DeepPhe-CR: Natural Language Processing Software Services for Cancer Registrar Patient Abstraction

Supplemental Appendix: Examples of DeepPhe-CR calls and results

1. Introduction

We use manually created synthetic notes (available at https://github.com/DeepPhe/dphe-examples/reports) to demonstrate the use of DeepPhe-CR API calls to process clinical notes.

DeepPhe-CR uses a simple RESTful architecture, following common conventions similar to many other APIs.

2. Synthetic Sample Report

Progress note: fake_patient4_doc1_NOTE.txt

```
==================================================================
Report ID....................1,doc1
Patient ID...................pt567567567
Patient Name.................Fake Patient4
Principal Date...............20110310 1025
Record Type..................NOTE
Patient DOB..................01/15/1949

Reason for Visit:  Patient is a 62 year old post-menopausal female with a long history of lumpy
breasts. She felt a mass on her right breast on self-examination that she hadn't noticed before.
She also felt another lump in her left breast which she described as hard and painful.

Interim History: The patient is a 62 year old female who presents for evaluation of the masses.
The patient's recent mammography on March 1, 2011 revealed a lobulated mass in the upper inner
quadrant of the right breast at 2 o'clock position that measured 1.2x3.0 cm.  Mammography also
revealed a nodular mass in the upper inner quadrant of the left breast at 11 o'clock position
that measured 2 cm in diameter.
Ultrasound evaluation was performed on the area of the right breast and a 1.1x2.2x3.3 cm
hypoechoic mass is seen in the 2 o'clock region. Ultrasound of the left breast at 11 o'clock
revealed a 1.1x1.2x1.2 cm mass.  Ultrasound of the right axillary lymph nodes was performed
showing multiple thickened lymph nodes.  Ultrasound of the left axilla revealed normal appearing
lymph nodes.

Past History: She has a history of left ovarian carcinoma, treated with total abdominal
hysterectomy, bilateral salpingo-oophorectomy in July 2002.  She received neoadjuvant
chemotherapy with Taxol and Carboplatin.

Physical Exam: Health appearing female in NAD.
HEENT: NC/AT, PERRL, EOMI, Sclera non icteric
NECK: Supple, no masses
LUNGS: CTA, no wheezes, rales, rhonchi
CARDIAC: RRR. No murmurs, rubs or gallops
ADB: Soft, NT, ND, No HSM
EXT: No clubbing, cyanosis or edema
```

```
Impression: A 62 year old female with bilateral breast masses seen on mammography and ultrasound
scheduled for core biopsy of the right breast mass as well as the left breast nodule. She will
return to discuss further treatment options once pathology is finalized.
```

3. Structure of API calls

All API calls follow a common structure, including:

- An "Authorization: Bearer" header field with the authorization token.
- A "Content-Type: text/plain" header field
- A unique identifier for the document and/or patient, as appropriate
- Document text sent as a binary payload

All of the API calls conform to a common basic format:

```
PUT/GET  http://[hostanme]:[port]/DeepPhe/[API call name]/doc/[doc name]
[document text]
```

where `[hostname]:port` specify the server name and port - `localhost:8080` by default.

4. Example call: summarizeOneDoc – single document summarization

To summarize a single document, the only necessary identifier is the document ID. No patient ID is needed. Following the pattern From section 3, the pattern is as follows:

```
PUT http://localhost:8080/DeepPhe/summarizeOneDoc/doc/doc1 [document text]
```

Using the command-line cURL tool (https://curl.se/) and the note stored in a file named "`fake_patient4_doc1_NOTE.txt`", we can make this call as follows:

```
curl -i -X GET http://localhost:8080/deepphe/summarizeDoc/doc/doc1 \
     -H "Content-Type: text/plain" \
     -H "Authorization: Bearer AbCdEf123456" \
     --data-binary "@fake_patient4_doc1_NOTE.txt"
```

Note that this call uses the default Bearer token installed/provided with the system.

5. DeepPhe-CR output

Results are returned as structured JSON blocks containing lists and nested name, value dictionaries. A complete example is given in Section 7.

The `summarizeOneDoc` call given in Section 4, when applied to the note give in Section 2, will be used to describe the output.

Differences in output formats for specific calls are described alongside those calls.

The top-level output of a single document Id contains the following items:

id	the document Id submitted to the call
patient	A description of the patient and key information extracted from the document
neoplasms	a list of summarized tumors.

These subsections are described in Sections 5.1 and 5.2 The full JSON output is given in Section 7.

5.1 Patient

The patient field contains:

id	defaults to the docid for the summarizeOneDoc call
type	document -type "Clinical Note"
date	date when processed
text	the text of the note
sections	a list of sections in the document. Each section has an ID, a type, and a start and end character offset
mentions	a list of individual concepts mentioned in the document
relations	a list of relations between the mentions
corefs	a list of coreferences, currently unused

5.1.1 Mentions

A mention is a word or other string of characters identified by DeepPhe-CR as being relevant to one of the classes of information to be extracted. Each mention has several attributes:

id:	a unique identifier, generated by the system
classUri:	a unique label corresponding to the DeepPhe-CR concept associated with the text
noteid:	an internal identifier for the note
begin:	the starting character offset for the word/string
end:	the ending character offset for the word/string

There are also several binary values that can modify each mention: `negated`, `uncertain`, `generic`, `conditional`, `historic`. These fields will have values of true as applicable. Thus, if the mention was associated with the phrase "patient has a history of cancer", the `historic` flag would be set to True.

An example for a mention of a breast mass:

```
{
  "id": "doc1_M_3",
  "classUri": "Mass",
  "noteId": "doc1_884540155",
  "begin": 428,
  "end": 432,
  "negated": false,
  "uncertain": false,
```

```
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
        }
```

5.1.2 Relations

A relation is an indication of a semantically meaningful link between two mentions. Relationships are given in as (subject,predicate,target) triples, indicating that the subject is in a relationship of type predicate with the target

`type:`   A descriptor of the predicate of the relationship. Examples include `hasDiagnosis`, `hasTumorExtent`, relationships for clinical stage indicators, etc.

`sourceId:`   the subject of the relationship, referring to an ID of one of the `mentions` in the document.

`targetId:`   the ID of the mention of the object of the relationship.

Thus, for example the relationship:

```
        {
            "type": "hasTumorExtent",
            "sourceId": "doc1_M_3",
            "targetId": "doc1_M_1"
        }
```

indicates that mention `doc1_M_3` is a mention of a tumor that has an extent given by mention `doc1_M_1`.

5.2 Neoplasms

The neoplasms record is a list of the identified cancers. Each cancer is represented by the following items:

`id:`   a unique, system-generated identifier for the neoplasm
`classUri:`   a label for the class of neoplasm involved – for example, "Mass_In_Breast"
`attributes:`   a list of attributes of the neoplasm

5.2.1 Neoplasm Attributes

Neoplasm attributes provide summarized descriptions of each cancer. Each attribute contains several metadata items:

`id:`   a unique, system-generated identifier for the attribute
`classUri:`   a label for the class of attribute involved – for example, "Mass_In_Breast"
`name:`   a name for the attribute – for example, "behavior" or "histology"
`value:`   the extracted value for the attribute

`confidenceFeatures:`   a list of integers used internally by the DeepPhe system to calculate confidence values. These features are opaque and not designed to be used otherwise.

Each attribute also contains three lists of *evidence:* directEvidence, indirectEvidence, and notEvidence, corresponding respectively to those items that clearly support a summary, those that provide less direct support, and those that are not evidence for that item. Each evidence item is a copy of a specific mention (see A.5.1.1) from the text.

6. Complete API Specification

Note: As described in Section 3, all calls require "`Content-Type: text/plain`" and "`Authorization: Bearer <token>`" headers.

6.1 summarizeOneDoc

This basic call simply returns the result of summarizing the provided document.

Pattern	`http://localhost:8080/deepphe/summarizeOneDoc/doc/<docId>`
HTTP Method	PUT
HTTP request body	Text content of document
Response	JSON object containing details extracted from the document

6.2 summarizePatientDoc

This call will process a document associated with a given patient, retaining extracted information for a subsequent summary. The information returned will include the neoplasm summary for the given document, without any of the sections, mentions, or relations.

Summary information for the patient can be extracted by a subsequent call to `summarizePatient`, using the specified `<patientId>`. See Section 6.4 for details.

Pattern	`http://localhost:8080/deepphe/summarizePatientDoc/patient/<patientId>` `/doc/<docId>`
HTTP Method	PUT
HTTP request body	Text content of document
Response	JSON object containing details extracted from the document

6.3 queuePatientDoc

This call is similar to `summarizePatientDoc`, but the summary is not directly returned. The only response is a JSON block indicating that the document has been queued.

Pattern	`http://localhost:8080/deepphe/queuePatientDoc/patient/<patientId>/doc` `/<docId>`
HTTP Method	PUT

HTTP request body	Text content of document

Response	JSON object indicating successful queueing:
	
	``json
	{
	  "name": "Document Queued",
	  "value": "Added <patientId> <docId> to the Text Processing Queue."
	}
	``

6.4 summarizePatient

`SummarizePatient` builds a summary of all information submitted for a given patient, through prior calls to `summarizePatientDoc` and `queuePatientDoc`. If only one document has been submitted for the patient, the results are equivalent to what would be returned for a single call (for that document) to `summarizeDoc`.

Note that this call uses `GET`, unlike the other calls, which use `PUT` to submit document text.

Pattern	`http://localhost:8080/deepphe/summarizePatient/patient/<patientId>`
HTTP	`GET`
HTTP request body	Text content of document
Response	JSON object including summary of all documents previously submitted for patient `<patientId>`

7. Complete Example

The following JSON is output for the `summarizeOneDoc` call executed against the example file given in section 2.1.

```json
{
  "id": "doc1",
  "patient": {
    "id": "doc1",
    "name": "doc1",
    "notes": [
      {
        "id": "doc1_884540155",
        "name": "doc1",
        "type": "Clinical Note",
        "date": "202305030238",
        "episode": "unknown",
        "text":
"\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\
u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u0
03d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003
d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\
u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\u003d\nReport
ID....................1,doc1\nPatient ID....................pt567567567\nPatient
```

Name.................Fake Patient4\nPrincipal Date................20110310 1025\nRecord Type...................NOTE\nPatient DOB..................01/15/1949\n\nReason for Visit: Patient is a 62 year old post-menopausal female with a long history of lumpy breasts. She felt a mass on her right breast on self-examination that she hadn't noticed before. She also felt another lump in her left breast which she described as hard and painful.\n\nInterim History: The patient is a 62 year old female who presents for evaluation of the masses. The patient's recent mammography on March 1, 2011 revealed a lobulated mass in the upper inner quadrant of the right breast at 2 o'clock position that measured 1.2x3.0 cm. Mammography also revealed a nodular mass in the upper inner quadrant of the left breast at 11 o'clock position that measured 2 cm in diameter. \nUltrasound evaluation was performed on the area of the right breast and a 1.1x2.2x3.3 cm hypoechoic mass is seen in the 2 o'clock region. Ultrasound of the left breast at 11 o'clock revealed a 1.1x1.2x1.2 cm mass. Ultrasound of the right axillary lymph nodes was performed showing multiple thickened lymph nodes. Ultrasound of the left axilla revealed normal appearing lymph nodes.\n\nPast History: She has a history of left ovarian carcinoma, treated with total abdominal hysterectomy, bilateral salpingo-oophorectomy in July 2002. She received neoadjuvant chemotherapy with Taxol and Carboplatin.\n\nPhysical Exam: Health appearing female in NAD. \nHEENT: NC/AT, PERRL, EOMI, Sclera non icteric\nNECK: Supple, no masses\nLUNGS: CTA, no wheezes, rales, rhonchi\nCARDIAC: RRR. No murmurs, rubs or gallops\nADB: Soft, NT, ND, No HSM\nEXT: No clubbing, cyanosis or edema\n\n\nImpression: A 62 year old female with bilateral breast masses seen on mammography and ultrasound scheduled for core biopsy of the right breast mass as well as the left breast nodule. She will return to discuss further treatment options once pathology is finalized.\n\n",

        "sections": [
          {
            "id": "doc1_S_1",
            "type": "Pittsburgh Header",
            "begin": 67,
            "end": 594
          },
          {
            "id": "doc1_S_2",
            "type": "Interim History",
            "begin": 611,
            "end": 1608
          },
          {
            "id": "doc1_S_3",
            "type": "Examination",
            "begin": 1623,
            "end": 1871
          },
          {
            "id": "doc1_S_4",
            "type": "Impression",
            "begin": 1883,
            "end": 2137
          }
        ],
        "mentions": [
          {
            "id": "doc1_884540155_M_1",
            "classUri": "Lymph_Node",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1308,
            "end": 1319,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,

```
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_2",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1215,
      "end": 1219,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_3",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 402,
      "end": 415,
      "negated": false,
      "uncertain": true,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_4",
      "classUri": "Heart",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1765,
      "end": 1772,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_6",
      "classUri": "Axillary_Lymph_Node",
      "confidence": 0.0,
```

```json
      "noteId": "doc1_884540155",
      "begin": 1246,
      "end": 1266,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_7",
      "classUri": "Left_Axilla_Proper",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1340,
      "end": 1351,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_8",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 440,
      "end": 445,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_9",
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 911,
      "end": 931,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_10",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2013,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
```

```json
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_11",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1062,
      "end": 1067,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_12",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1240,
      "end": 1245,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_13",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 807,
      "end": 813,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_14",
      "classUri": "Bilateral",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1909,
      "end": 1918,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_15",
      "classUri": "Right",
      "confidence": 0.0,
```

```
    "noteId": "doc1_884540155",
    "begin": 801,
    "end": 806,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_16",
    "classUri": "Neck",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1702,
    "end": 1706,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_17",
    "classUri": "Left",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1427,
    "end": 1431,
    "negated": false,
    "uncertain": true,
    "generic": false,
    "conditional": false,
    "historic": true,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_18",
    "classUri": "Epithelial_Ovarian_Cancer",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1432,
    "end": 1449,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": true,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_19",
    "classUri": "Lung",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1726,
    "end": 1731,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
```

```
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_20",
      "classUri": "Dysplastic_Nevus",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_21",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 428,
      "end": 432,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_22",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 528,
      "end": 532,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_24",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1168,
      "end": 1174,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_23",
      "classUri": "Lobular_Mass",
      "confidence": 0.0,
```

```json
    "noteId": "doc1_884540155",
    "begin": 751,
    "end": 765,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_25",
    "classUri": "Position_Of_Phenotypic_Abnormality",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 827,
    "end": 835,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_26",
    "classUri": "Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 408,
    "end": 415,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": true,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_27",
    "classUri": "Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1919,
    "end": 1925,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_28",
    "classUri": "Upper_inner_Quadrant",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 773,
    "end": 793,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
```

```json
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_30",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1340,
      "end": 1344,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_29",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2045,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_31",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 939,
      "end": 943,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_34",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1163,
      "end": 1167,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_33",
      "classUri": "Sclera",
      "confidence": 0.0,
```

```json
    "noteId": "doc1_884540155",
    "begin": 1683,
    "end": 1689,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_32",
    "classUri": "Position_Of_Phenotypic_Abnormality",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 965,
    "end": 973,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_35",
    "classUri": "Mass_In_Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 2039,
    "end": 2052,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_37",
    "classUri": "Left",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 540,
    "end": 544,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_36",
    "classUri": "Mass",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 899,
    "end": 903,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
```

```json
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_38",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1107,
      "end": 1111,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_41",
      "classUri": "Bilateral",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1494,
      "end": 1503,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_40",
      "classUri": "Ovary",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1432,
      "end": 1439,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_39",
      "classUri": "Lymph_Node",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1378,
      "end": 1389,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_42",
      "classUri": "Left",
      "confidence": 0.0,
```

```json
    "noteId": "doc1_884540155",
    "begin": 2034,
    "end": 2038,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_44",
    "classUri": "Right",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 2001,
    "end": 2006,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_43",
    "classUri": "Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1068,
    "end": 1074,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_45",
    "classUri": "Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 944,
    "end": 950,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
  },
  {
    "id": "doc1_884540155_M_46",
    "classUri": "Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 545,
    "end": 551,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
```

```
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_47",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 446,
      "end": 452,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    }
  ],
  "relations": [
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_4",
      "confidence": 40.25
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_7",
      "confidence": 55.70000076293945
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_9",
      "confidence": 46.79999923706055
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_10",
      "confidence": 21.25
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_13",
      "confidence": 44.400001525878906
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_16",
      "confidence": 35.25
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_19",
      "confidence": 43.25
    },
    {
      "type": "Disease_Has_Associated_Anatomic_Site",
```

```json
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_24",
    "confidence": 52.20000076293945
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_26",
    "confidence": 11.5
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_27",
    "confidence": 24.75
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_28",
    "confidence": 44.0
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_29",
    "confidence": 19.5
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_33",
    "confidence": 46.5
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_40",
    "confidence": 100.0
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_43",
    "confidence": 49.70000076293945
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_45",
    "confidence": 47.20000076293945
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_46",
    "confidence": 11.5
  },
  {
    "type": "Disease_Has_Associated_Anatomic_Site",
    "sourceId": "doc1_884540155_M_18",
    "targetId": "doc1_884540155_M_47",
    "confidence": 11.5
  },
```

```json
    },
    {
      "type": "Disease_Has_Primary_Anatomic_Site",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_40",
      "confidence": 85.0
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_8",
      "confidence": 16.5
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_11",
      "confidence": 54.599998474121094
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_12",
      "confidence": 59.099998474121094
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_14",
      "confidence": 30.0
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_15",
      "confidence": 49.29999923706055
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_17",
      "confidence": 59.95000076293945
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_30",
      "confidence": 60.599998474121094
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_31",
      "confidence": 52.099998474121094
    },
    {
      "type": "hasLaterality",
      "sourceId": "doc1_884540155_M_18",
      "targetId": "doc1_884540155_M_34",
      "confidence": 57.099998474121094
    },
    {
      "type": "hasLaterality",
```

```json
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_37",
          "confidence": 16.5
        },
        {
          "type": "hasLaterality",
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_41",
          "confidence": 64.5999984741211
        },
        {
          "type": "hasLaterality",
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_42",
          "confidence": 24.75
        },
        {
          "type": "hasLaterality",
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_44",
          "confidence": 26.5
        },
        {
          "type": "hasQuadrant",
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_9",
          "confidence": 56.79999923706055
        },
        {
          "type": "hasQuadrant",
          "sourceId": "doc1_884540155_M_18",
          "targetId": "doc1_884540155_M_28",
          "confidence": 54.0
        }
      ]
    }
  ]
},
"neoplasms": [
  {
    "id": "Mass_In_Breast_1683124727155",
    "classUri": "Mass_In_Breast",
    "attributes": [
      {
        "id": "Upper_inner_Quadrant_1683124727160",
        "classUri": "Upper_inner_Quadrant",
        "name": "topography_major",
        "value": "C502",
        "directEvidence": [
          {
            "id": "doc1_884540155_M_28",
            "classUri": "Upper_inner_Quadrant",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 773,
            "end": 793,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
```

```json
{
  "id": "doc1_884540155_M_45",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 944,
  "end": 950,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_24",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1168,
  "end": 1174,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_9",
  "classUri": "Upper_inner_Quadrant",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 911,
  "end": 931,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_46",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 545,
  "end": 551,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_13",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 807,
  "end": 813,
```

```json
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_26",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 408,
      "end": 415,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_29",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2045,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_47",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 446,
      "end": 452,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_27",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1919,
      "end": 1925,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
```

```
          {
            "id": "doc1_884540155_M_10",
            "classUri": "Breast",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 2007,
            "end": 2013,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_43",
            "classUri": "Breast",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1068,
            "end": 1074,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          }
        ],
        "indirectEvidence": [
          {
            "id": "doc1_884540155_M_4",
            "classUri": "Heart",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1765,
            "end": 1772,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_33",
            "classUri": "Sclera",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1683,
            "end": 1689,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_7",
            "classUri": "Left_Axilla_Proper",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
```

```
            "begin": 1340,
            "end": 1351,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_19",
            "classUri": "Lung",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1726,
            "end": 1731,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_16",
            "classUri": "Neck",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1702,
            "end": 1706,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_40",
            "classUri": "Ovary",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 1432,
            "end": 1439,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": true,
            "temporality": ""
          }
        ],
        "notEvidence": [],
        "confidenceFeatures": []
      },
      {
        "id": "Upper_Inner_Quadrant_1683124727160",
        "classUri": "Upper_Inner_Quadrant",
        "name": "location",
        "value": "Upper_Inner_Quadrant",
        "directEvidence": [
          {
            "id": "doc1_884540155_M_28",
```

```
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 773,
      "end": 793,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_45",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 944,
      "end": 950,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_24",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1168,
      "end": 1174,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_9",
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 911,
      "end": 931,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_46",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 545,
      "end": 551,
      "negated": false,
      "uncertain": false,
```

```json
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_13",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 807,
      "end": 813,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_26",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 408,
      "end": 415,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_29",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2045,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_47",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 446,
      "end": 452,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_27",
```

```
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1919,
      "end": 1925,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_10",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2013,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_43",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1068,
      "end": 1074,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    }
  ],
  "indirectEvidence": [
    {
      "id": "doc1_884540155_M_4",
      "classUri": "Heart",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1765,
      "end": 1772,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_33",
      "classUri": "Sclera",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1683,
      "end": 1689,
```

```json
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_7",
    "classUri": "Left_Axilla_Proper",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1340,
    "end": 1351,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_19",
    "classUri": "Lung",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1726,
    "end": 1731,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_16",
    "classUri": "Neck",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1702,
    "end": 1706,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_40",
    "classUri": "Ovary",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1432,
    "end": 1439,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": true,
    "temporality": ""
}
```

```
      ],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Left_1683124727162",
      "classUri": "Left",
      "name": "laterality_code",
      "value": "2",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_31",
          "classUri": "Left",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 939,
          "end": 943,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_41",
          "classUri": "Bilateral",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1494,
          "end": 1503,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_8",
          "classUri": "Right",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 440,
          "end": 445,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_17",
          "classUri": "Left",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1427,
          "end": 1431,
          "negated": false,
          "uncertain": true,
          "generic": false,
          "conditional": false,
```

```json
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_11",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1062,
      "end": 1067,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_15",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 801,
      "end": 806,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_34",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1163,
      "end": 1167,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_37",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 540,
      "end": 544,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_14",
      "classUri": "Bilateral",
      "confidence": 0.0,
```

```
      "noteId": "doc1_884540155",
      "begin": 1909,
      "end": 1918,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_30",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1340,
      "end": 1344,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_44",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2001,
      "end": 2006,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_12",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1240,
      "end": 1245,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_42",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2034,
      "end": 2038,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
```

```json
        "historic": false,
        "temporality": ""
      }
    ],
    "indirectEvidence": [],
    "notEvidence": [],
    "confidenceFeatures": []
  },
  {
    "id": "Left_1683124727162",
    "classUri": "Left",
    "name": "laterality",
    "value": "Left",
    "directEvidence": [
      {
        "id": "doc1_884540155_M_31",
        "classUri": "Left",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 939,
        "end": 943,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_41",
        "classUri": "Bilateral",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 1494,
        "end": 1503,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_8",
        "classUri": "Right",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 440,
        "end": 445,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_17",
        "classUri": "Left",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 1427,
        "end": 1431,
```

```json
      "negated": false,
      "uncertain": true,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_11",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1062,
      "end": 1067,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_15",
      "classUri": "Right",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 801,
      "end": 806,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_34",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1163,
      "end": 1167,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_37",
      "classUri": "Left",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 540,
      "end": 544,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
```

```
{
  "id": "doc1_884540155_M_14",
  "classUri": "Bilateral",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1909,
  "end": 1918,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_30",
  "classUri": "Left",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1340,
  "end": 1344,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_44",
  "classUri": "Right",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 2001,
  "end": 2006,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_12",
  "classUri": "Right",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1240,
  "end": 1245,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_42",
  "classUri": "Left",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 2034,
  "end": 2038,
```

```json
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      }
    ],
    "indirectEvidence": [],
    "notEvidence": [],
    "confidenceFeatures": []
  },
  {
    "id": "Upper_inner_Quadrant_1683124727168",
    "classUri": "Upper_inner_Quadrant",
    "name": "topography_minor",
    "value": "9",
    "directEvidence": [
      {
        "id": "doc1_884540155_M_45",
        "classUri": "Breast",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 944,
        "end": 950,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_24",
        "classUri": "Breast",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 1168,
        "end": 1174,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_46",
        "classUri": "Breast",
        "confidence": 0.0,
        "noteId": "doc1_884540155",
        "begin": 545,
        "end": 551,
        "negated": false,
        "uncertain": false,
        "generic": false,
        "conditional": false,
        "historic": false,
        "temporality": ""
      },
      {
        "id": "doc1_884540155_M_47",
        "classUri": "Breast",
```

```
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 446,
  "end": 452,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_27",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1919,
  "end": 1925,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_19",
  "classUri": "Lung",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1726,
  "end": 1731,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_43",
  "classUri": "Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1068,
  "end": 1074,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_28",
  "classUri": "Upper_inner_Quadrant",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 773,
  "end": 793,
  "negated": false,
  "uncertain": false,
  "generic": false,
```

```
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_9",
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 911,
      "end": 931,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_13",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 807,
      "end": 813,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_26",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 408,
      "end": 415,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_29",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2045,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_10",
      "classUri": "Breast",
```

```json
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 2007,
          "end": 2013,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Breast_Quadrant_1683124727168",
      "classUri": "Breast_Quadrant",
      "name": "quadrant",
      "value": "Upper_inner_Quadrant",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_45",
          "classUri": "Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 944,
          "end": 950,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_24",
          "classUri": "Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1168,
          "end": 1174,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_46",
          "classUri": "Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 545,
          "end": 551,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
```

```
    },
    {
      "id": "doc1_884540155_M_47",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 446,
      "end": 452,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_27",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1919,
      "end": 1925,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_19",
      "classUri": "Lung",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1726,
      "end": 1731,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_43",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1068,
      "end": 1074,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_28",
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 773,
```

```json
      "end": 793,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_9",
      "classUri": "Upper_inner_Quadrant",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 911,
      "end": 931,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_13",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 807,
      "end": 813,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_26",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 408,
      "end": 415,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_29",
      "classUri": "Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2045,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
```

```
          },
          {
            "id": "doc1_884540155_M_10",
            "classUri": "Breast",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 2007,
            "end": 2013,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          }
        ],
        "indirectEvidence": [],
        "notEvidence": [],
        "confidenceFeatures": []
      },
      {
        "id": "Mass_In_Breast_1683124727175",
        "classUri": "Mass_In_Breast",
        "name": "histology",
        "value": "8727",
        "directEvidence": [
          {
            "id": "doc1_884540155_M_22",
            "classUri": "Mass",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 528,
            "end": 532,
            "negated": false,
            "uncertain": false,
            "generic": false,
            "conditional": false,
            "historic": false,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_3",
            "classUri": "Mass_In_Breast",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 402,
            "end": 415,
            "negated": false,
            "uncertain": true,
            "generic": false,
            "conditional": false,
            "historic": true,
            "temporality": ""
          },
          {
            "id": "doc1_884540155_M_23",
            "classUri": "Lobular_Mass",
            "confidence": 0.0,
            "noteId": "doc1_884540155",
            "begin": 751,
            "end": 765,
            "negated": false,
            "uncertain": false,
```

```json
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_20",
      "classUri": "Dysplastic_Nevus",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_38",
```

```json
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1107,
          "end": 1111,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_21",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 428,
          "end": 432,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_18",
          "classUri": "Epithelial_Ovarian_Cancer",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1432,
          "end": 1449,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_2",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1215,
          "end": 1219,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727175",
      "classUri": "Mass_In_Breast",
      "name": "cancer_type",
```

```json
          "value": "Mass_In_Breast",
          "directEvidence": [
            {
              "id": "doc1_884540155_M_22",
              "classUri": "Mass",
              "confidence": 0.0,
              "noteId": "doc1_884540155",
              "begin": 528,
              "end": 532,
              "negated": false,
              "uncertain": false,
              "generic": false,
              "conditional": false,
              "historic": false,
              "temporality": ""
            },
            {
              "id": "doc1_884540155_M_3",
              "classUri": "Mass_In_Breast",
              "confidence": 0.0,
              "noteId": "doc1_884540155",
              "begin": 402,
              "end": 415,
              "negated": false,
              "uncertain": true,
              "generic": false,
              "conditional": false,
              "historic": true,
              "temporality": ""
            },
            {
              "id": "doc1_884540155_M_23",
              "classUri": "Lobular_Mass",
              "confidence": 0.0,
              "noteId": "doc1_884540155",
              "begin": 751,
              "end": 765,
              "negated": false,
              "uncertain": false,
              "generic": false,
              "conditional": false,
              "historic": false,
              "temporality": ""
            },
            {
              "id": "doc1_884540155_M_20",
              "classUri": "Dysplastic_Nevus",
              "confidence": 0.0,
              "noteId": "doc1_884540155",
              "begin": 1650,
              "end": 1653,
              "negated": false,
              "uncertain": false,
              "generic": false,
              "conditional": false,
              "historic": false,
              "temporality": ""
            },
            {
              "id": "doc1_884540155_M_35",
              "classUri": "Mass_In_Breast",
              "confidence": 0.0,
              "noteId": "doc1_884540155",
```

```json
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_38",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1107,
      "end": 1111,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_21",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 428,
      "end": 432,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
```

```json
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_18",
          "classUri": "Epithelial_Ovarian_Cancer",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1432,
          "end": 1449,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_2",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1215,
          "end": 1219,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727175",
      "classUri": "Mass_In_Breast",
      "name": "histologic_type",
      "value": "Mass_In_Breast",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_22",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 528,
          "end": 532,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_3",
          "classUri": "Mass_In_Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 402,
          "end": 415,
          "negated": false,
```

```
      "uncertain": true,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_23",
      "classUri": "Lobular_Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 751,
      "end": 765,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_20",
      "classUri": "Dysplastic_Nevus",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
```

```
    "id": "doc1_884540155_M_5",
    "classUri": "Mass_In_Breast",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 2007,
    "end": 2018,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_38",
    "classUri": "Mass",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1107,
    "end": 1111,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_21",
    "classUri": "Mass",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 428,
    "end": 432,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": false,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_18",
    "classUri": "Epithelial_Ovarian_Cancer",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1432,
    "end": 1449,
    "negated": false,
    "uncertain": false,
    "generic": false,
    "conditional": false,
    "historic": true,
    "temporality": ""
},
{
    "id": "doc1_884540155_M_2",
    "classUri": "Mass",
    "confidence": 0.0,
    "noteId": "doc1_884540155",
    "begin": 1215,
    "end": 1219,
    "negated": false,
```

```json
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727175",
      "classUri": "Mass_In_Breast",
      "name": "diagnosis",
      "value": "Mass_In_Breast",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_22",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 528,
          "end": 532,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_3",
          "classUri": "Mass_In_Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 402,
          "end": 415,
          "negated": false,
          "uncertain": true,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_23",
          "classUri": "Lobular_Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 751,
          "end": 765,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_20",
          "classUri": "Dysplastic_Nevus",
          "confidence": 0.0,
```

```json
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_38",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1107,
      "end": 1111,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
```

```json
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_21",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 428,
          "end": 432,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_18",
          "classUri": "Epithelial_Ovarian_Cancer",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1432,
          "end": 1449,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_2",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1215,
          "end": 1219,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727183",
      "classUri": "Mass_In_Breast",
      "name": "behavior",
      "value": "3",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_22",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 528,
          "end": 532,
```

```
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_3",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 402,
      "end": 415,
      "negated": false,
      "uncertain": true,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_23",
      "classUri": "Lobular_Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 751,
      "end": 765,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_20",
      "classUri": "Dysplastic_Nevus",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
```

```json
{
  "id": "doc1_884540155_M_36",
  "classUri": "Mass",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 899,
  "end": 903,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_5",
  "classUri": "Mass_In_Breast",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 2007,
  "end": 2018,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_38",
  "classUri": "Mass",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1107,
  "end": 1111,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_21",
  "classUri": "Mass",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 428,
  "end": 432,
  "negated": false,
  "uncertain": false,
  "generic": false,
  "conditional": false,
  "historic": false,
  "temporality": ""
},
{
  "id": "doc1_884540155_M_18",
  "classUri": "Epithelial_Ovarian_Cancer",
  "confidence": 0.0,
  "noteId": "doc1_884540155",
  "begin": 1432,
  "end": 1449,
```

```json
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_2",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1215,
          "end": 1219,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727183",
      "classUri": "Mass_In_Breast",
      "name": "extent",
      "value": "Invasive_Lesion",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_22",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 528,
          "end": 532,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_3",
          "classUri": "Mass_In_Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 402,
          "end": 415,
          "negated": false,
          "uncertain": true,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_23",
          "classUri": "Lobular_Mass",
```

```json
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 751,
      "end": 765,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_20",
      "classUri": "Dysplastic_Nevus",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1650,
      "end": 1653,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
```

```
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_38",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1107,
          "end": 1111,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_21",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 428,
          "end": 432,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_18",
          "classUri": "Epithelial_Ovarian_Cancer",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1432,
          "end": 1449,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_2",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1215,
          "end": 1219,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        }
      ],
      "indirectEvidence": [],
      "notEvidence": [],
```

```json
      "confidenceFeatures": []
    },
    {
      "id": "Mass_In_Breast_1683124727183",
      "classUri": "Mass_In_Breast",
      "name": "tumor_type",
      "value": "PrimaryTumor",
      "directEvidence": [
        {
          "id": "doc1_884540155_M_22",
          "classUri": "Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 528,
          "end": 532,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_3",
          "classUri": "Mass_In_Breast",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 402,
          "end": 415,
          "negated": false,
          "uncertain": true,
          "generic": false,
          "conditional": false,
          "historic": true,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_23",
          "classUri": "Lobular_Mass",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 751,
          "end": 765,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
        },
        {
          "id": "doc1_884540155_M_20",
          "classUri": "Dysplastic_Nevus",
          "confidence": 0.0,
          "noteId": "doc1_884540155",
          "begin": 1650,
          "end": 1653,
          "negated": false,
          "uncertain": false,
          "generic": false,
          "conditional": false,
          "historic": false,
          "temporality": ""
```

```json
    },
    {
      "id": "doc1_884540155_M_35",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2039,
      "end": 2052,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_36",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 899,
      "end": 903,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_5",
      "classUri": "Mass_In_Breast",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 2007,
      "end": 2018,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_38",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1107,
      "end": 1111,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_21",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 428,
```

```
      "end": 432,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_18",
      "classUri": "Epithelial_Ovarian_Cancer",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1432,
      "end": 1449,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": true,
      "temporality": ""
    },
    {
      "id": "doc1_884540155_M_2",
      "classUri": "Mass",
      "confidence": 0.0,
      "noteId": "doc1_884540155",
      "begin": 1215,
      "end": 1219,
      "negated": false,
      "uncertain": false,
      "generic": false,
      "conditional": false,
      "historic": false,
      "temporality": ""
    }
  ],
  "indirectEvidence": [],
  "notEvidence": [],
  "confidenceFeatures": []
},
{
  "id": "historic_1683124727183",
  "classUri": "historic",
  "name": "historic",
  "value": "historic",
  "directEvidence": [],
  "indirectEvidence": [],
  "notEvidence": [],
  "confidenceFeatures": [],
  "confidence": 10
},
{
  "id": "calcifications_1683124727183",
  "classUri": "calcifications",
  "name": "calcifications",
  "value": "false",
  "directEvidence": [],
  "indirectEvidence": [],
  "notEvidence": [],
  "confidenceFeatures": [],
  "confidence": 10
},
```

```
          {
            "id": "_1683124727183",
            "classUri": "",
            "name": "grade",
            "value": "9",
            "directEvidence": [],
            "indirectEvidence": [],
            "notEvidence": [],
            "confidenceFeatures": []
          }
        ]
      }
    ]
  }
```