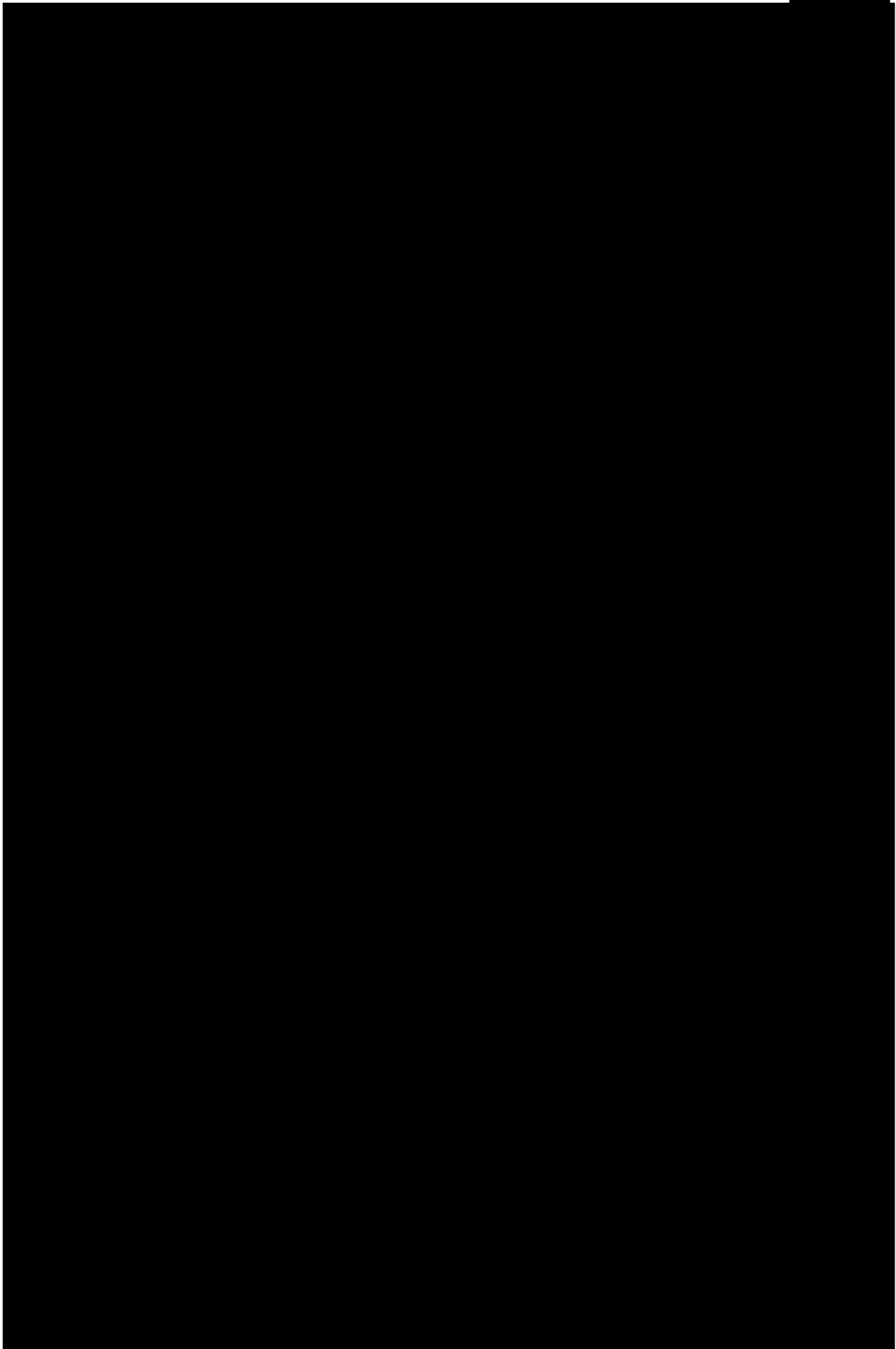


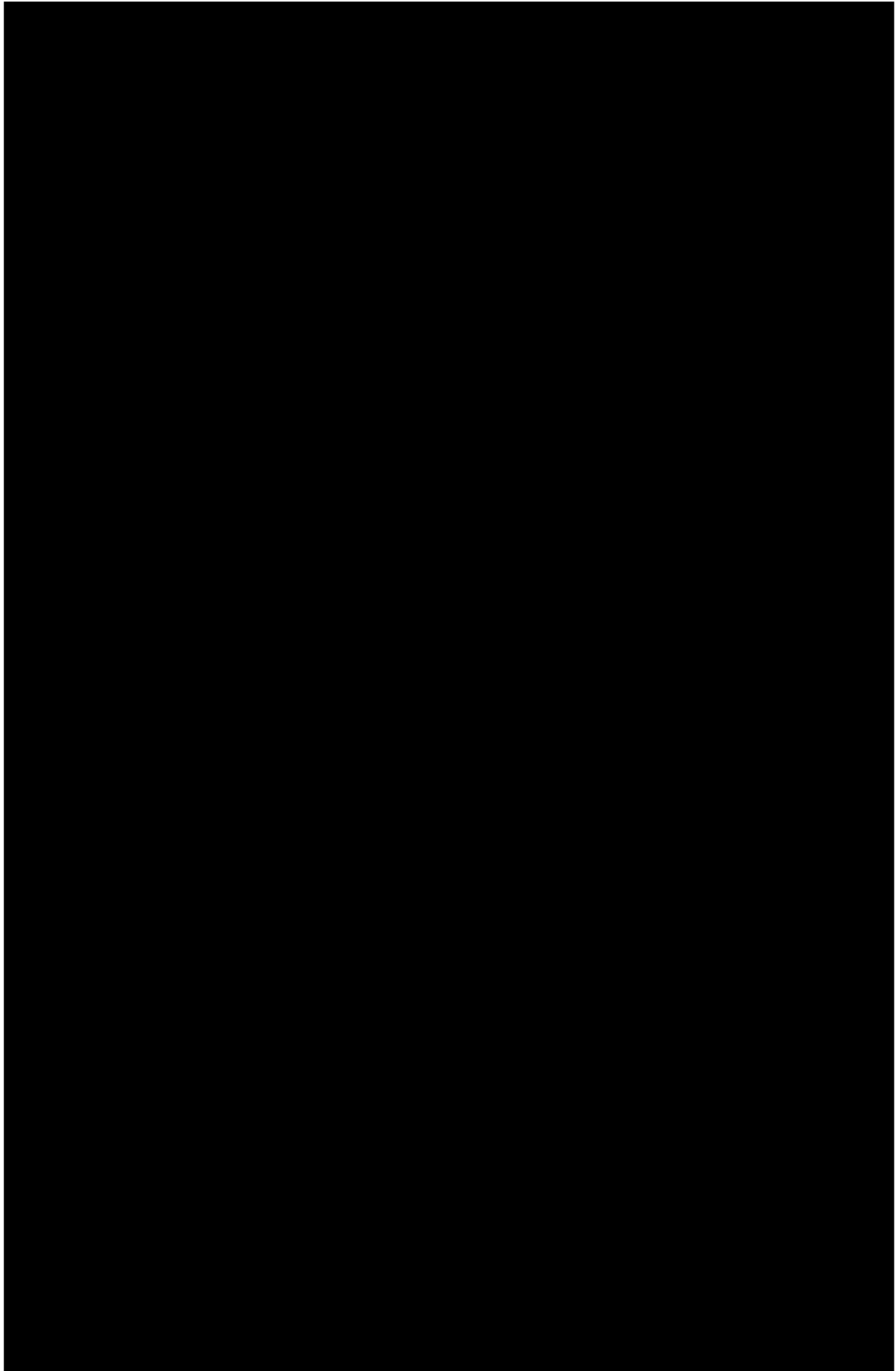


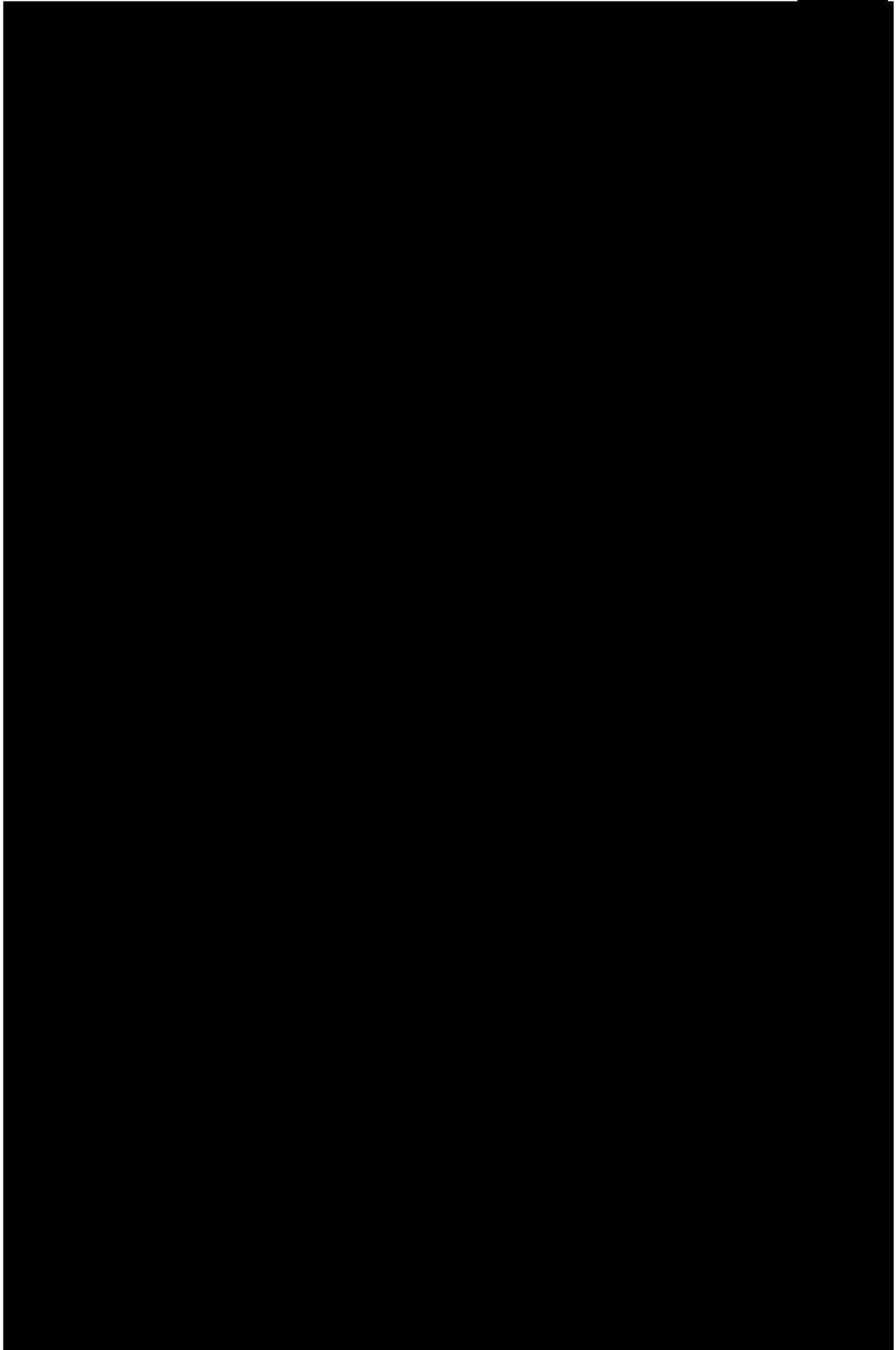


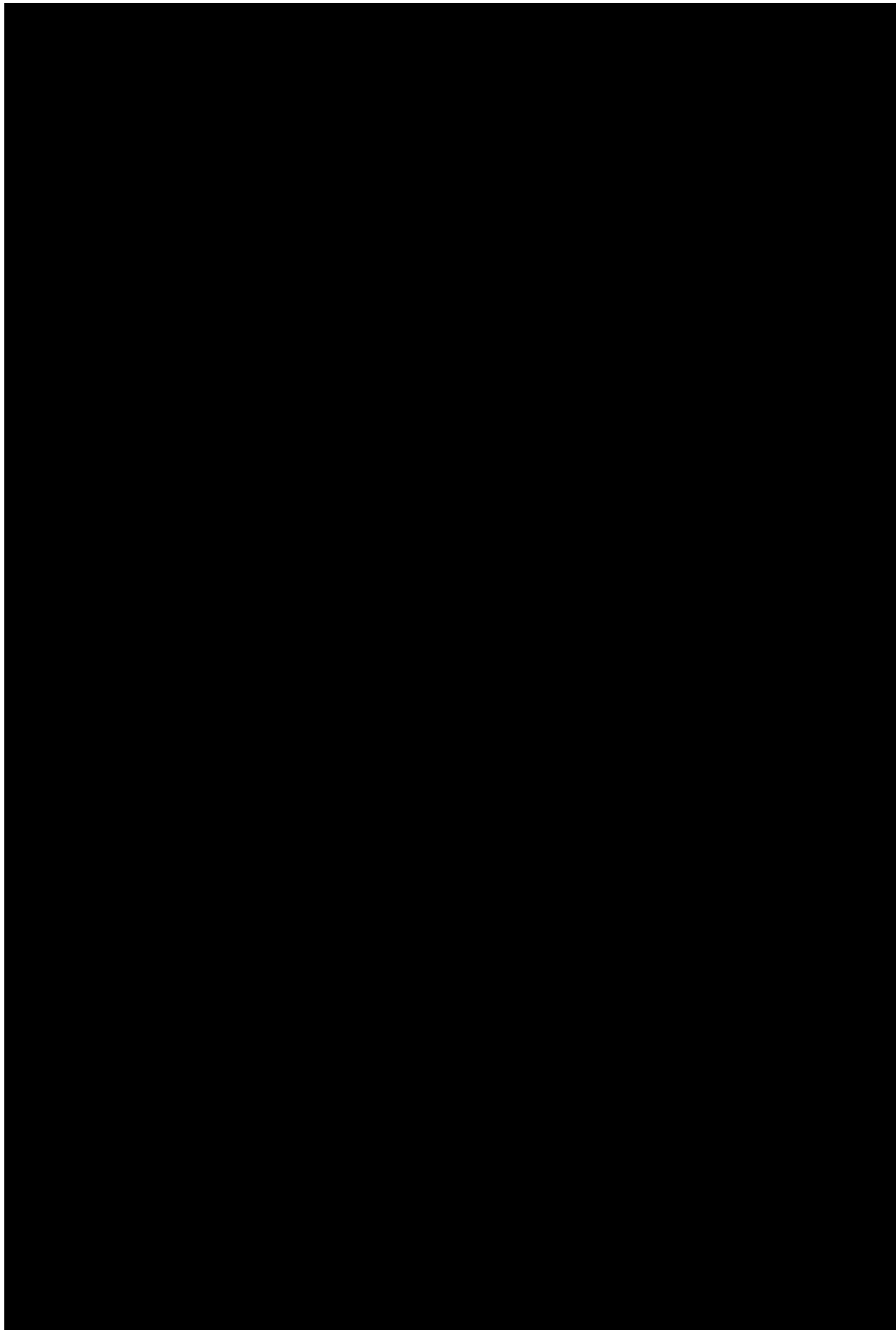


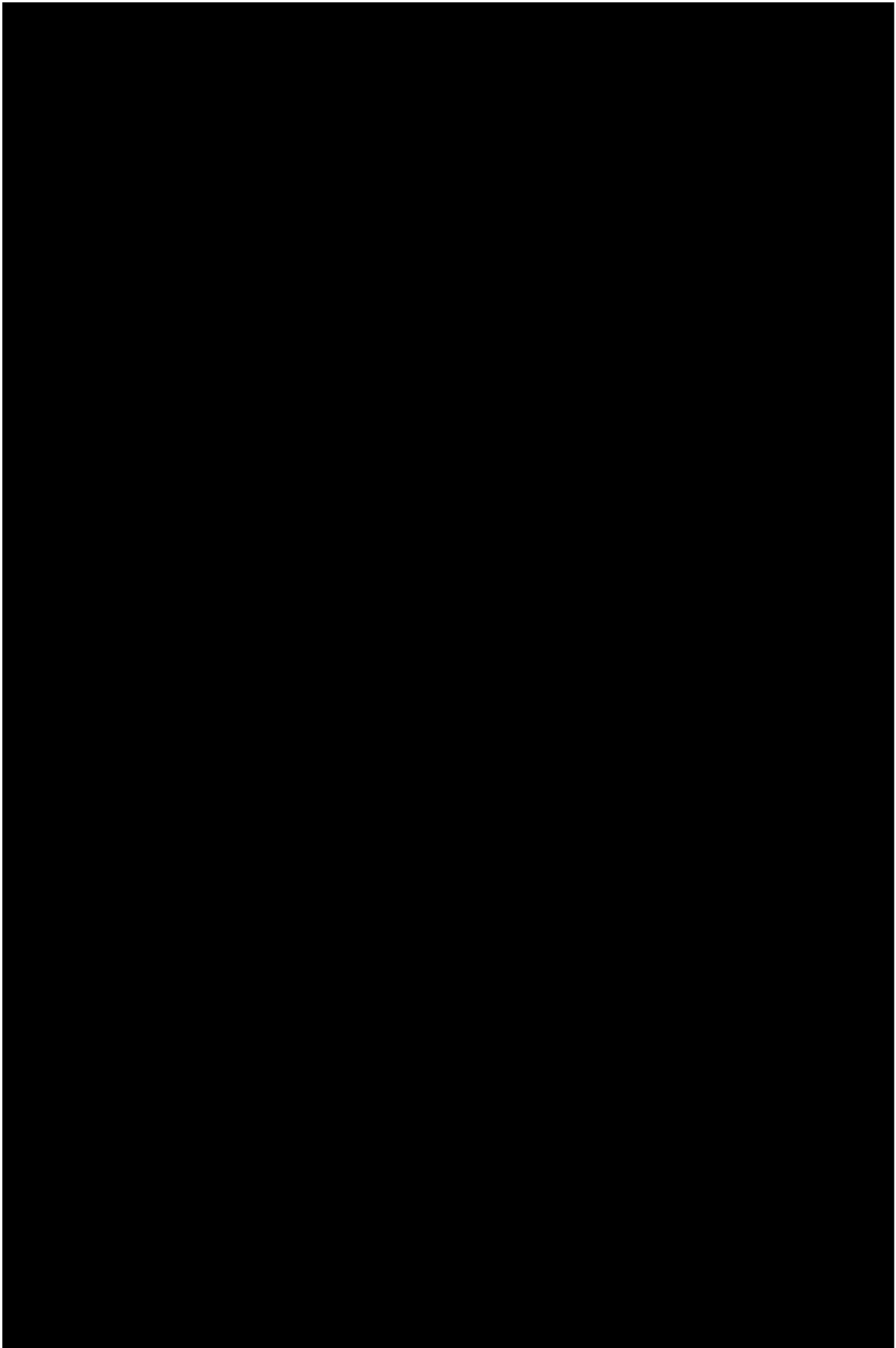


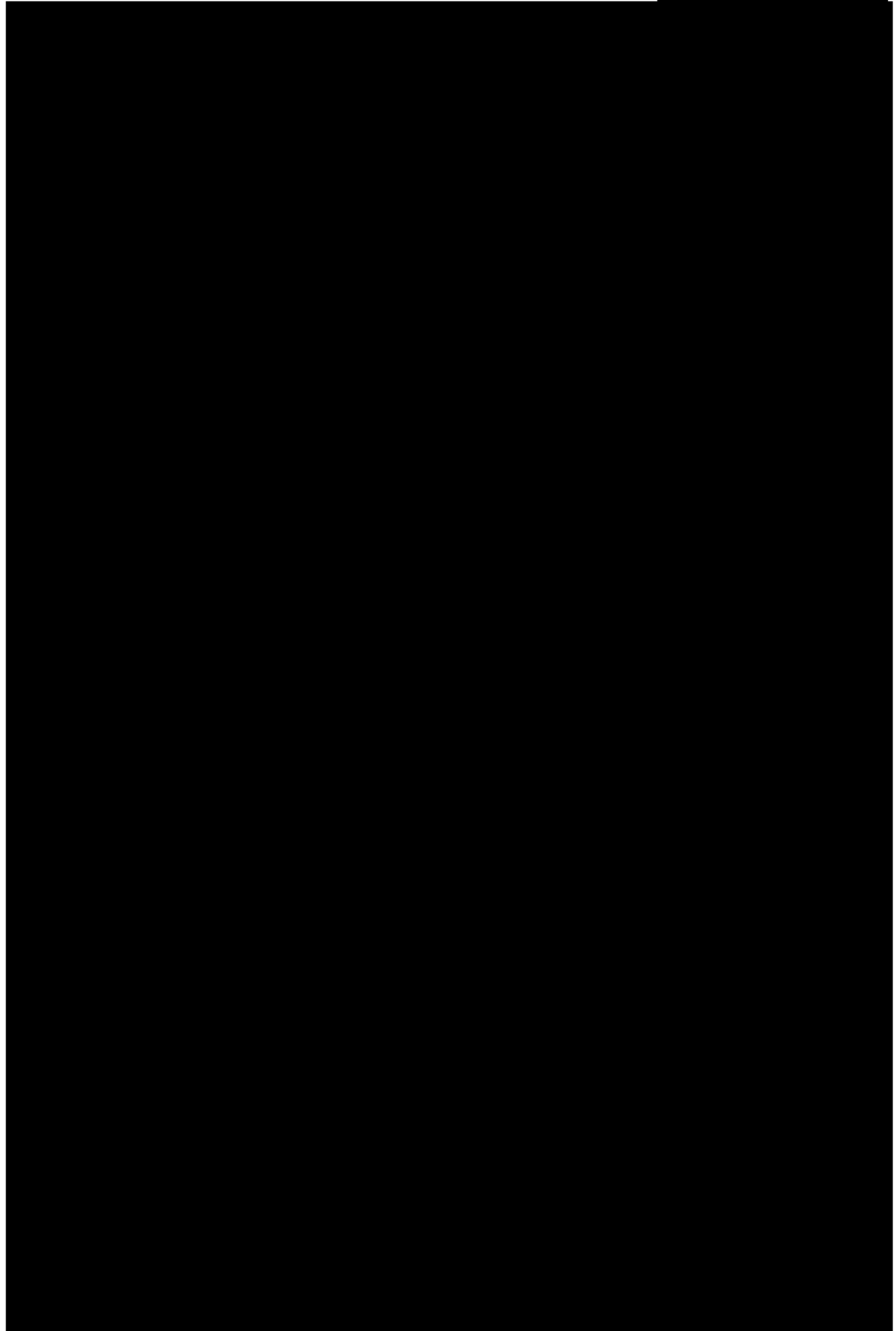




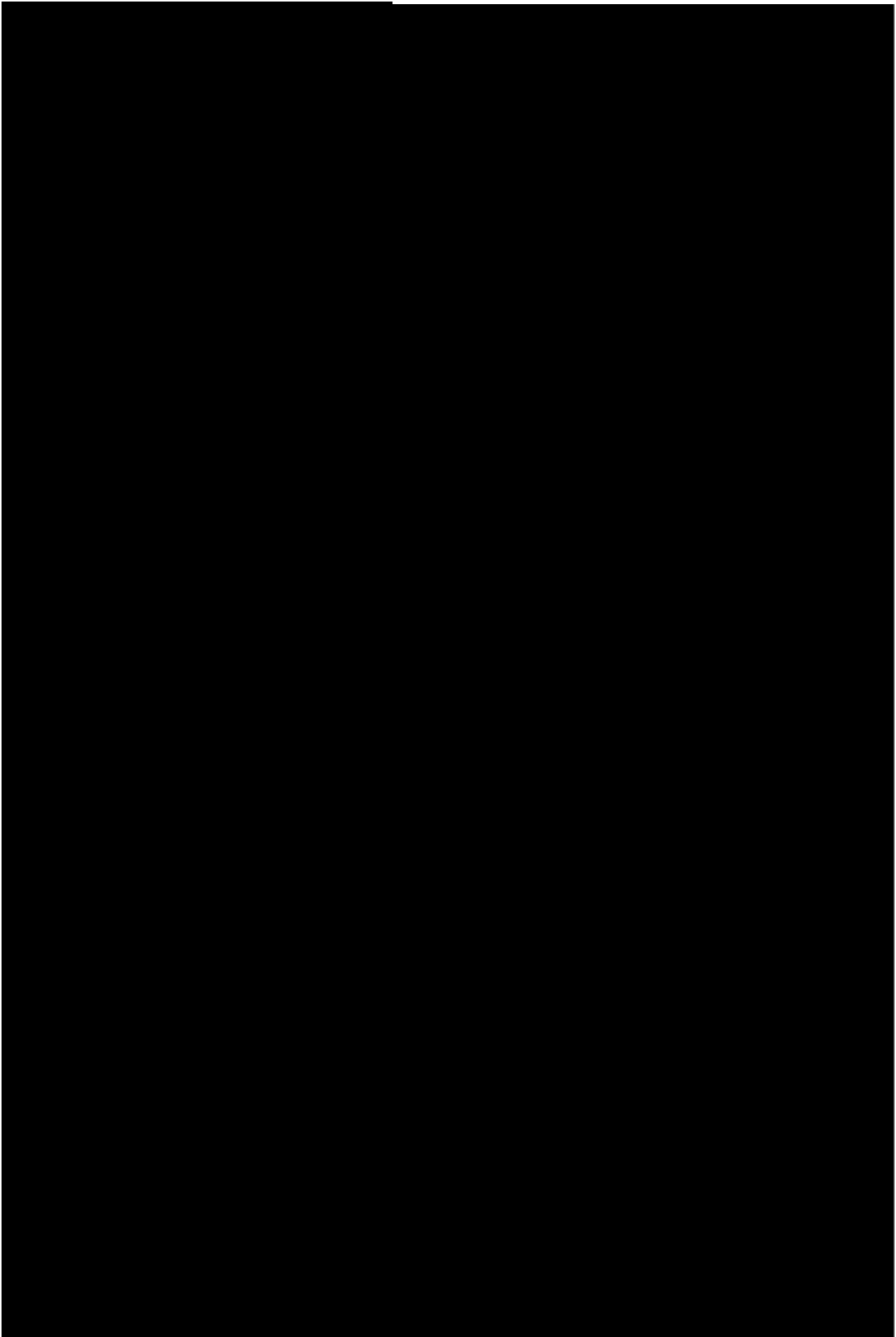


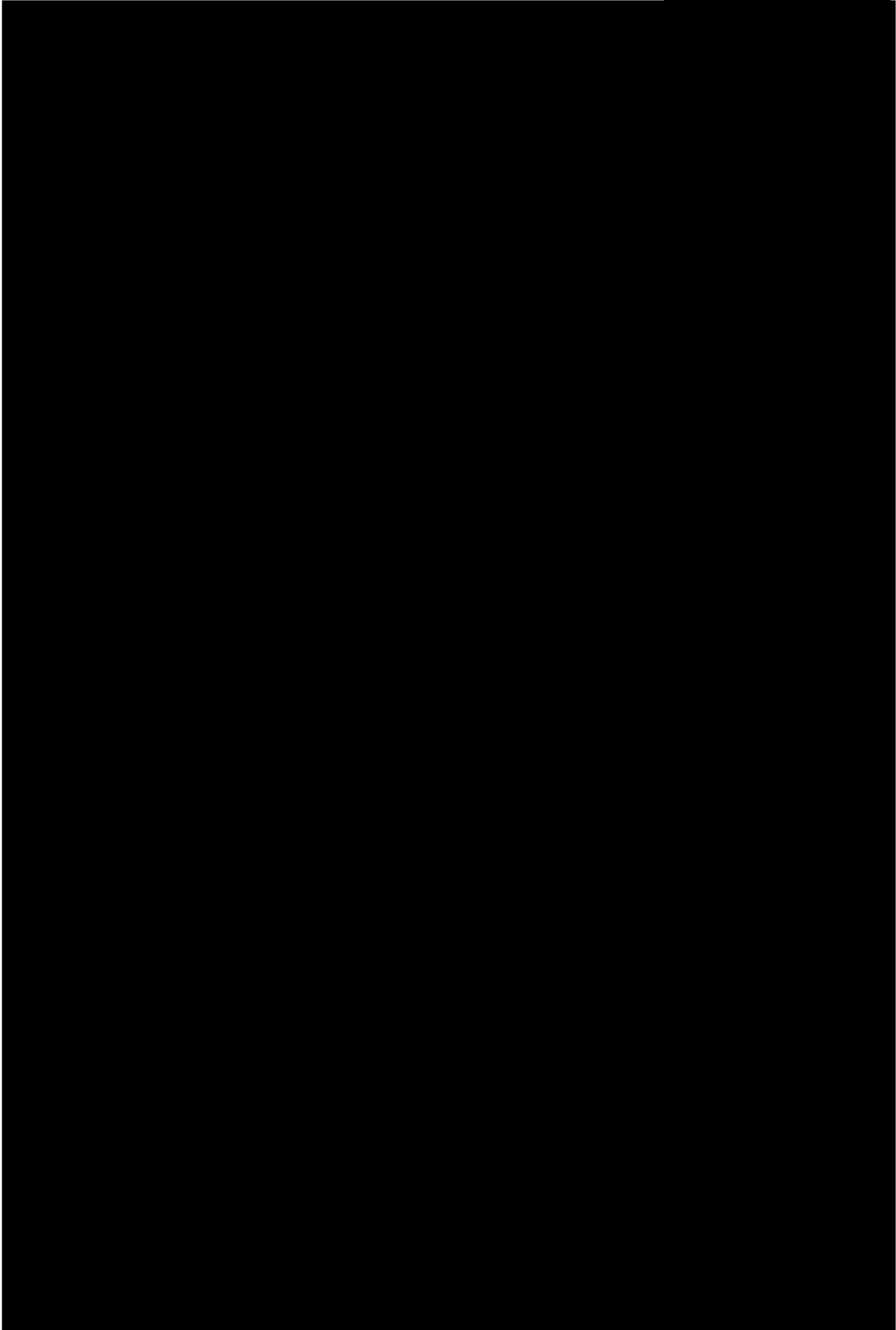


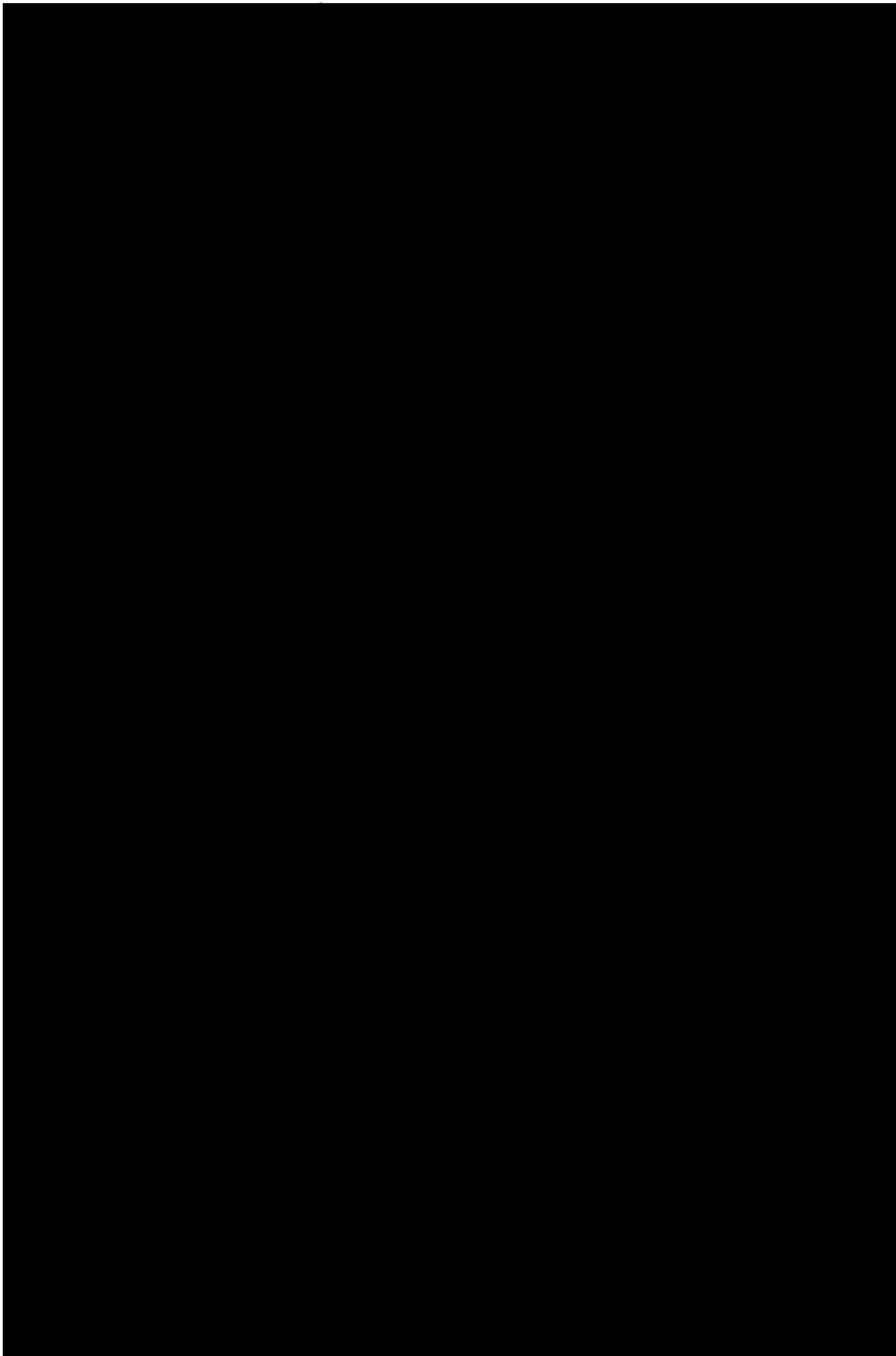


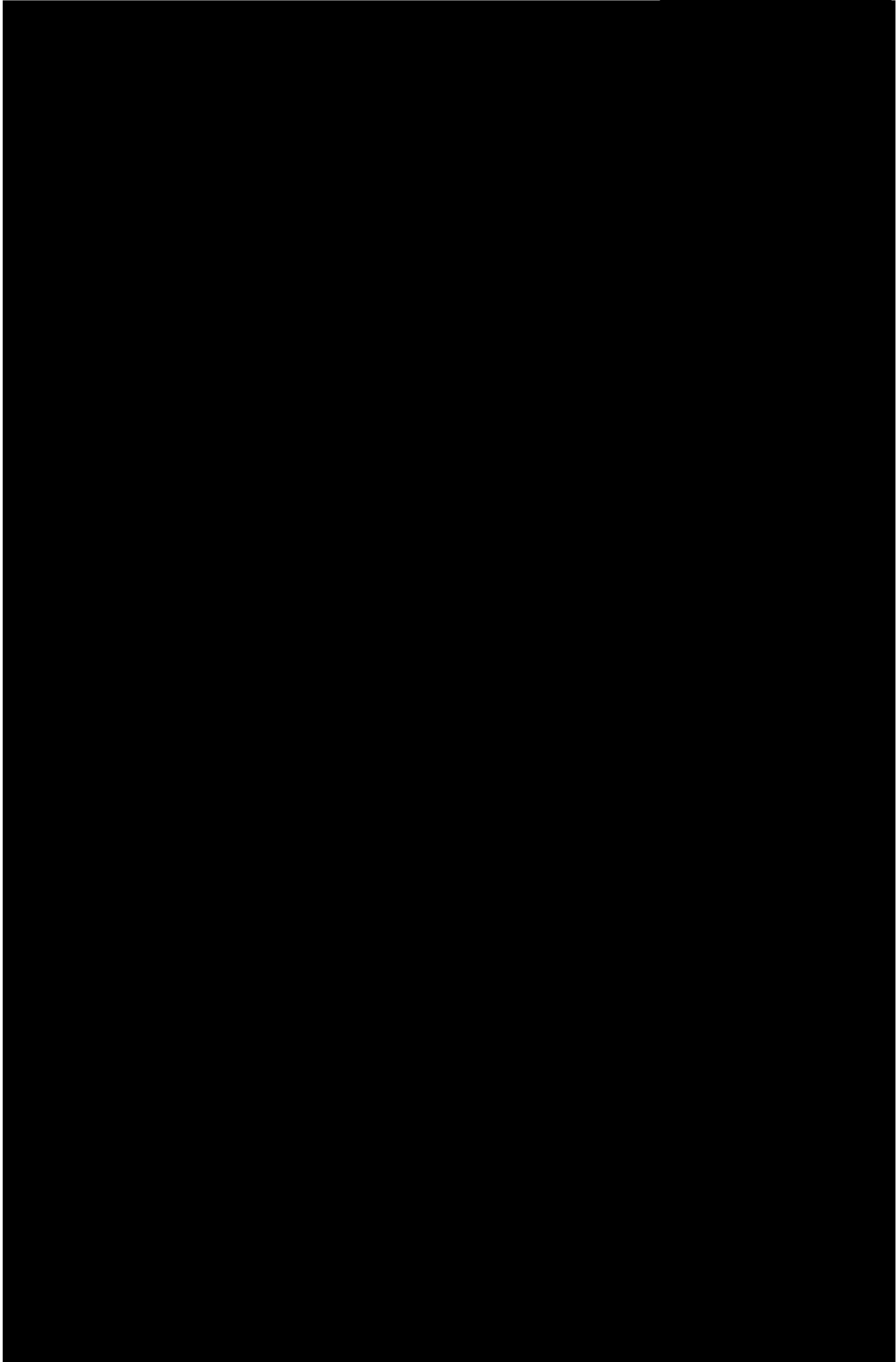


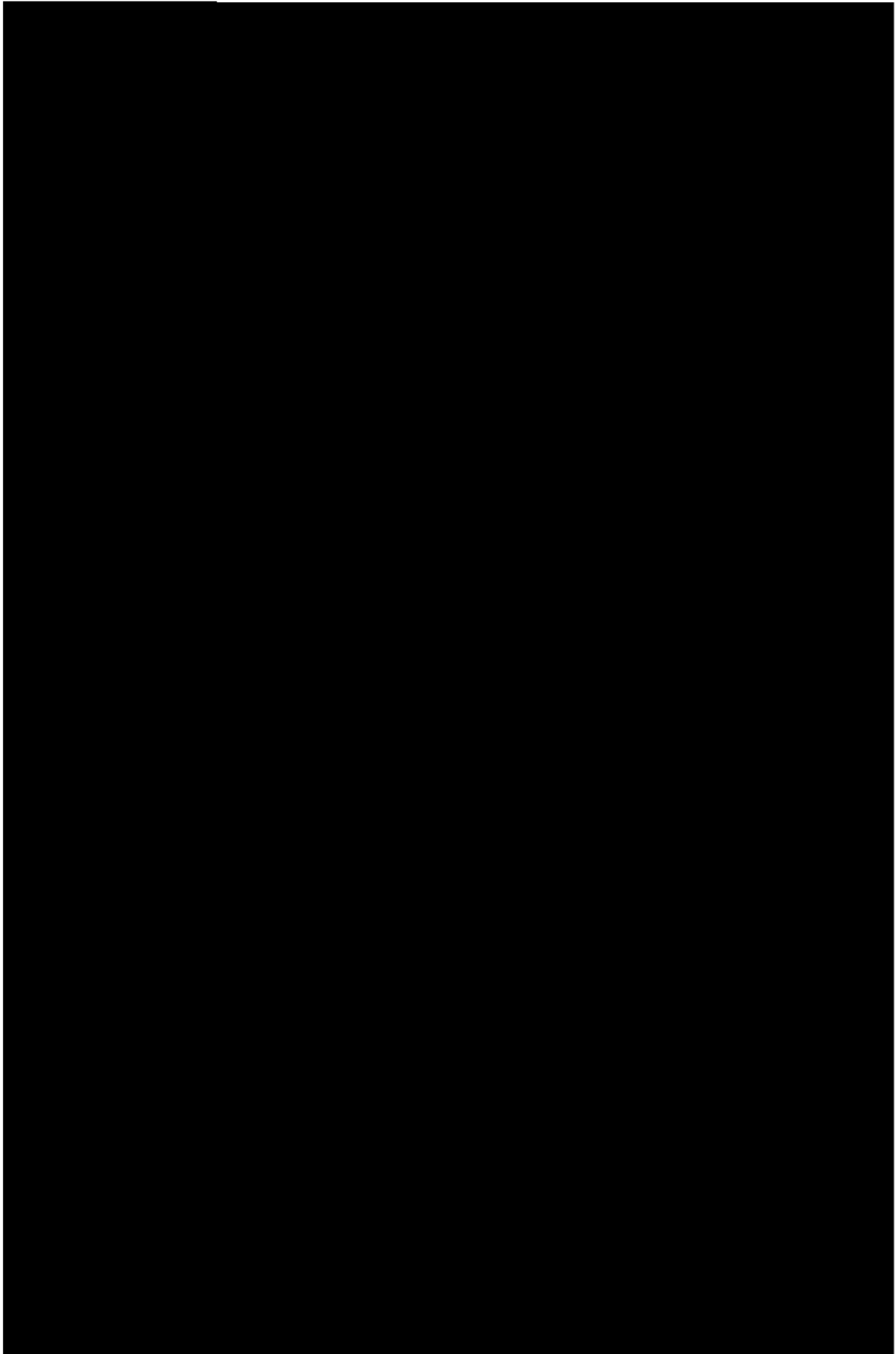


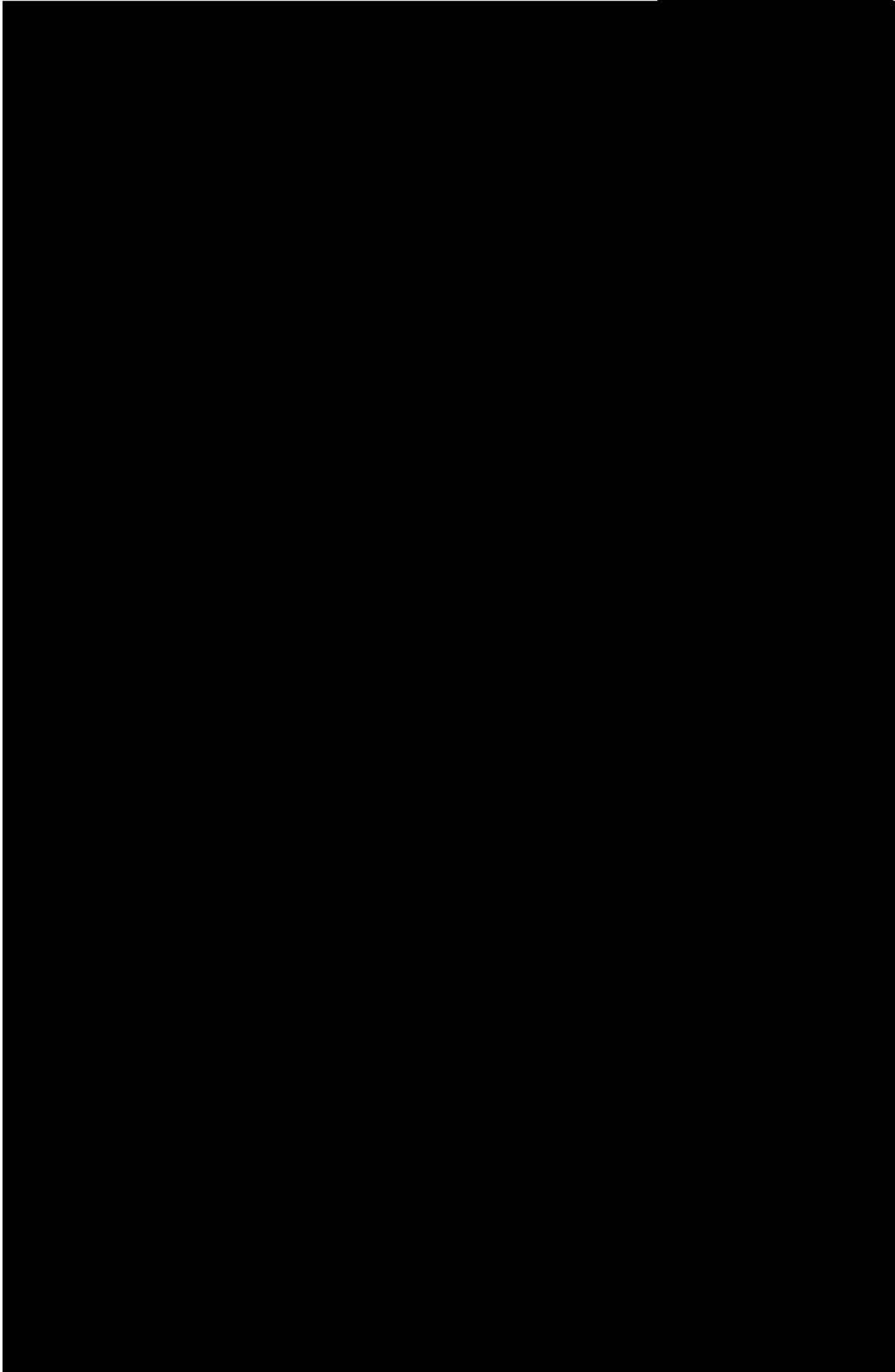


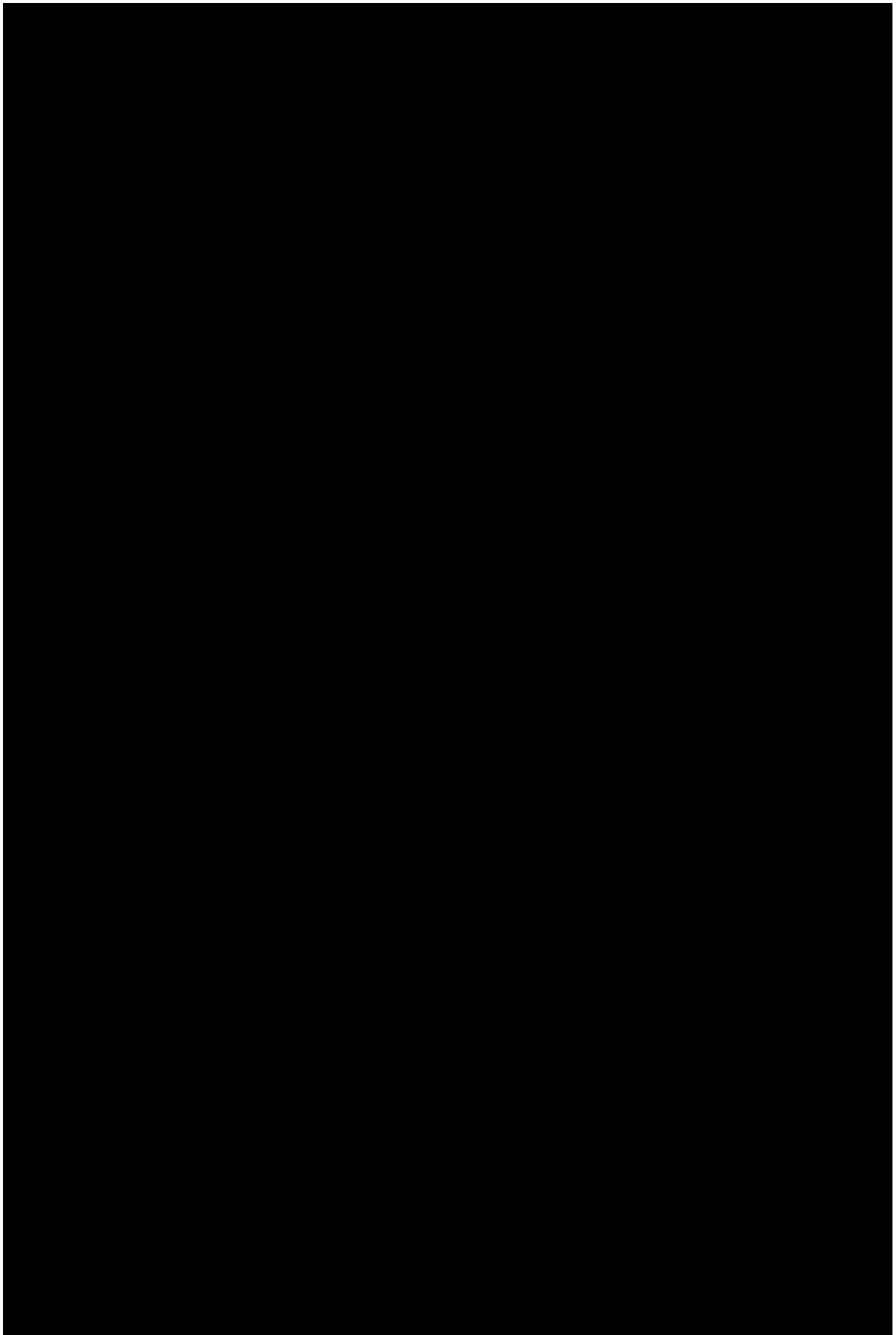


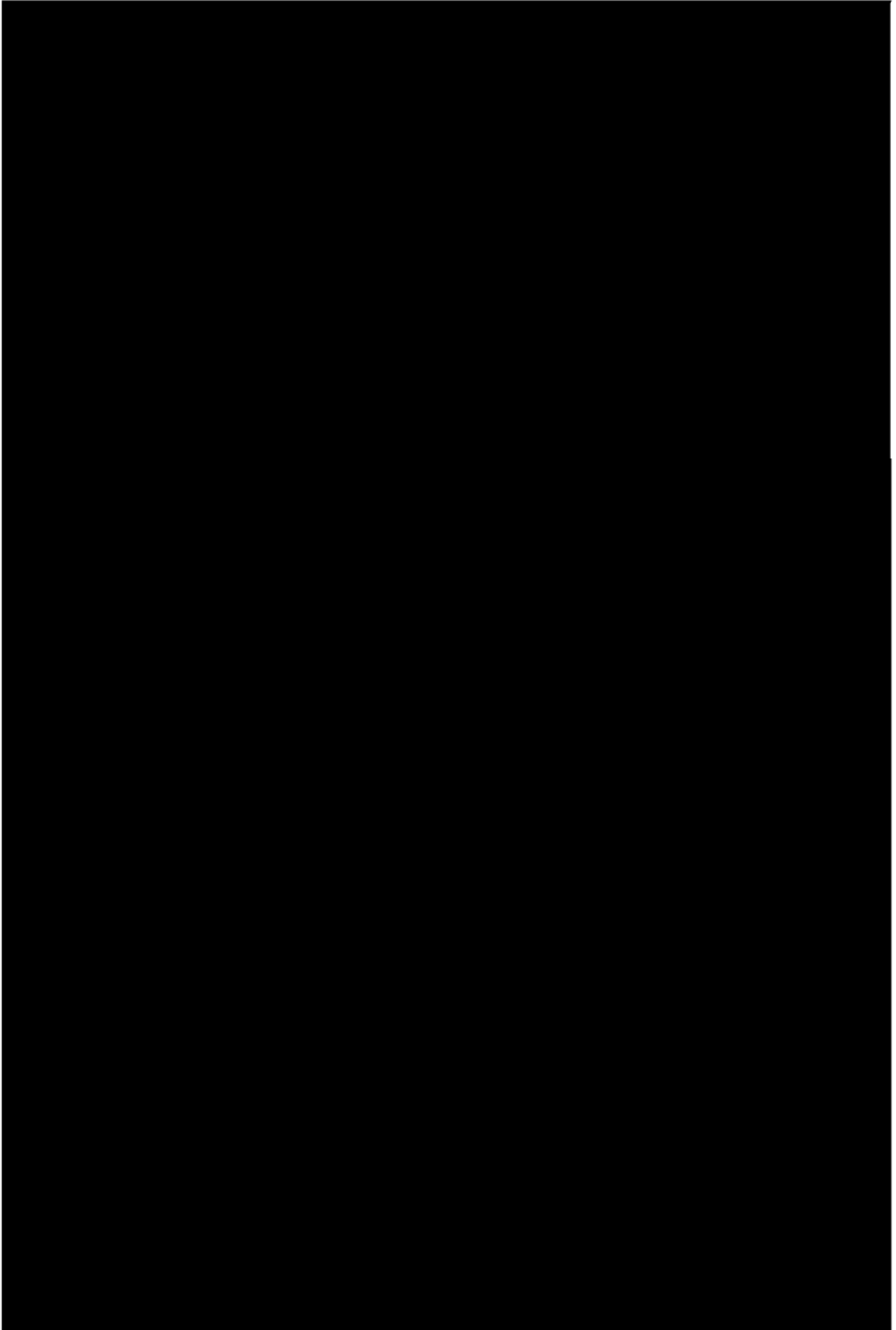




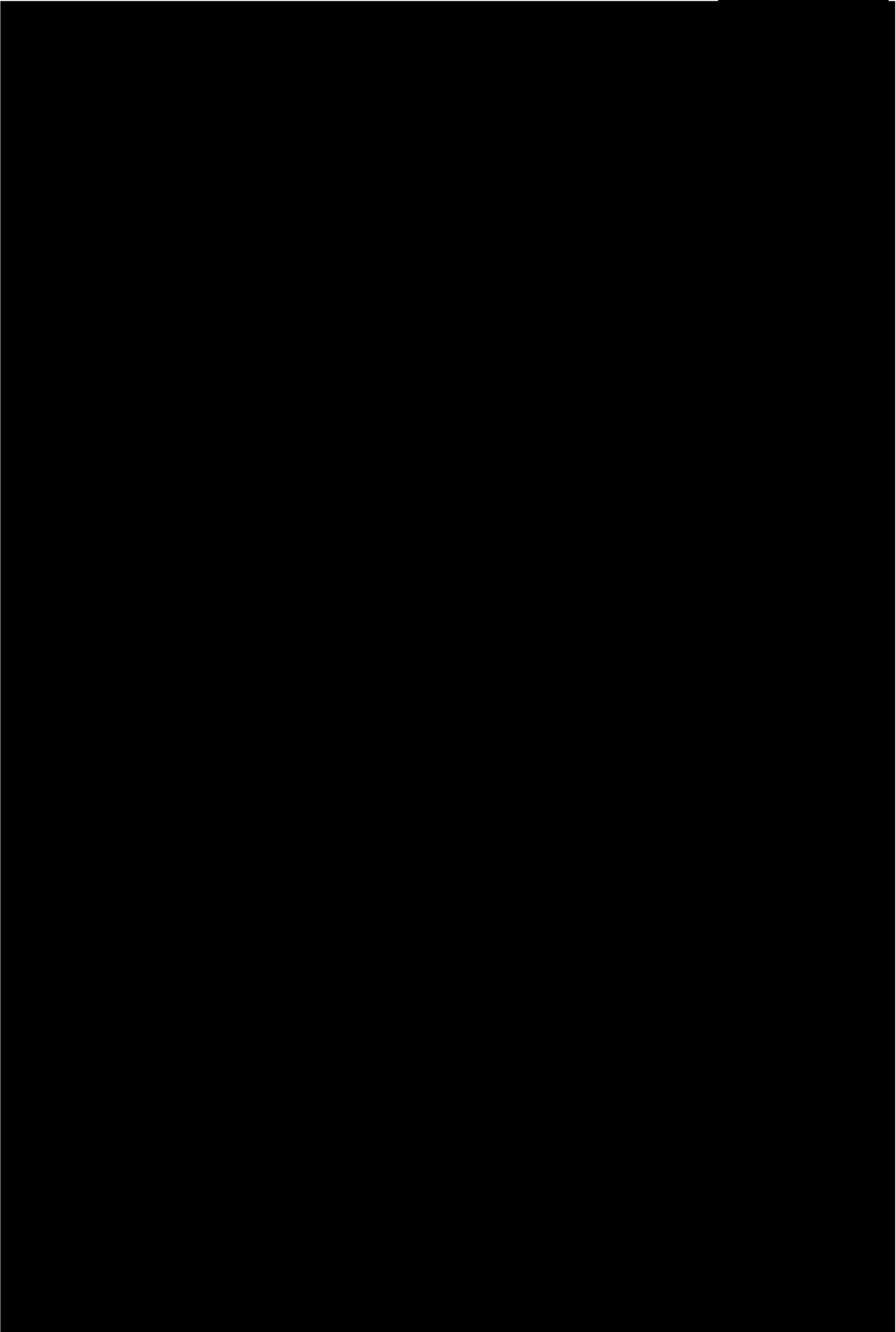


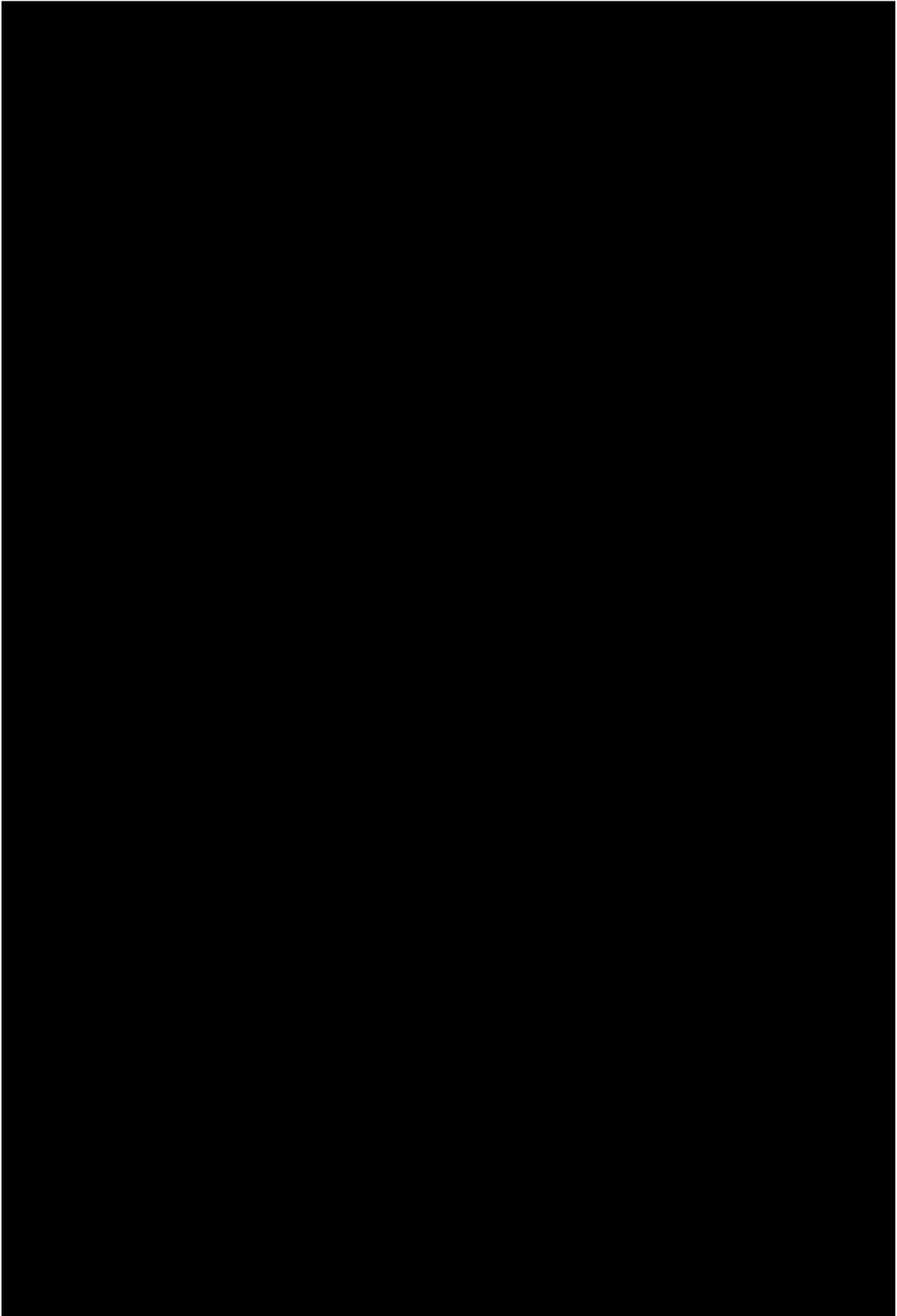


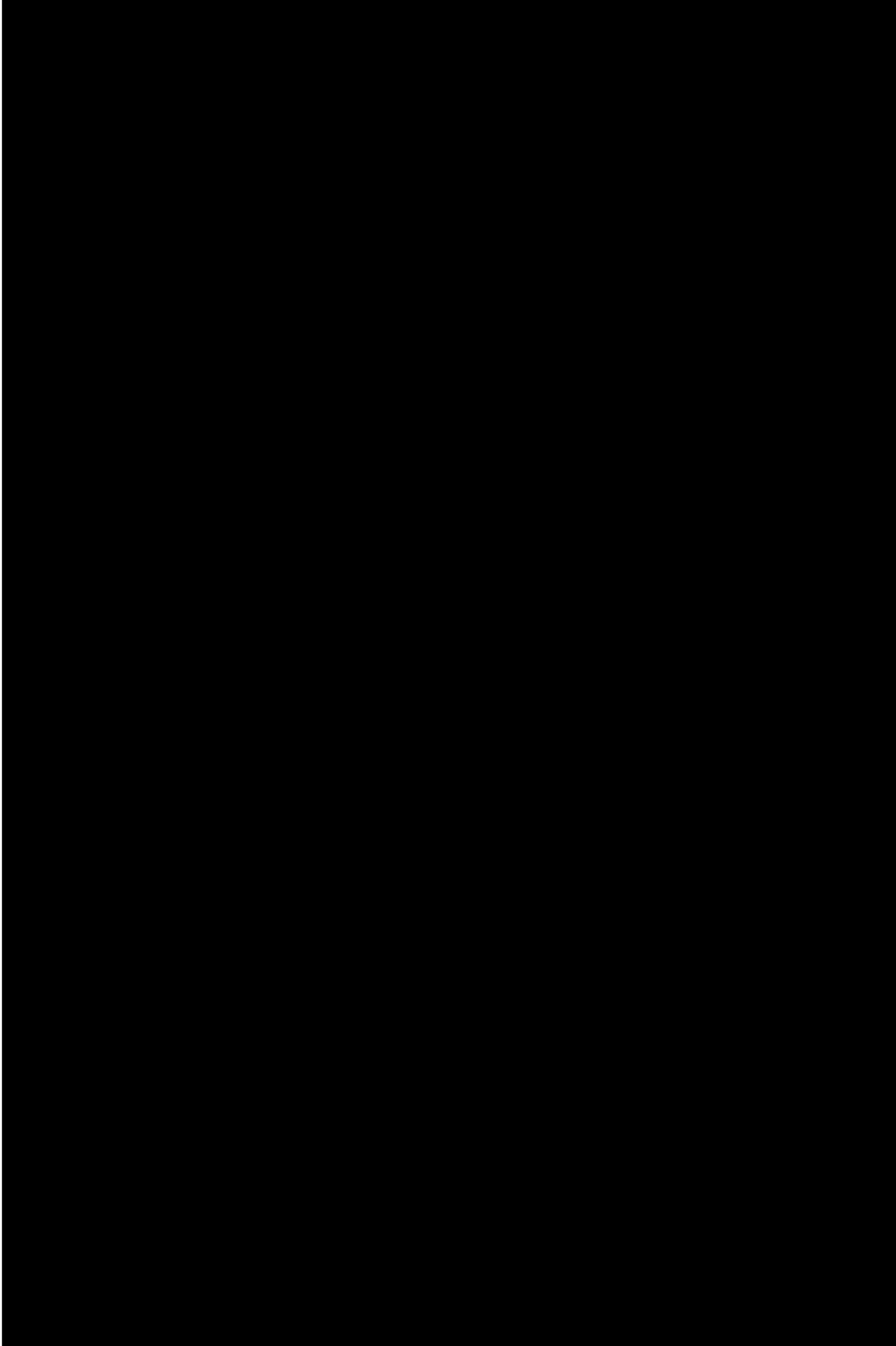


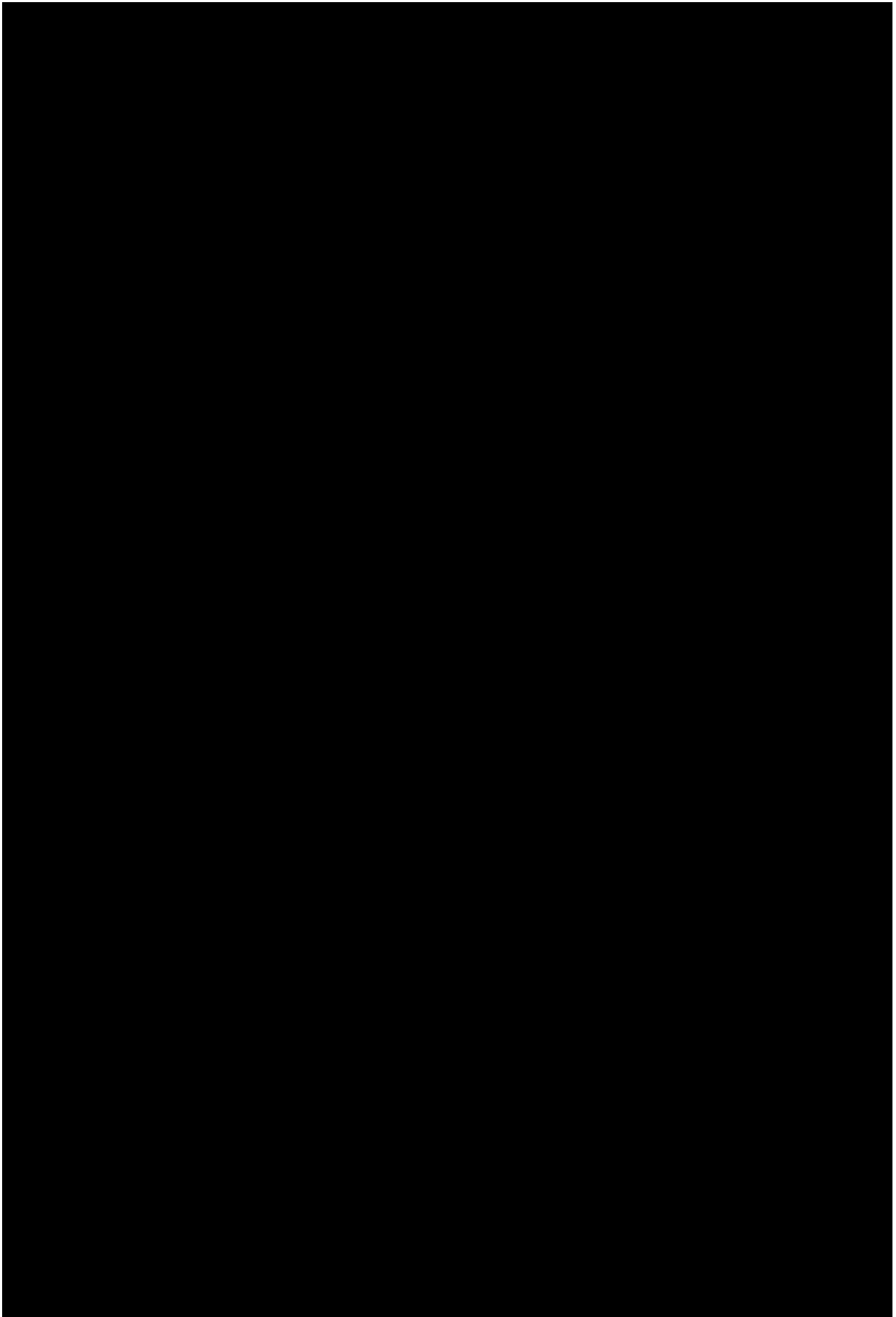


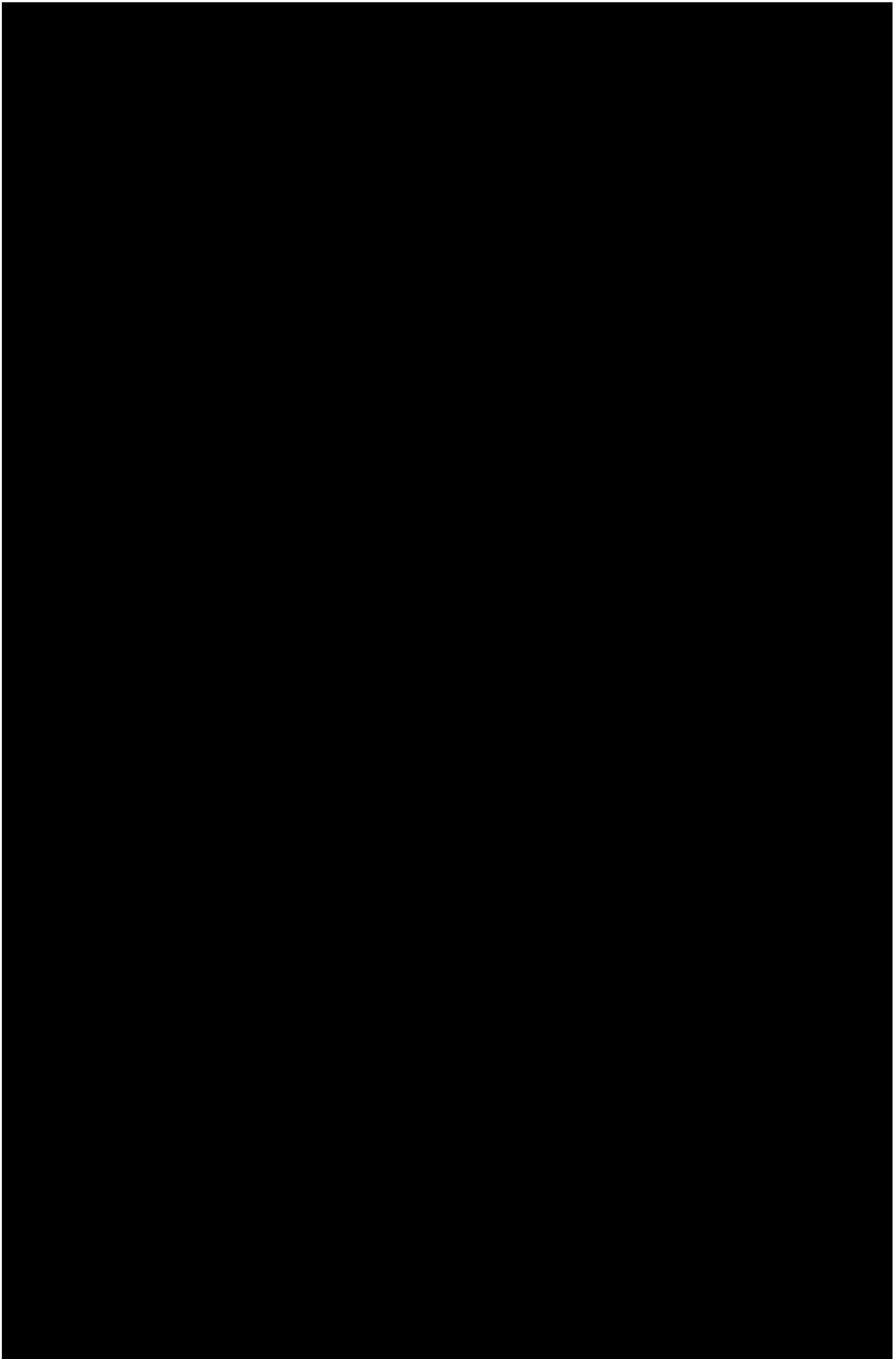


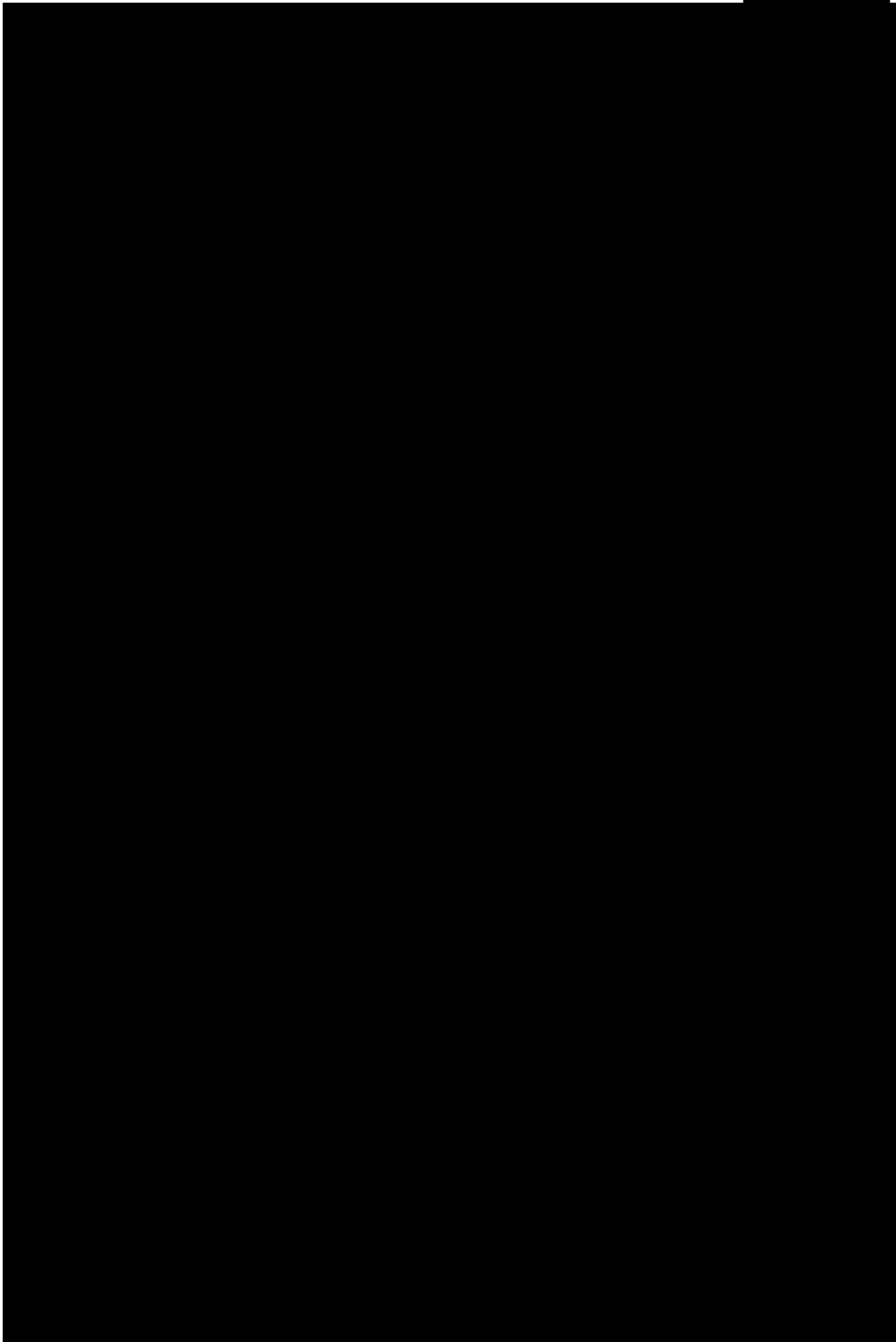


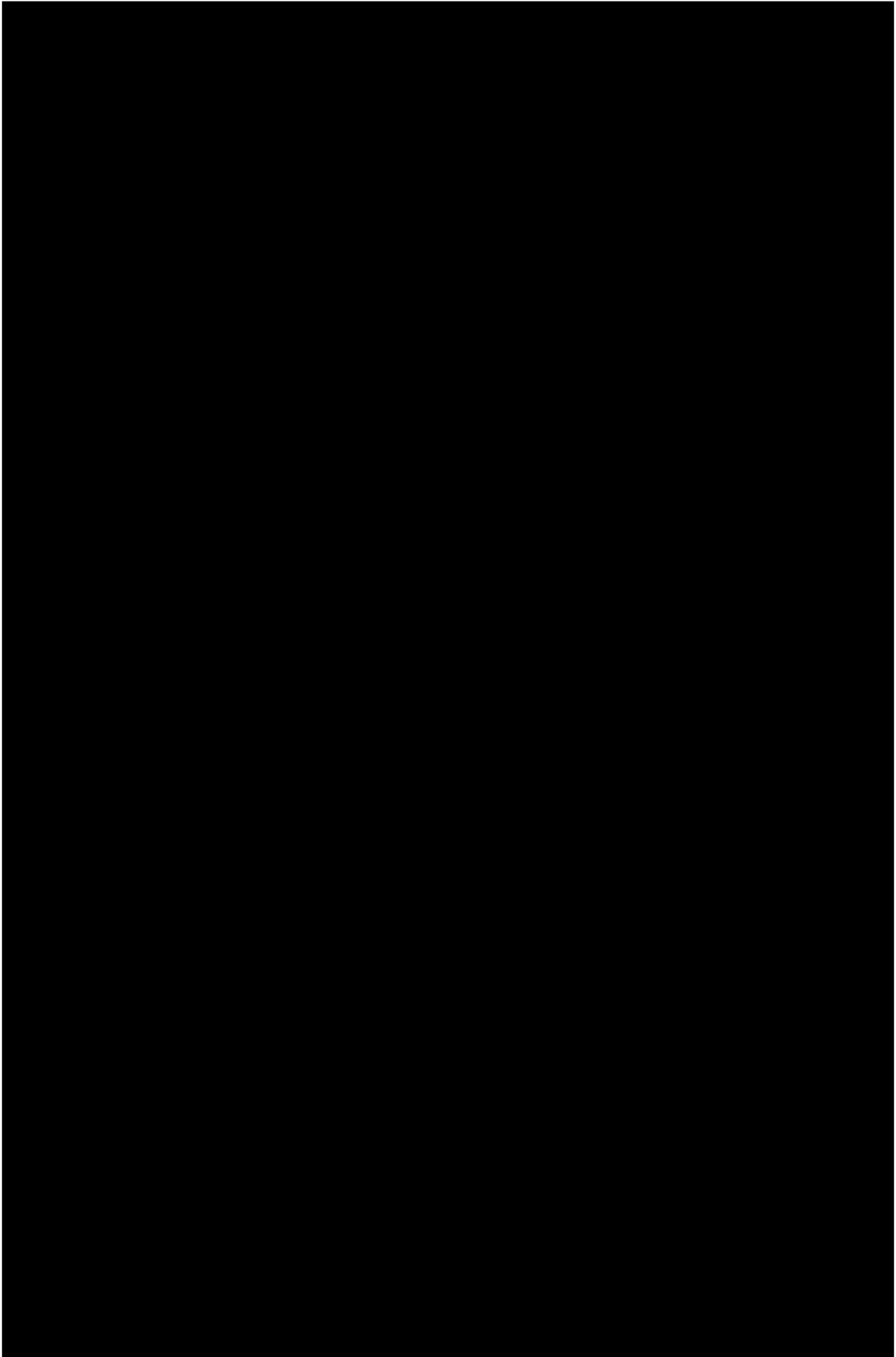


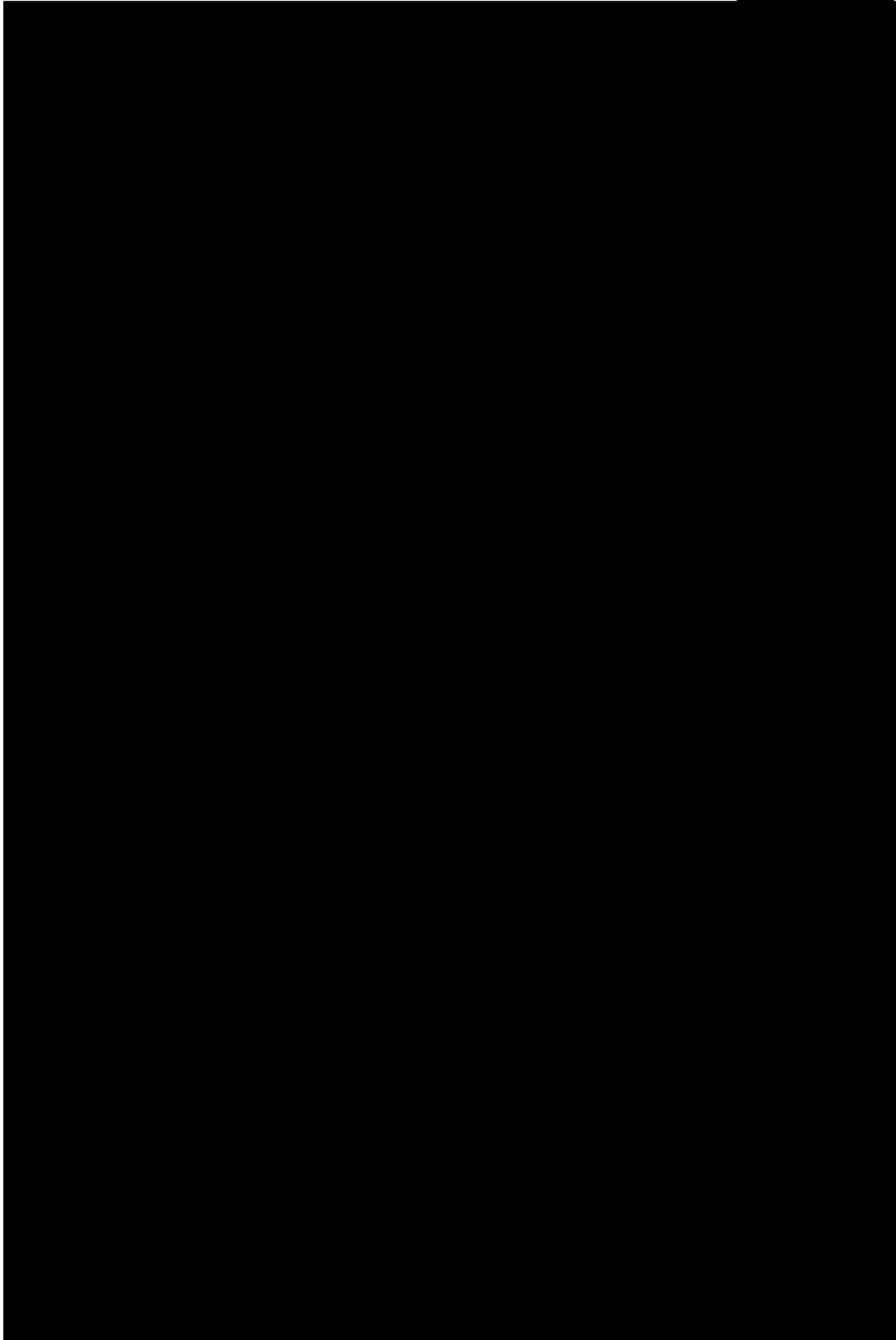




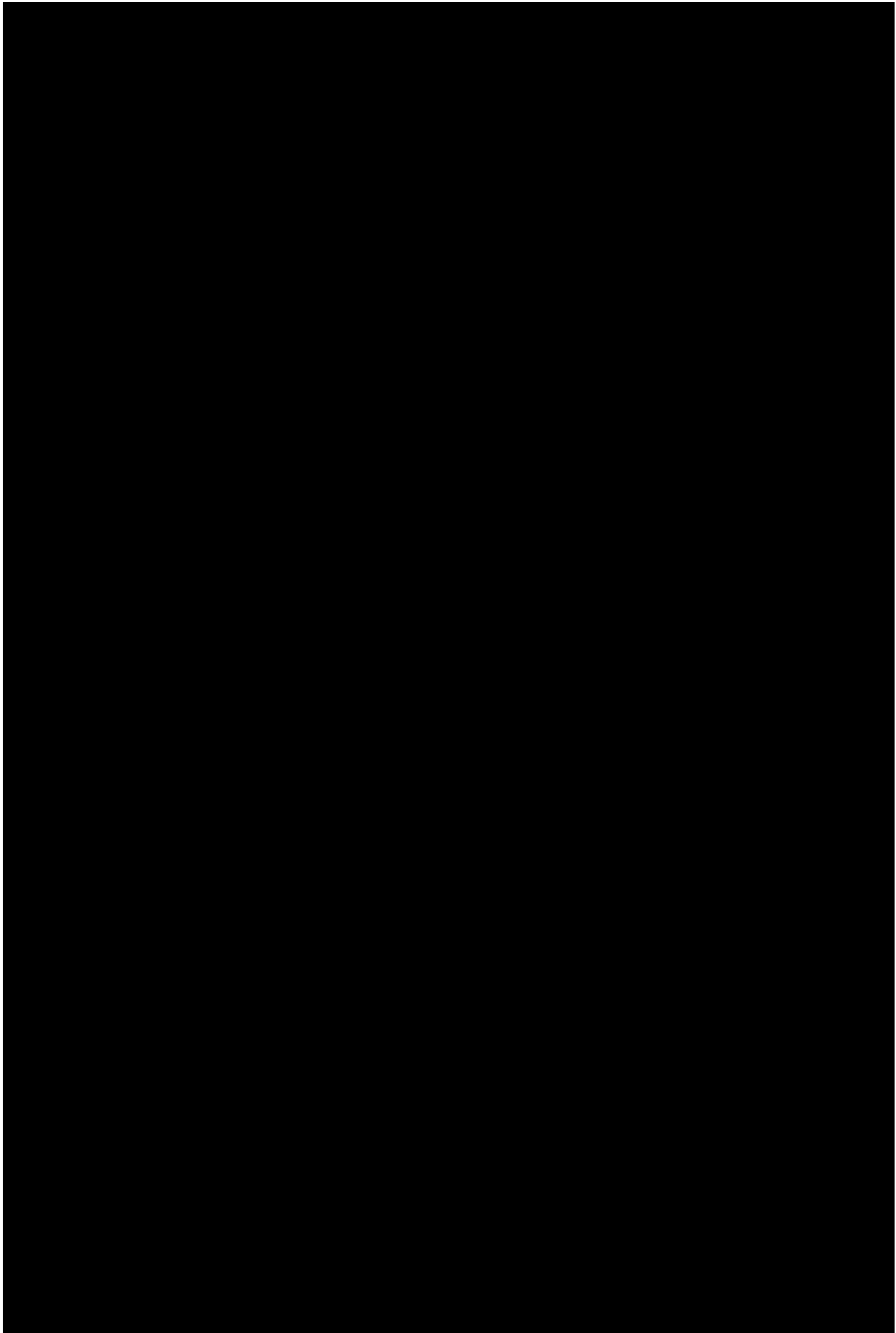


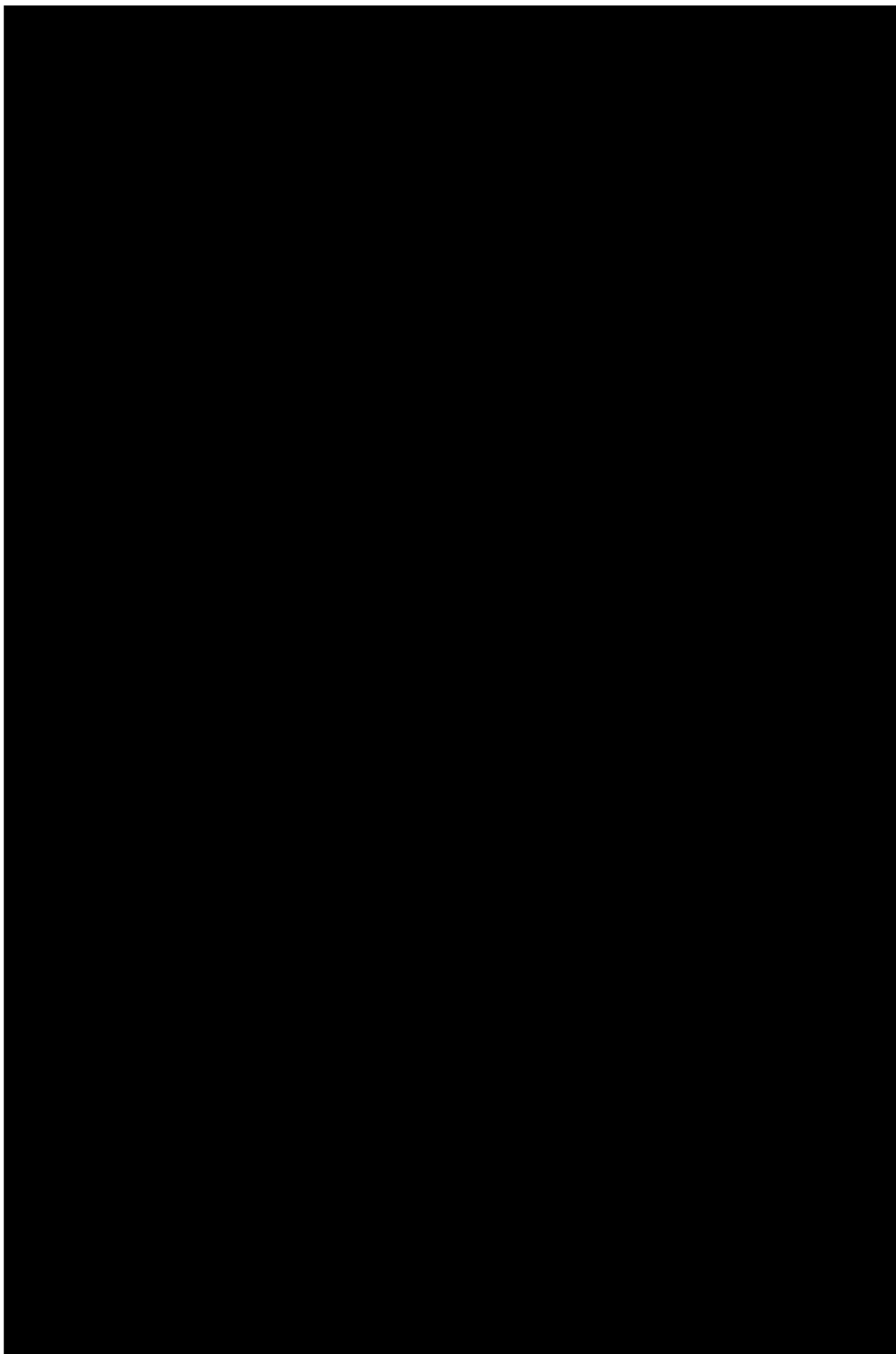


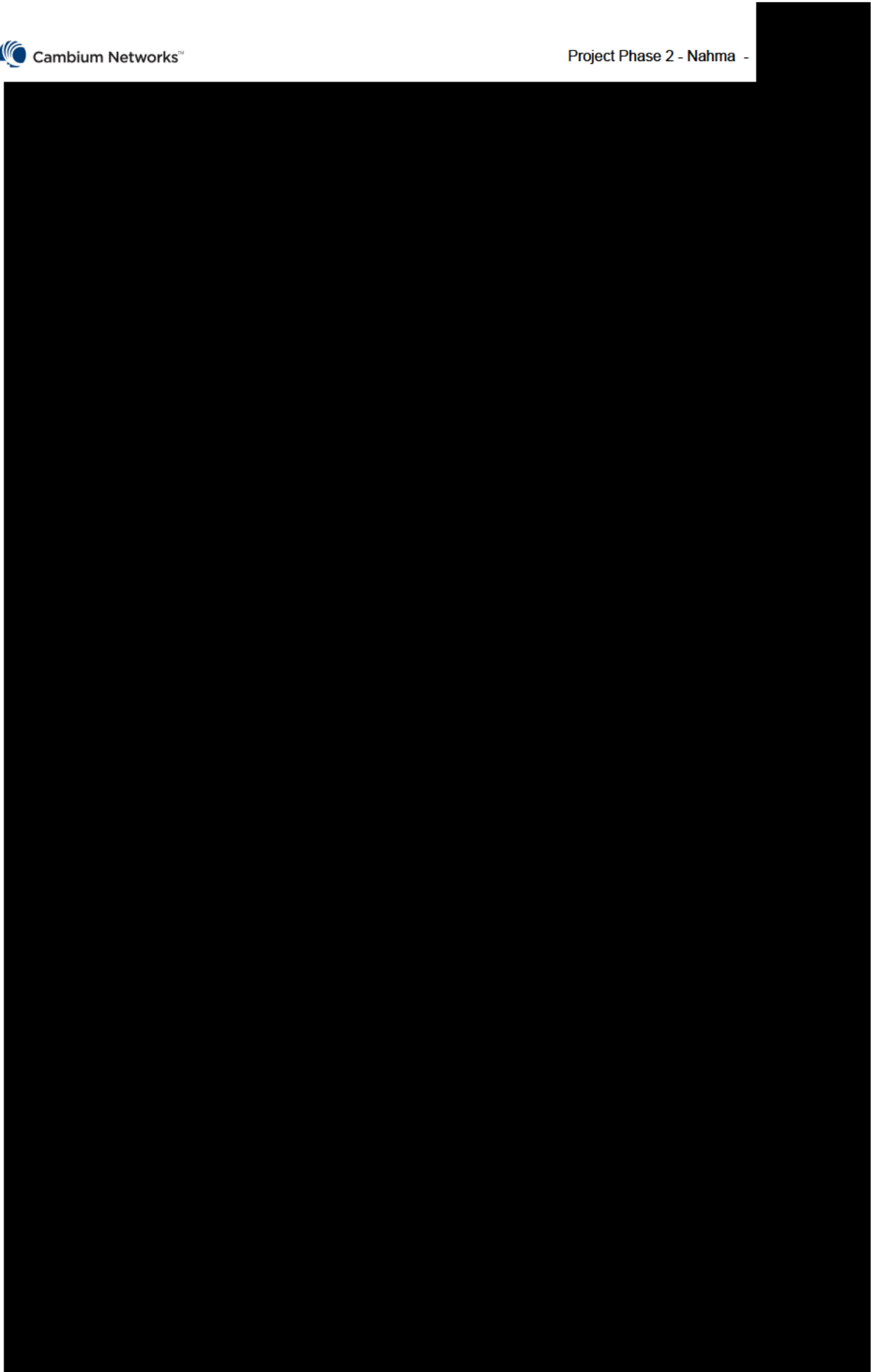


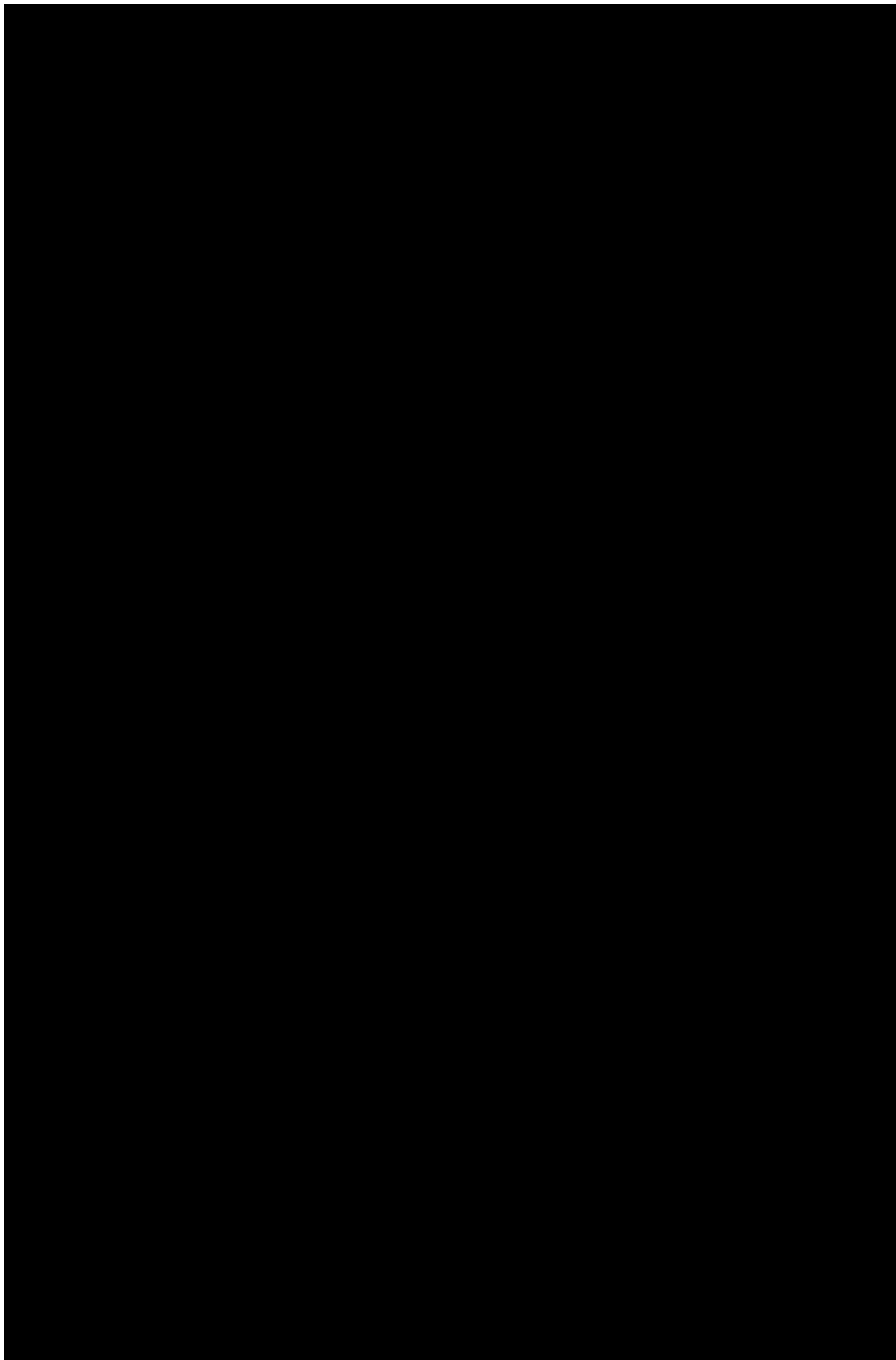


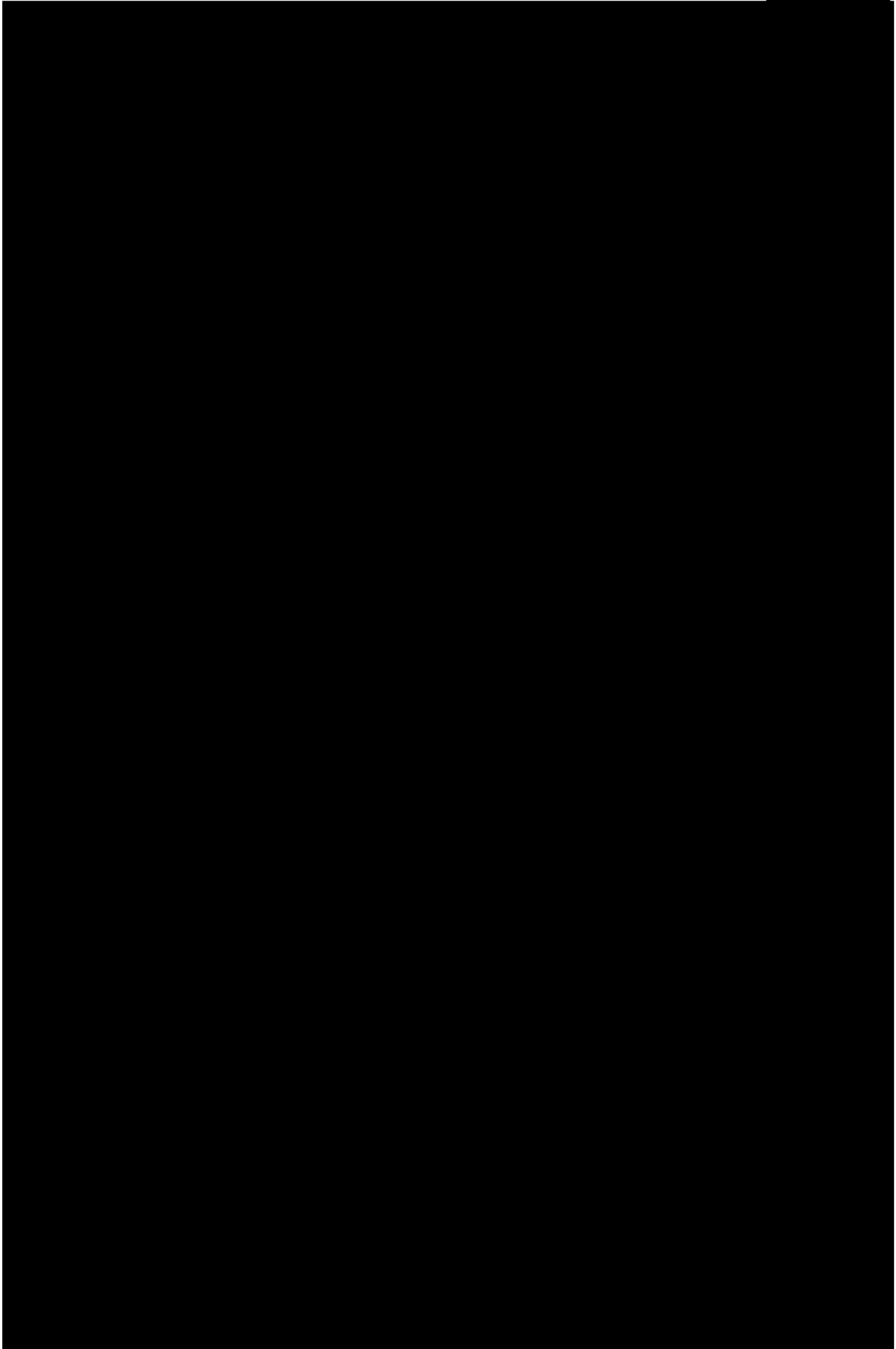


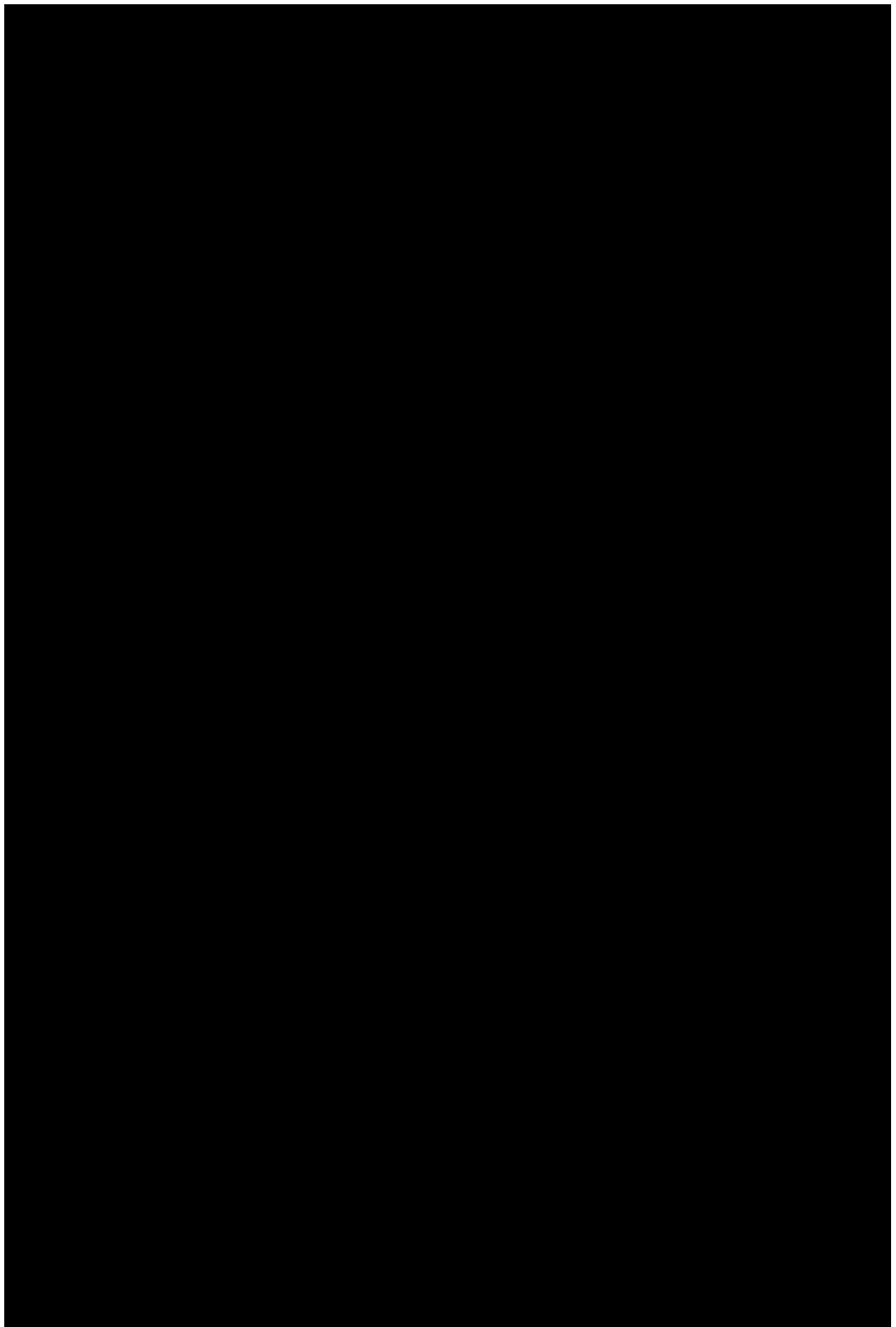




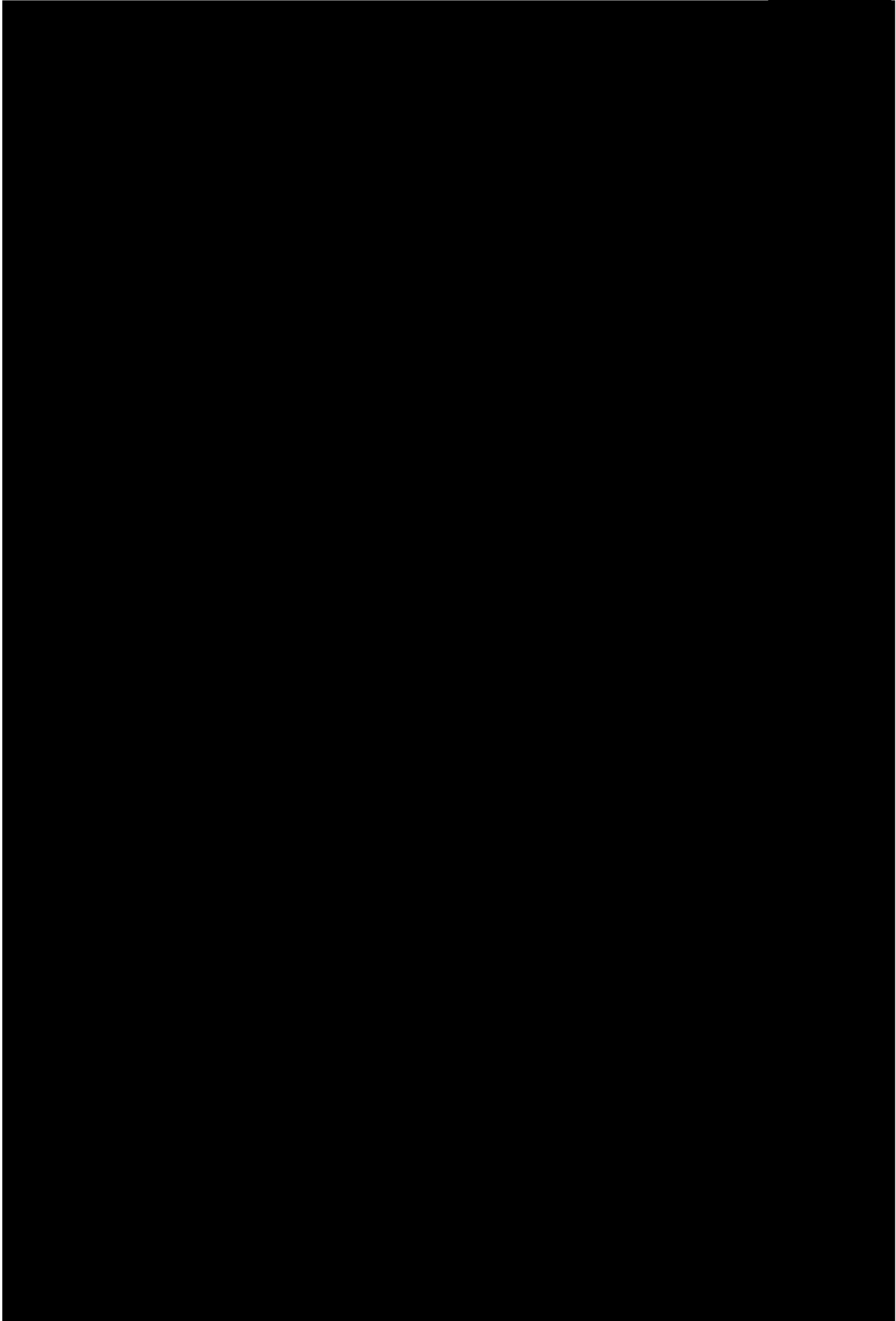






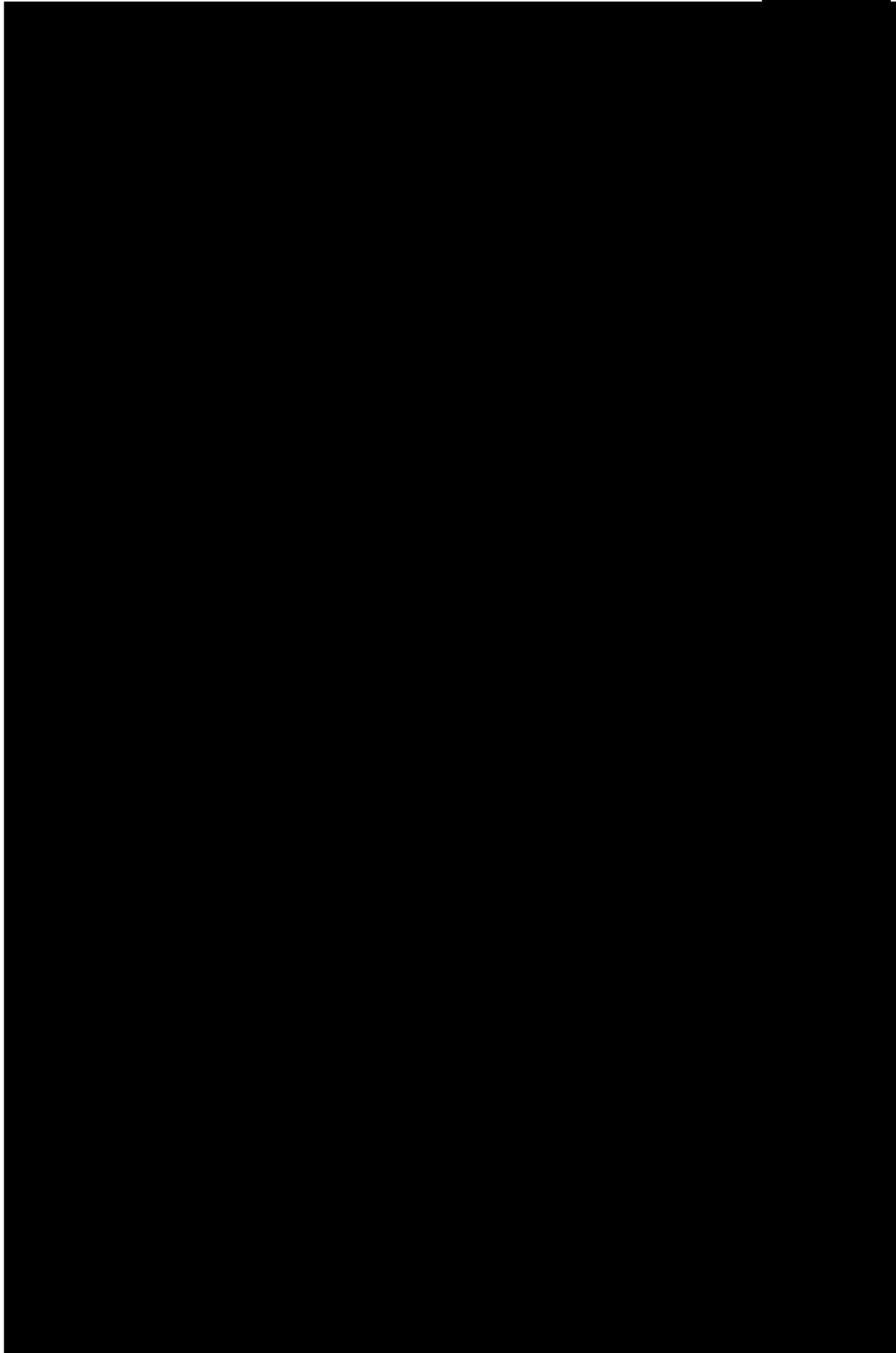


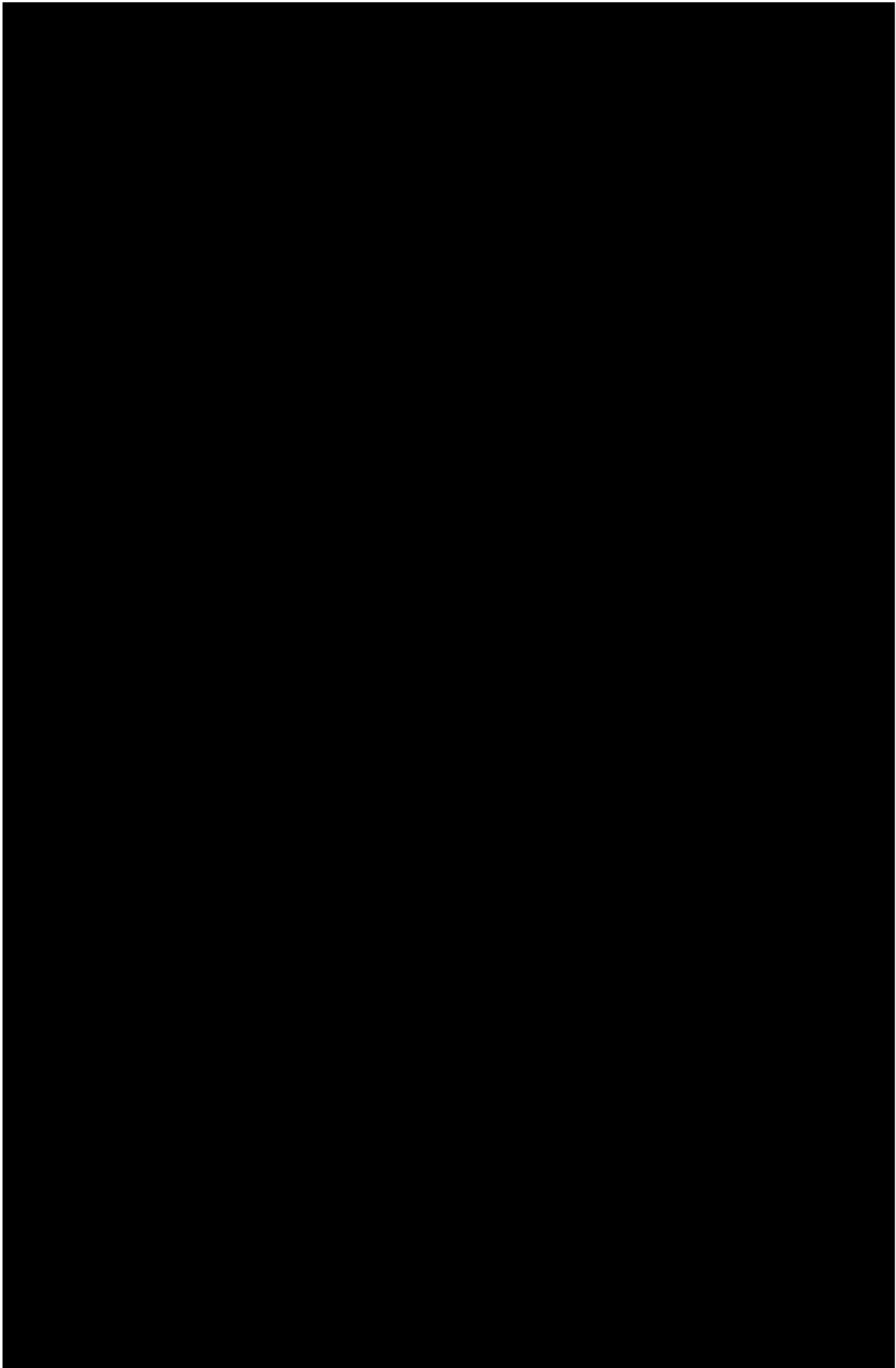


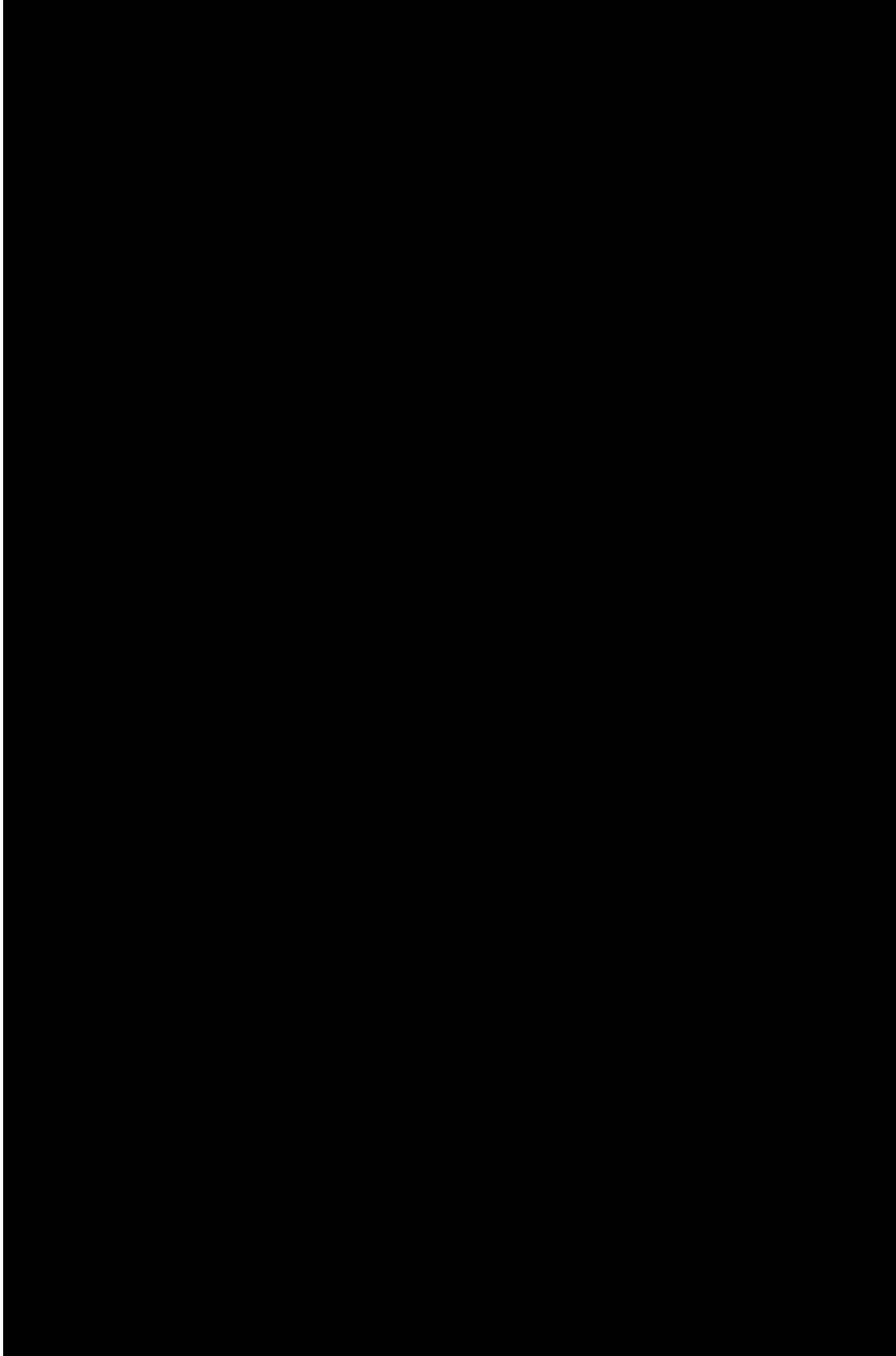


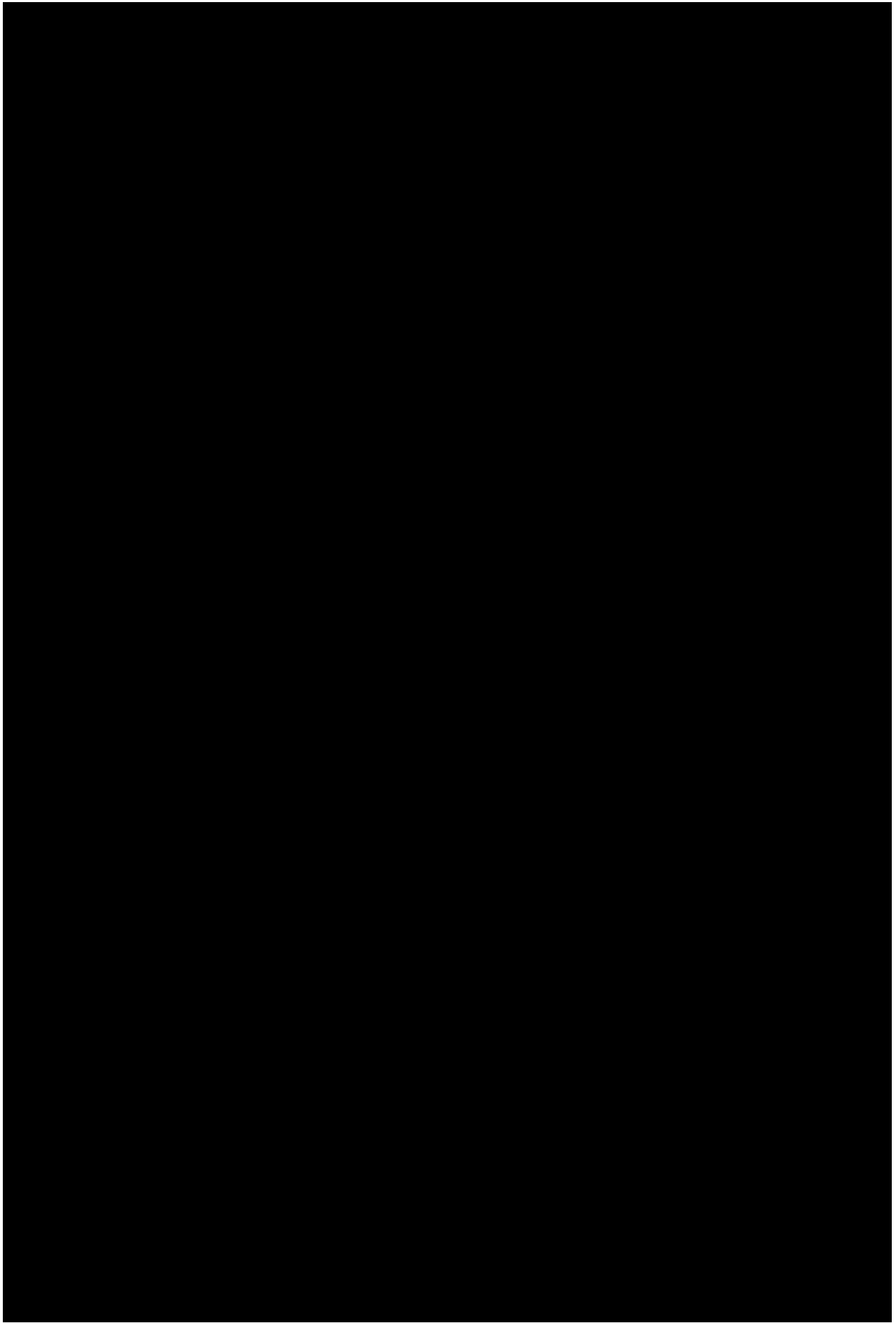


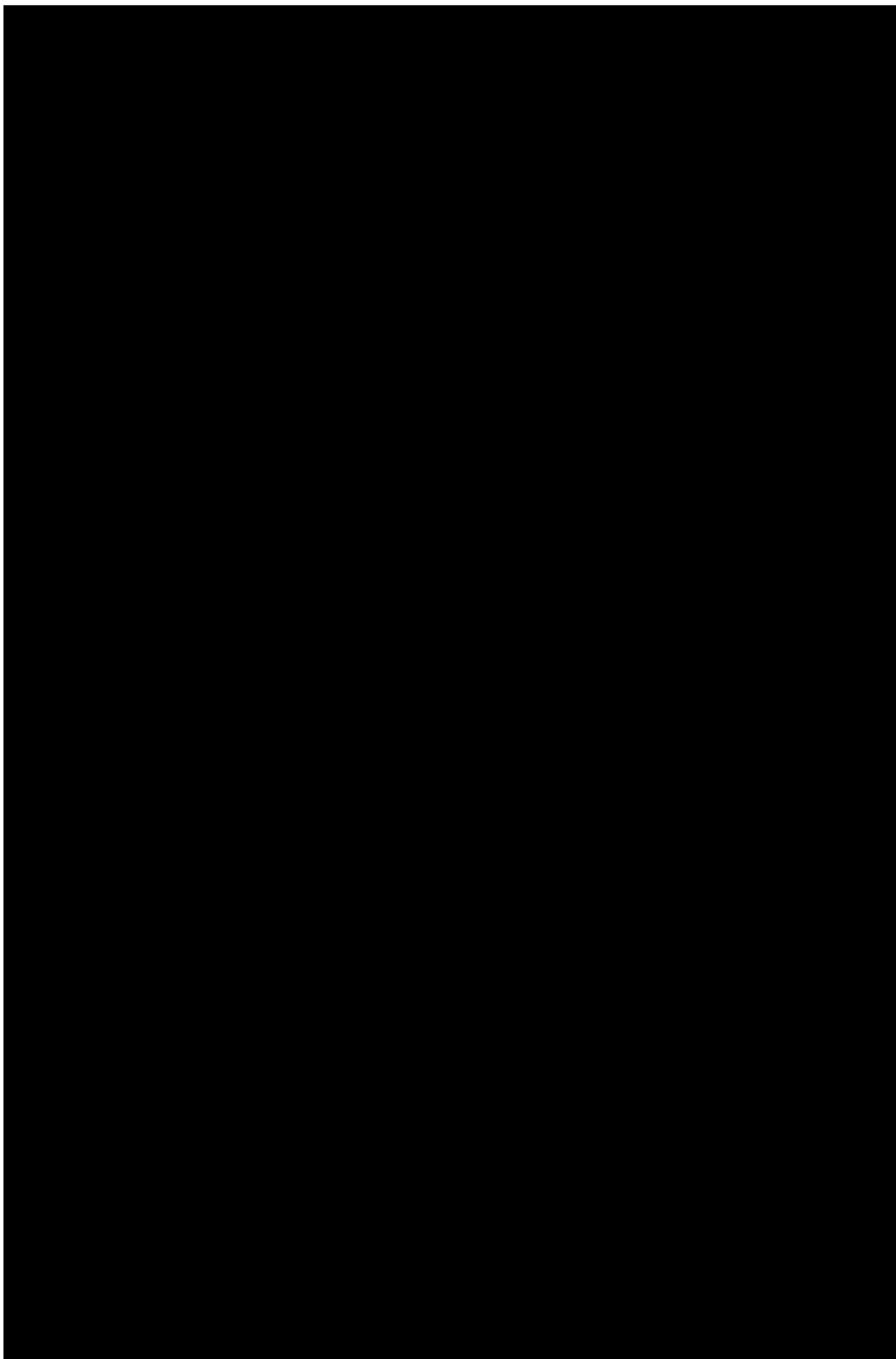


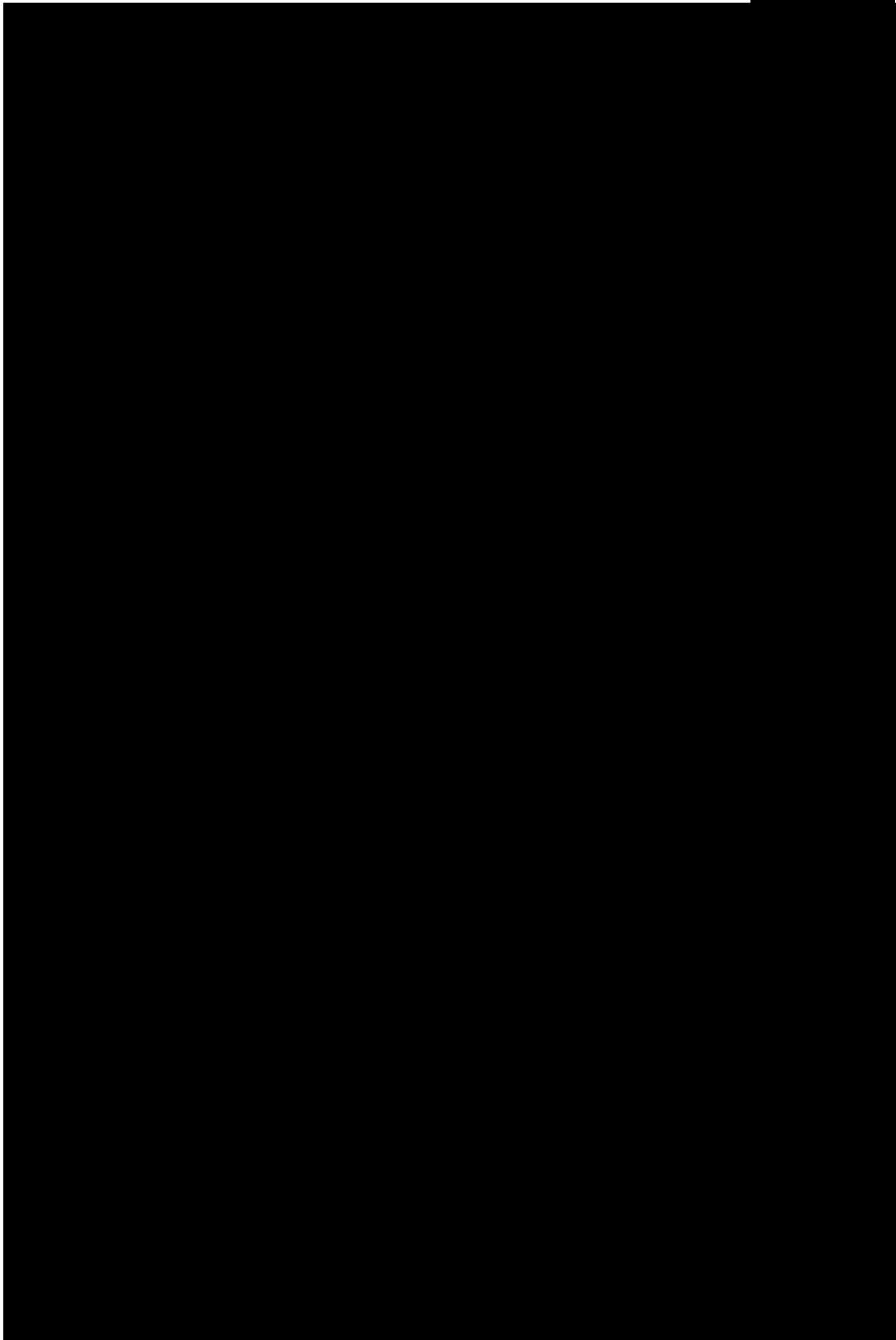






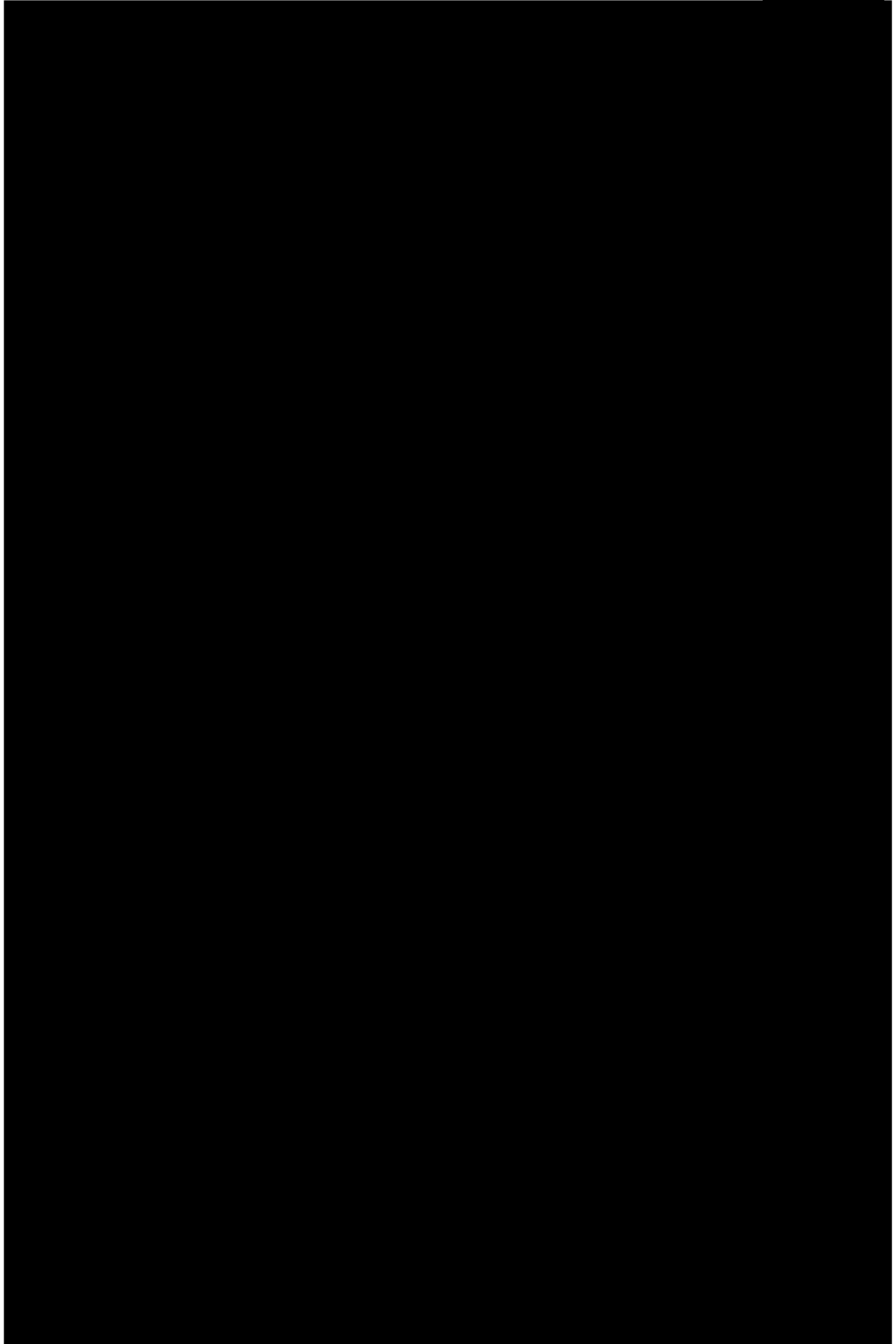




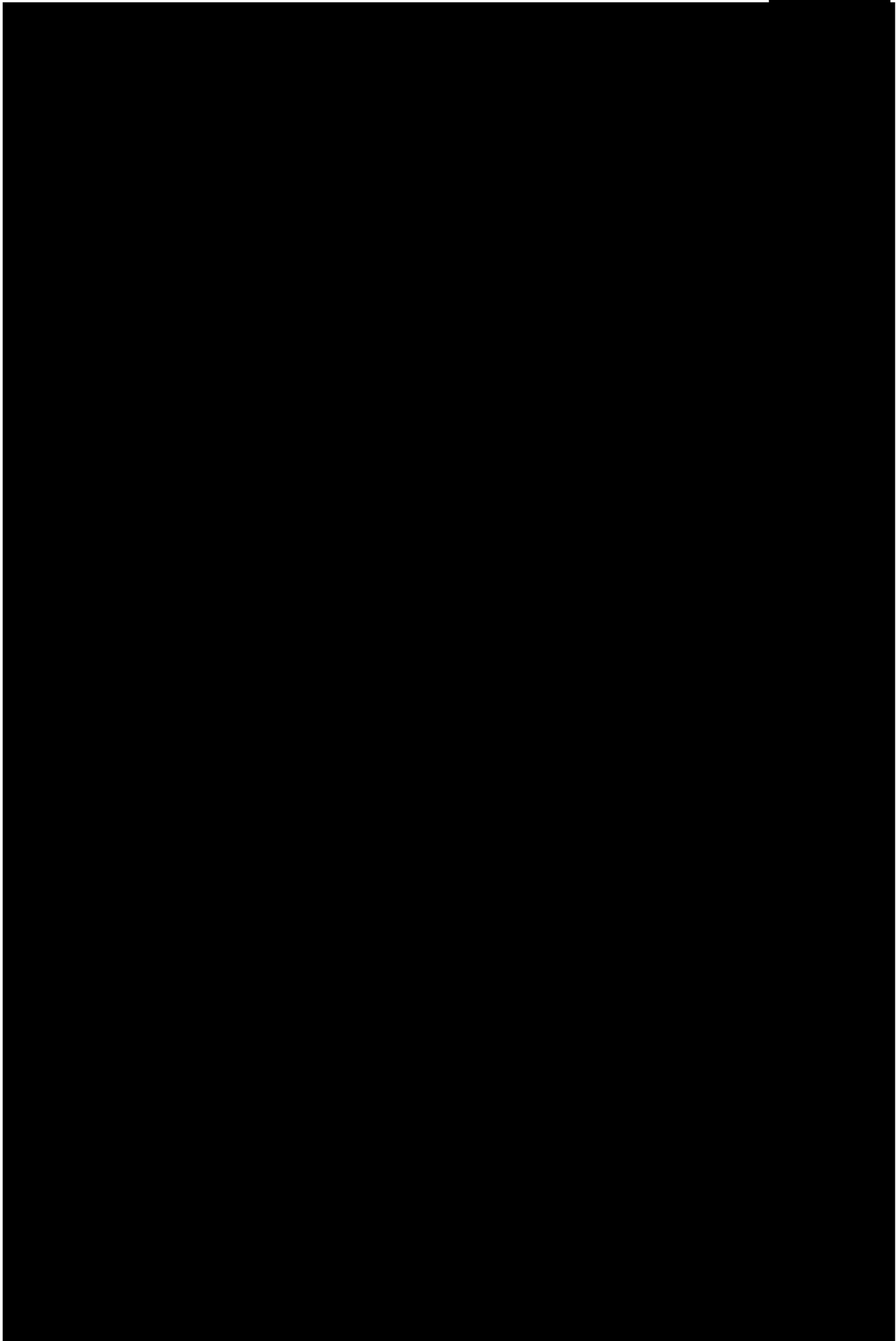




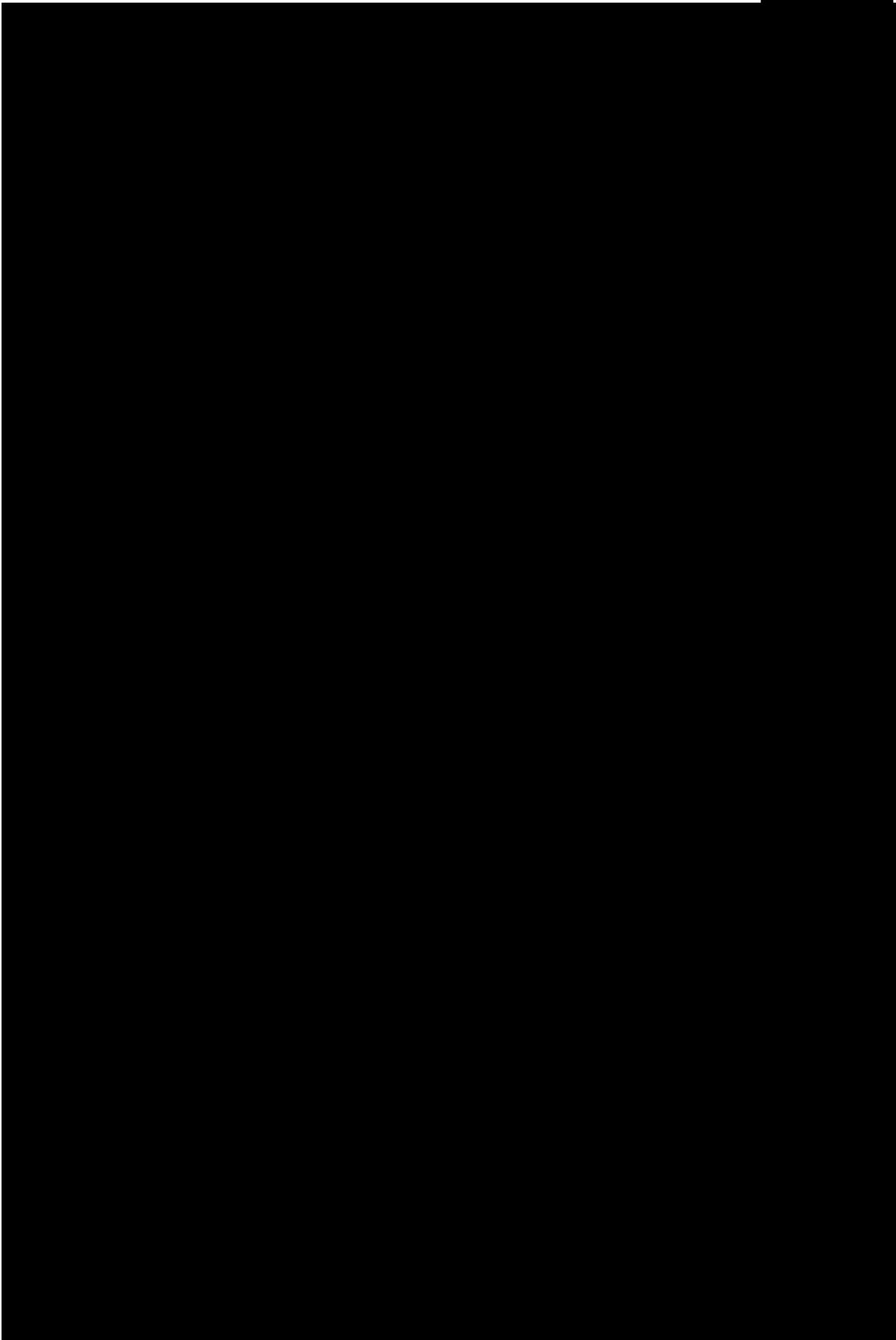


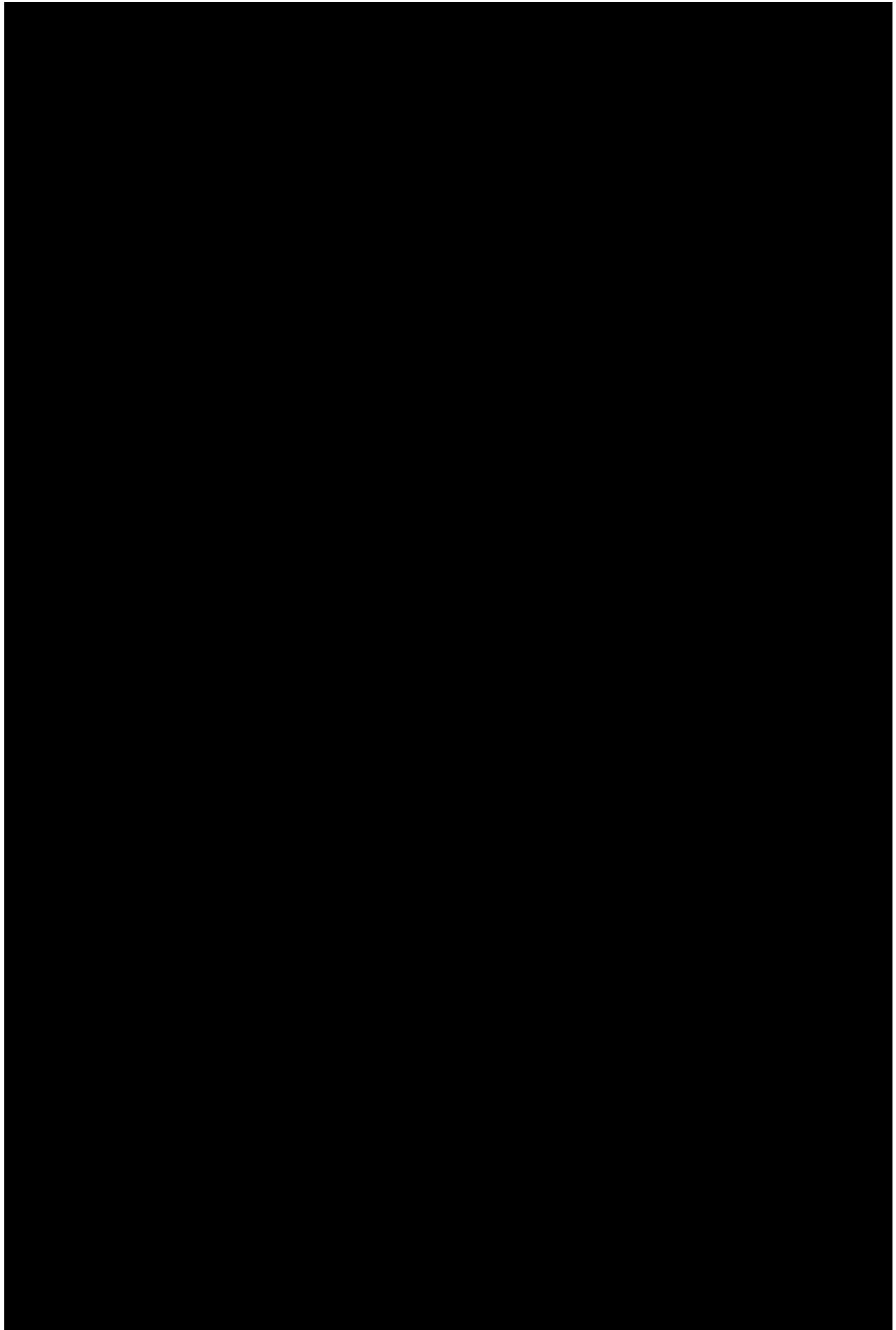




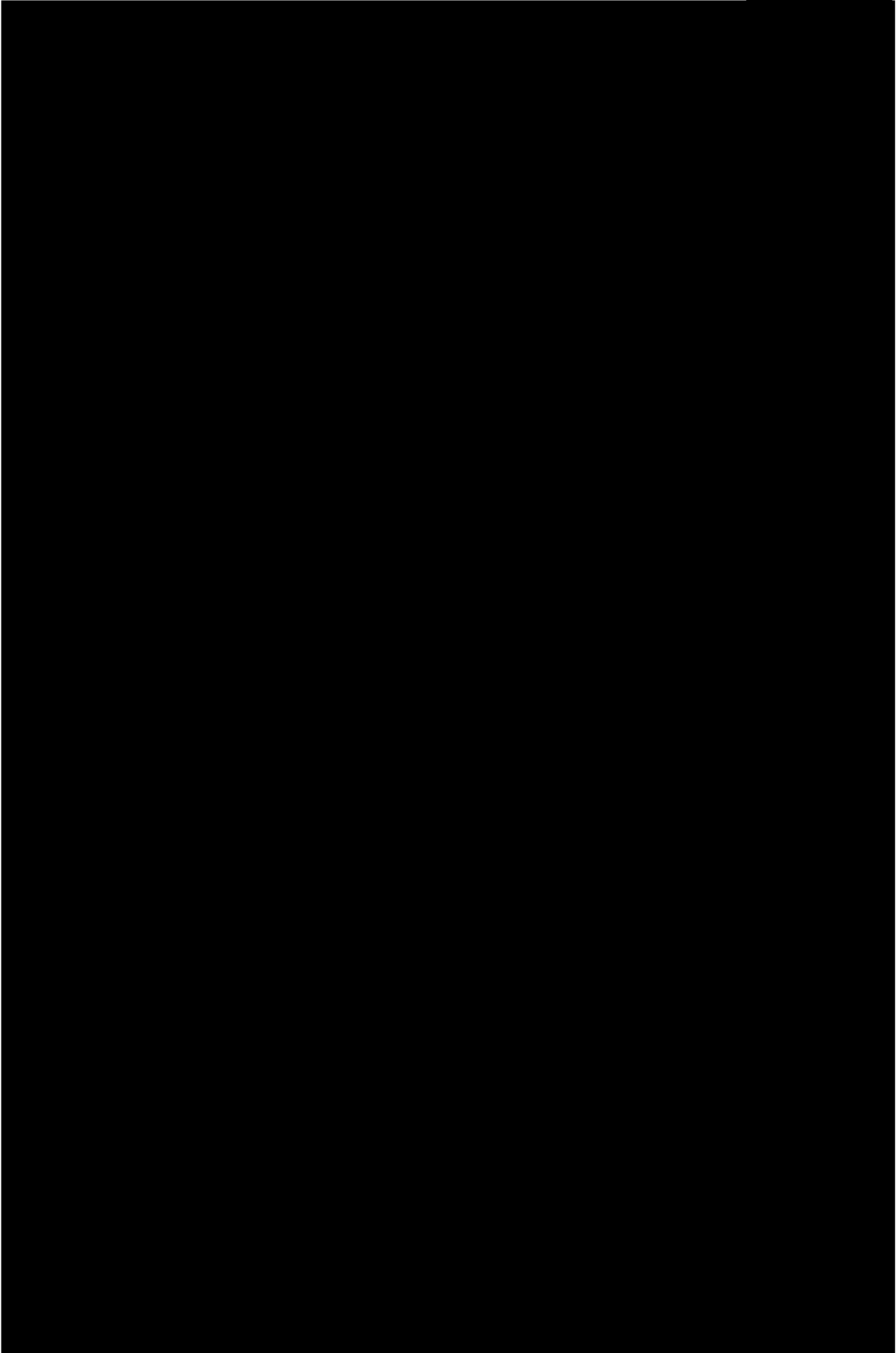






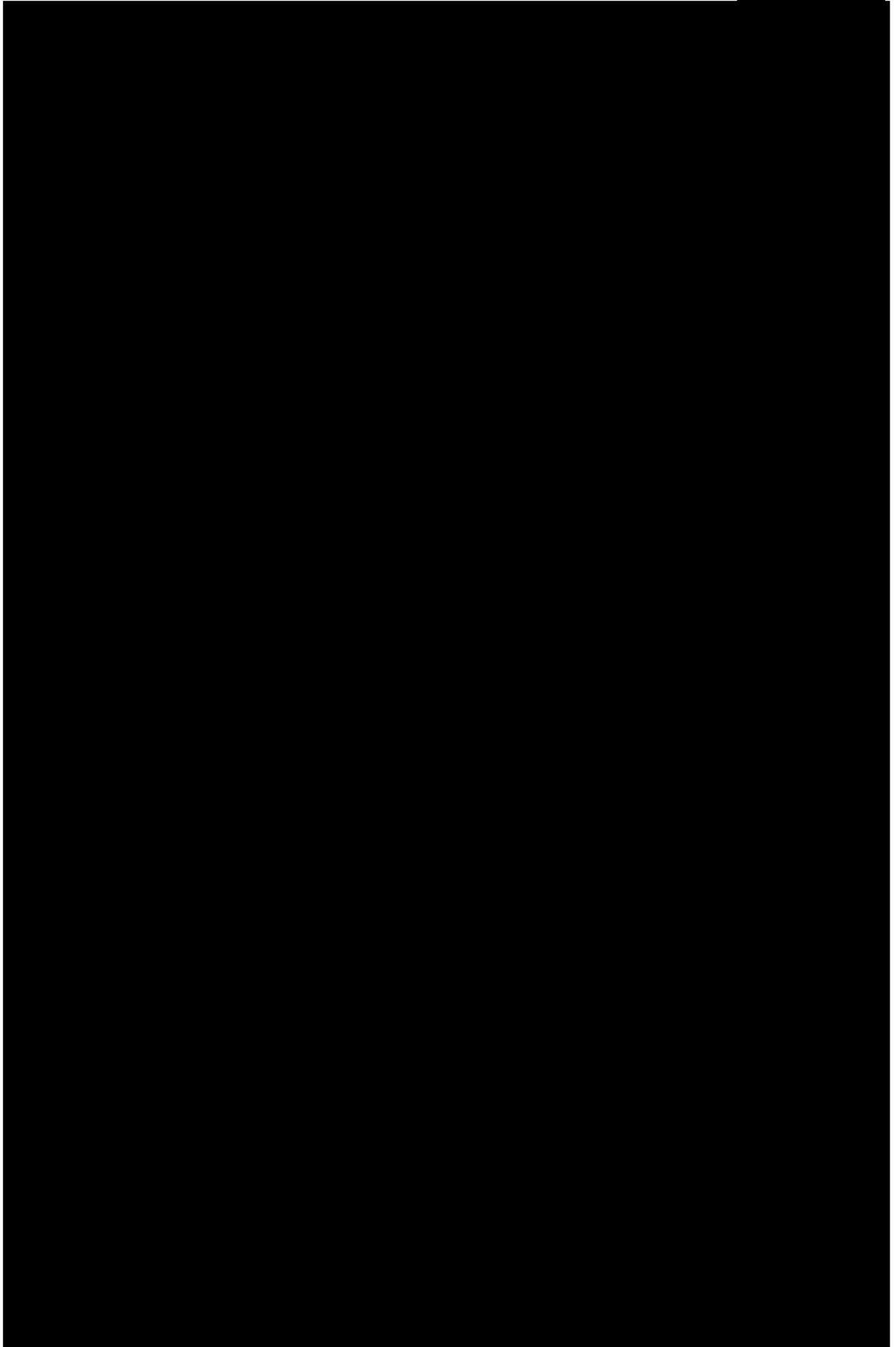


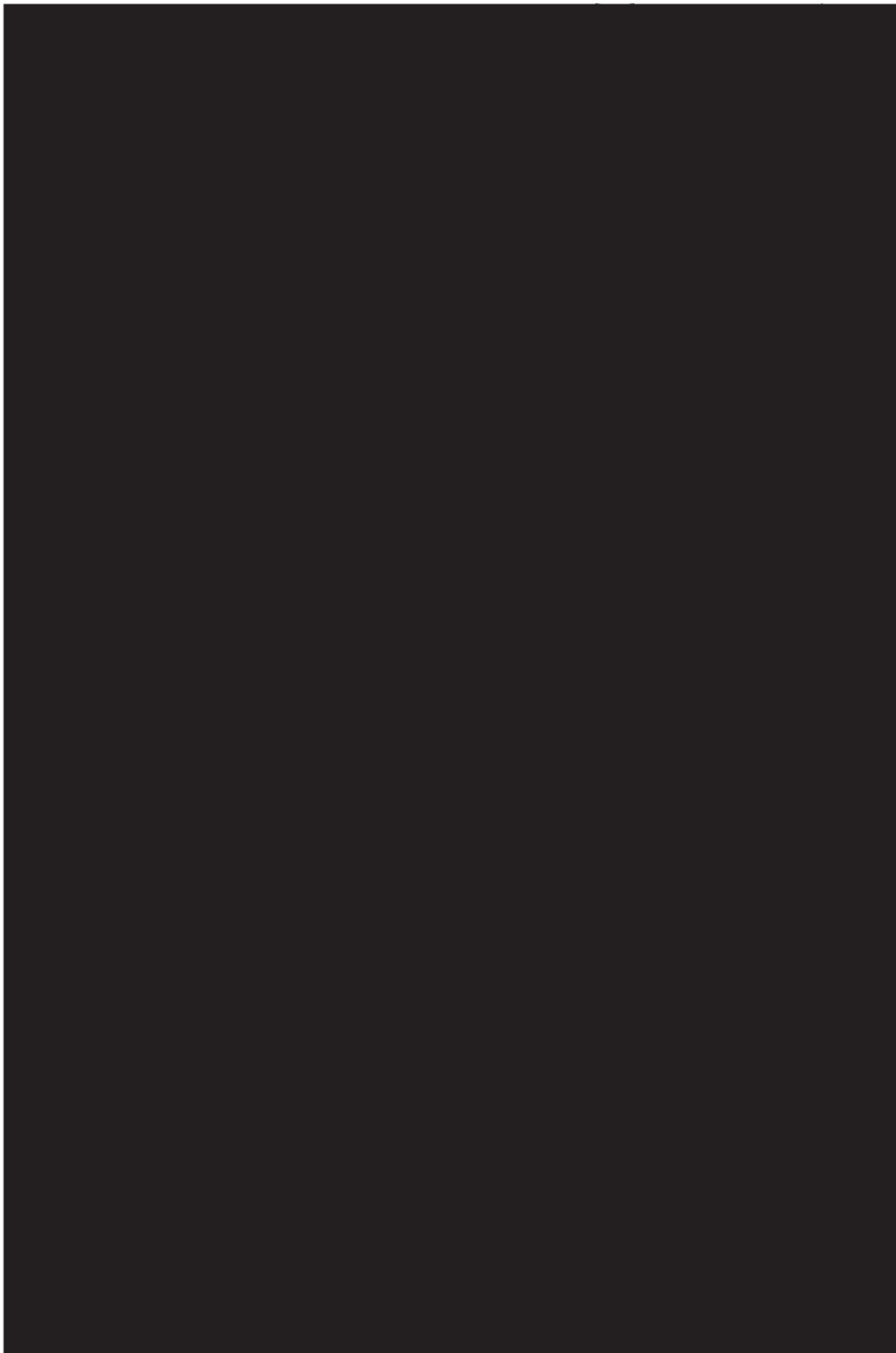


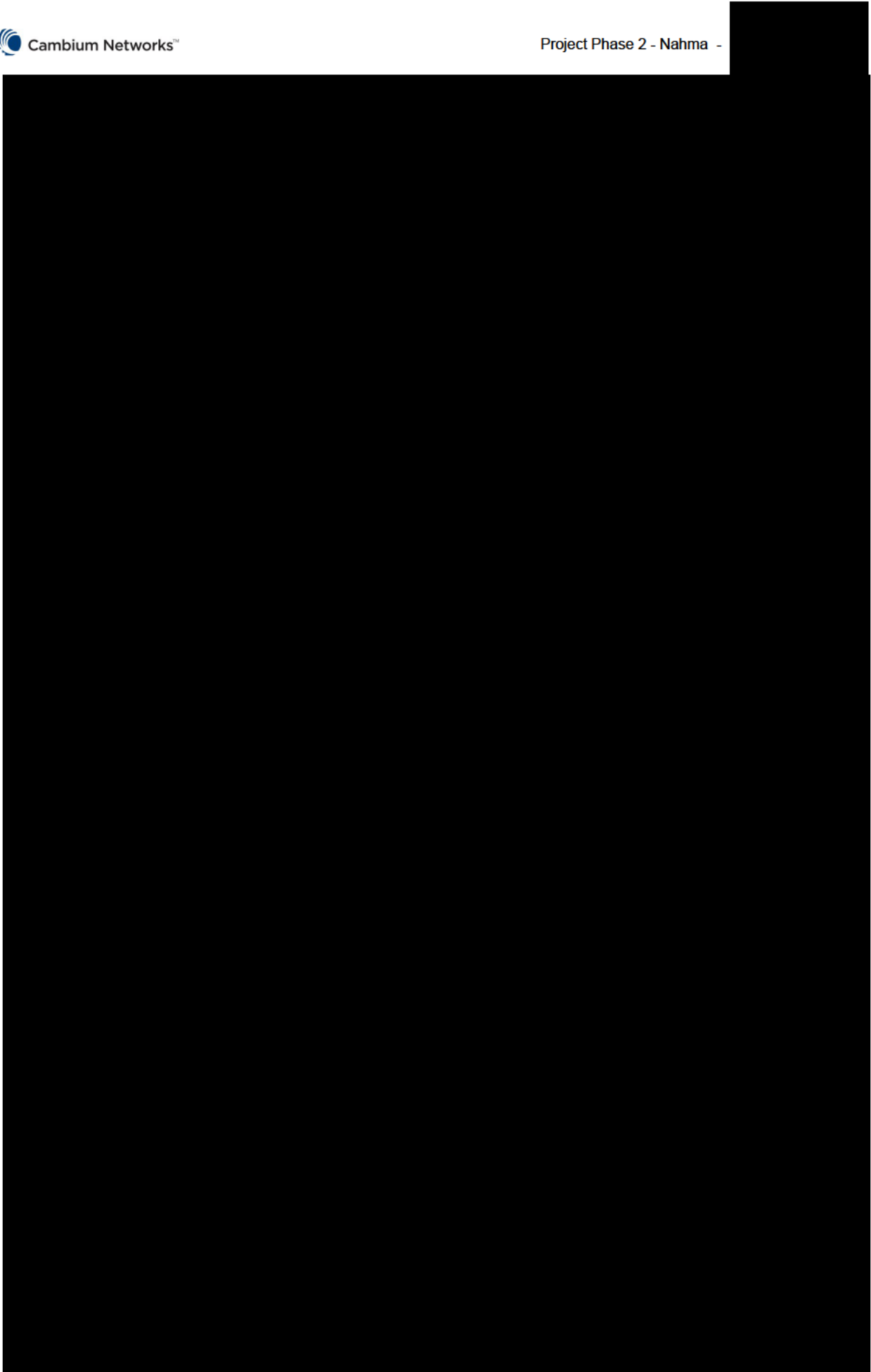


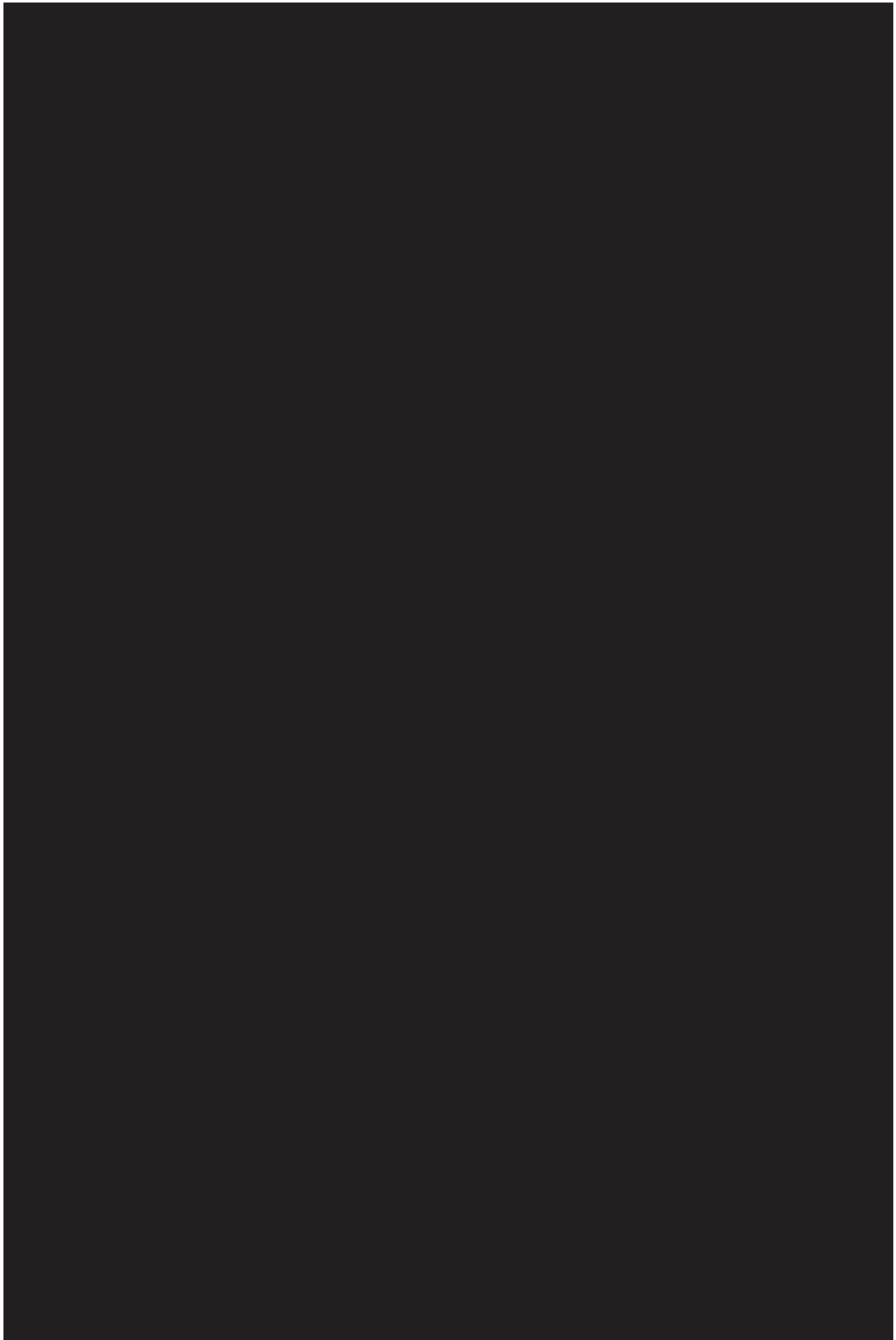


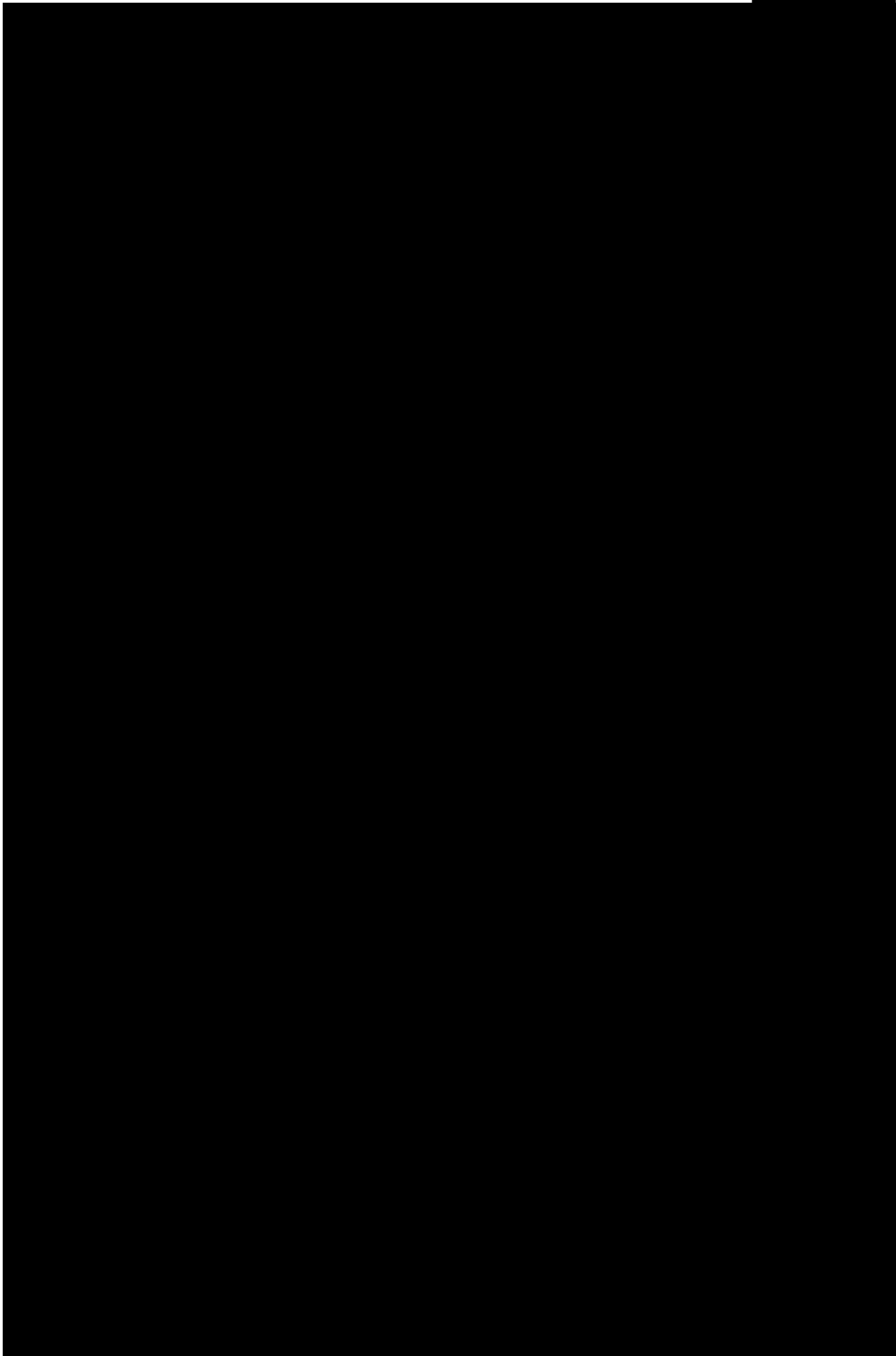












# Disclaimer

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August 28, 2019

Re: Letter of Support to Marq6 Broadbands CMIC Grant Application

To Whom It Concerns:

I am writing to express the full support of the Delta County Economic Development Alliance (EDA) toward the CMIC Grant award to Marq6 Broadband for work throughout Delta and Schoolcraft Counties. The Delta County EDA is a non-profit 501(c)3 private/public partnership with the simple mission of supporting the economic prosperity in our region through business retention, expansion and attraction.

My organization has proudly partnered with Marq6 Broadband in building a high-speed wireless internet service in Delta County for over 2 years. Early phases in Delta County serviced the small community of Nahma, MI. Previously residents and businesses in that community had virtually zero connectivity to any network and were far from any solution. Since Marq6 launched in Nahma, businesses have reported growth directly attributed to their ability to connect to their customers, suppliers, etc through the high-speed wireless connectivity offered by Marq6 Broadband.

While Marq6 has continued to build out on this initial infrastructure there are still underserved (unserved) areas within our county that desperately need these services. Marq6's proposed build out directly affects businesses and residents in these areas and will ultimately lead to economic prosperity and great quality of life in a way that few other projects could in these uniquely isolated communities.

My organization offers resounding support toward Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband throughout Delta and Schoolcraft Counties. I look forward to working closely with Marq6 as they change the future of our region in terms of connecting our residents and businesses to the rest of the world.

Respectfully,

A handwritten signature in black ink that reads "TJ Thomas". The signature is written in a cursive style with a large, stylized "T" and "J".

TJ Thomas  
Executive Director  
Delta County Economic Development Alliance





# Schoolcraft Tourism & Commerce

26 August 2019

To Whom It May Concern:

Schoolcraft Tourism & Commerce, the economic development agency for Schoolcraft County (MI), has been partnered with Marq6 Broadband in building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 has seen service installed and working in Cooks (Inwood Township), parts of Thompson Township, parts of Hiawatha Township, parts of Gulliver (Doyle Township/Mueller Township), and Blaney Park (Germfask Township).

We need this service to be built out to serve all of us in Schoolcraft County. Most of us do not currently have access to high-speed broadband, and as such cannot fully participate in today's world and global economy. I am unable to attract new businesses to most of Schoolcraft County as we do not currently have internet service that would allow them to compete in today's connected economy.

Our organization is fully supportive of Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband in Schoolcraft County. Marq6 is our best hope of joining the 21<sup>st</sup> Century and gaining much-needed functional, high-speed internet.

Sincerely,

Alan J. Barr  
CEO & Executive Director  
Schoolcraft Tourism & Commerce



August 27, 2019

To Whom It May Concern:

Marq6 Broadband has been building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 has seen service installed and working in Cooks (Inwood Township), parts of Thompson Township, parts of Hiawatha Township, parts of Gulliver (Doyle Township/Mueller Township), and Blaney Park (Germfask Township).

We need this service to be built out to serve all of us in Schoolcraft County. We don't have access to high-speed broadband, and as such, cannot fully participate in today's high-tech environment.

We are fully supportive of Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband in Schoolcraft County. As a business owner, I need high-speed broadband to conduct a productive business in today's competitive environment. Personally, my husband and I rely on technology to conduct our daily lives. Most of our County has little to no high-speed internet, and this wireless technology from Marq6 is our best hope of joining the 21st Century and gaining much-needed functional, high-speed internet.

Sincerely,

Russell C. Poole

Carol S. Poole, an Independent Agent Representing Aflac

3760S Deerwood Trail

Manistique, MI 49854 (Thompson Township)

906.341.0005

**American Family Life Assurance Company of Columbus (Aflac)**

Worldwide Headquarters • 1932 Wynnton Road • Columbus, Georgia 31999-0001

1.800.99.AFLAC (1.800.992.3522) tel • aflac.com

August 25, 2019

To Whom It May Concern:

Access to quality high-speed Internet service is the highest-priority technical issue facing Schoolcraft County businesses today. Marq6 Broadband has been building such a service in Schoolcraft County since 2017. Phase 1 is presently providing service in Inwood Township, and parts of Thompson, Hiawatha, Doyle, Mueller, and Germfask Townships. Access to this service is critical for the rest of Schoolcraft County businesses to remain competitive and cybersecure in this digital age.

SineTech, LLC, is in full support of this Marq6 project to continue a phased build-out of high-speed broadband throughout Schoolcraft County. SineTech is a technical services provider in the region and pledges support in any way we can to bring this service to our communities.

Sincerely,



Mike Hoar  
SineTech, LLC



## Superior State Agency

"Insurance Specialists"

August 27, 2019

To Whom it may concern:

Marq6 Broadband has been building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 has seen service installed and working in Inwood Township, parts of thompson Township, parts of hiawatha Township, parts of Doyle Township, parts of Mueller Township and in Germfask township.

Our area needs this service to be fully built out to serve all of our county. Many of us do not currently have access to high-speed broadband, and as such cannot fully participate in today's world and global economy.

Our company is fully supportive of Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband in Schoolcraft County. Because high-speed internet is currently so sparse in our county, we truly need this project to be completed and afford our citizens the opportunity to enjoy and prosper from a much needed functional, high-speed internet.

Sincerely,



John Lindroth, President  
Superior State, Inc.  
PO Box 278  
Manistique, MI 49854  
johnssa@up.net



August 28, 2019

To whom it may concern,

We have thousands of miles of bike routes available for free download through Tour Da Yoop, Eh. Unfortunately that information isn't available to everyone as many people still don't have access to high-speed broadband.

Marq6 Broadband has been building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 reached out to some of the communities in Schoolcraft County, but we need this service to be built out to serve the entire Schoolcraft County.

Those living outside the reach of current broadband cannot fully function and participate in how the rest of the world communicates and distributes information.

We are fully supportive of Marq6 Broadband's project to continue a buildout of wireless high-speed broadband throughout Schoolcraft County. This is the county's best hope of joining the 21<sup>st</sup> Century and functioning in today's society.

Thank you,

James Studinger

[www.calloftheyooper.com](http://www.calloftheyooper.com)

[www.tourdayoopeh.com](http://www.tourdayoopeh.com)

248-765-2026

james@jpstudinger.com



**Grover Real Estate**

771 East Lakeshore Drive  
P.O. Box 92, US-2 East  
Manistique, MI 49854  
Office - 906-341-2131  
Fax - 906-341-6785

[www.GroverRealEstate.com](http://www.GroverRealEstate.com)

August 26, 2019

To Whom It May Concern:

Marq6 Broadband has been building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 has seen service installed and working in Cooks (Inwood Township), parts of Thompson Township, parts of Hiawatha Township, parts of Gulliver (Doyle Township/Mueller Township), and Blaney Park (Germfask Township).

We need this service to be built out to serve all of us in Schoolcraft County. Most of us do not currently have access to high-speed broadband, and as such cannot fully participate in today's world and global economy.

Our business/organization/agency is fully supportive of Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband in Schoolcraft County. Most of our County has little to no high-speed internet, and this wireless technology from Marq6 is our best hope of joining the 21<sup>st</sup> Century and gaining much-needed functional, high-speed internet.

Sincerely,

David J. Muxlow  
Broker/Owner  
Grover Real Estate  
771 E. Lakeshore Drive  
Manistique MI 49854





Established in 1955

August 27, 2019

To Whom It May Concern:

Marq6 Broadband has been building a high-speed wireless internet service in Schoolcraft County since 2017. Phase 1 has seen service installed and working in Cooks (Inwood Township), parts of Thompson Township, parts of Hiawatha Township, parts of Gulliver (Doyle Township/Mueller Township), and Blaney Park (Germfask Township).

We need this service to be built out to serve all of us in Schoolcraft County. Most of us do not currently have access to high-speed broadband, and as such cannot fully participate in today's world and global economy.

Our business/organization/agency is fully supportive of Marq6 Broadband's project to conduct a phased build-out of wireless high-speed broadband in Schoolcraft County. Most of our County has little to no high-speed internet, and this wireless technology from Marq6 is our best hope of joining the 21<sup>st</sup> Century and gaining much-needed functional, high-speed internet.

Sincerely,

A handwritten signature in black ink that reads "JC Watson". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Jennifer C. Watson  
CEO  
906-341-3118 ext 121