Lab Assignment

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| Abstr. # | PubMed ID | Publication Date | Title | Word Count | #Words (WordNet) | #Medical Words  (Bioportal / BioNLP) Duplicates! |
| 1 | 30196424 | 2018 Sep 8 | Familial Cancer Clustering in Patients with Prolactinoma. | 394 | 122 | 1798 |
| 2 | 30196358 | 2018 Sep 8 | Seroma in breast surgery: all the surgeons fault? | 286 | 47 | 2350 |
| 3 | 30194749 | 2018 Sep 8 | Abbreviated MRI of the Breast: Does It Provide Value? | 319 | 140 | 2754 |
| 4 | 30193687 | 2018 Sep | Hormonal contraception and breast cancer. | 164 | 91 | 2758 |
| 5 | 30191351 | 2018 Sep 6 | PET imaging of chemokine receptor CXCR4 in patients with primary and recurrent breast carcinoma. | 437 | 28 | 3156 |
| 6 | 30191237 | 2018 Sep 7 | An all-in-one nanoparticle (AION) contrast agent for breast cancer screening with DEM-CT-MRI-NIRF imaging. | 248 | 106 | 3467 |
| 7 | 30190194 | 2018 Aug 4 | Vitamin A and Breast Cancer Survival: A Systematic Review and Meta-analysis. | 304 | 30 | 3534 |
| 8 | 30184043 | 2018 Sep 3 | Breast cancer prognosis signature: linking risk stratification to disease subtypes. | 221 | 100 | 3508 |
| 9 | 30181939 | 2018 Aug | Traumatic neuroma as a rare cause of intractable neuropathic breast pain following cancer surgery: Management and review of the literature. | 206 | 117 | 3537 |
| 10 | 30180725 | 2018 Jun 12 | Radiotherapy for patients with unresected locally advanced breast cancer. | 317 | 32 | 5455 |

Abstract 1

Nouns (lemmas – unique): people, risk, malignancy, family, history, cancer, study, cohort, patient, adenoma, pa, outpatient, clinic, year, %, member, breast, prolactinoma, nfpa, acromegaly, p, lung, relative, type, age, percent, life, colon, proportion, result, clustering, diagnosis, association, research, susceptibility

Verbs (lemmas – unique): be, get, have, aim, collect, affect, report, diagnose, compare, suggest, need

Name Entity Resolution: cancer-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, PA-STATE\_OR\_PROVINCE, years-DURATION, 2005-2017-DURATION, 46.6-PERCENT, %-PERCENT, 1062-NUMBER, PA-ORGANIZATION, cancer-CAUSE\_OF\_DEATH, Breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 15.3-PERCENT, %-PERCENT, NFPA-ORGANIZATION, 10.0-PERCENT, %-PERCENT, 6.8-PERCENT, %-PERCENT, 0.004-NUMBER, Lung-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 12.1-PERCENT, %-PERCENT, NFPA-ORGANIZATION, 7.0-PERCENT, %-PERCENT, 0.049-NUMBER, Colorectal-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, PA-ORGANIZATION, PA.-STATE\_OR\_PROVINCE, PA-STATE\_OR\_PROVINCE, 43.6-NUMBER, 15.9-NUMBER, 46.0-NUMBER, 16.4-DURATION, years-DURATION, 0.015-NUMBER, 25-DURATION, years-DURATION, Forty-two-PERCENT, percent-PERCENT, PA-STATE\_OR\_PROVINCE, 25-DURATION, years-DURATION, a-DURATION, second-DURATION, cancer-CAUSE\_OF\_DEATH, PA-STATE\_OR\_PROVINCE, 25.8-PERCENT, %-PERCENT, 0.001-NUMBER, second-ORDINAL, PA-STATE\_OR\_PROVINCE, 25-DURATION, years-DURATION, PA-STATE\_OR\_PROVINCE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 10.9-NUMBER, 6.1-PERCENT, %-PERCENT, 0.033-NUMBER, lung-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 10.9-NUMBER, 5.8-PERCENT, %-PERCENT, 0.02-NUMBER, colon-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 9.5-NUMBER, 4.0-PERCENT, %-PERCENT, 0.004-NUMBER, cancer-CAUSE\_OF\_DEATH, PA-STATE\_OR\_PROVINCE, 25-DURATION, years-DURATION, PA-STATE\_OR\_PROVINCE, lung-CAUSE\_OF\_DEATH, cancers-CAUSE\_OF\_DEATH, lung-CAUSE\_OF\_DEATH, cancers-CAUSE\_OF\_DEATH

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| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 129 | (SEE ABOVE) |
| POS: Verb | 30 | (SEE ABOVE) |
| NN: | 92 | risk, malignancy, family, history, cancer, study, family, history, cancer, cohort, PA, outpatient, clinic, %, PA, family, member, cancer, Breast, cancer, family, %, NFPA, %, acromegaly, %, p, Lung, cancer, family, %, NFPA, %, p, cancer, PA, type, family, history, malignancy, PA, age, family, history, p, prolactinoma, age, percent, PA, age, cancer, PA, life, %, p, Breast, lung, colon, proportion, PA, age, PA, life, breast, cancer, %, p, lung, cancer, %, p, colon, cancer, %, p, cancer, clustering, prolactinoma, PA, diagnosis, PA, association, prolactinoma, family, history, breast, lung, research, susceptibility, prolactinoma, breast, lung |
| NNS: | 37 | People, patients, adenomas, years, patients, members, patients, prolactinomas, families, patients, adenomas, members, patients, prolactinomas, families, patients, relatives, patients, patients, patients, years, patients, years, patients, years, patients, cancers, relatives, patients, years, patients, results, patients, patients, years, cancers, cancers, |
| VB: | 2 | have, collect |
| VBD: | 12 | had, was, was, was, was, were, diagnosed, had, diagnosed, were, diagnosed, diagnosed |
| VBP: | 4 | are, get, are, suggest |
| VBZ: | 3 | aims, is, is |
| VBN: | 9 | affected, reported, reported, reported, diagnosed, diagnosed, reported, compared, needed |
| IN: | 70 | at, for, as, of, of, in, of, with, in, from, of, with, with, in, in, of, with, than, in, of, with, in, in, of, with, than, in, of, in, of, with, with, of, with, of, with, at, than, with, with, before, of, of, with, before, of, with, than, with, in, in, in, of, with, before, of, with, with, in, in, with, with, than, at, of, In, between, of, of, of |
| TO: | 1 | to |
| EX: | 1 | there |
| DT: | 14 | a, This, a, a, any, a, an, a, the, the, a, the, These, a |
| WDT: | 1 | which |
| CC: | 14 | or, or, vs, and, and, and, vs, vs, vs, and, and, and, and, and |
| CD: | 31 | 2005-2017, 46.6, 1062, 15.3, 10, 6.8, 0.004, 12.1, 7, 0.049, 43.6, 15.9, 46, 16.4, 0.015, 25, Forty-two, 25, 25.8, 0.001, 25, 10.9, 6.1, 0.033, 10.9, 5.8, 0.02, 9.5, 4, 0.004, 25 |
| JJ: | 28 | strong, large, pituitary, non-functioning, pituitary, =, =, Colorectal, positive, negative, =, Female, second, third-degree, relative, second, third-degree, =, =, =, familial, young, particular, strong, Further, possible, shared, genetic |
| JJR: | 9 | higher, older, higher, higher, earlier, higher, <, higher, younger |
| RB: | 9 | Overall, significantly, significantly, Furthermore, commonly, significantly, later, significantly, later |
| RBR: | 1 | more |
| PRP: | 1 | they |
| OTHER: | 55 | ., -LRB-, -RRB-, ,, |
| Name Entity Recognition: | 85 | (SEE ABOVE) |
| Triplets (all sentences): | 3243 | (SEE triplet1.txt) |
| #Words: | 122 | (SEE syn1.txt) |
| Medical Terms (includes duplicates): | 1798 | People, At higher risk, High, Risk, malignant neoplasm, Malignancy, Cancer, Has Disease, Possess, Have, strong, non-fragile, family history of cancer, Family history of, Family Medical history, family history, Family, History, … |

Abstract 2

Verbs (lemmas – unique): remain, result, be, provide, update, treat, perform, exclude, measure, drain, place, meet, have, receive, reveal, observe, remove, explain

Nouns (lemmas – unique): trend, approach, breast, cancer, understanding, tumour, biology, treatment, option, chemotherapy, nac, radiotherapy, iort, seroma, production, effect, recovery, delay, patient, discomfort, aim, study, risk, factor, surgery, method, analysis, intervention, formation, wound, axilla, result, total, inclusion, criterion, age, diagnosis, year, bmi, kg/m, <sup>, </sup>, %, mastectomy, amount, ml, range, variation, type, conserving, length, number, lymph, node, conclusion, extent, duration

Name Entity Resolution: breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, one-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, surgery-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 01.01.2010-DATE, and-DATE, 31.12.2014-DATE, Breast-CAUSE\_OF\_DEATH, Cancer-CAUSE\_OF\_DEATH, University-ORGANIZATION, Hospital-ORGANIZATION, Ulm-ORGANIZATION, surgery-CAUSE\_OF\_DEATH, one-NUMBER, 581-NUMBER, Median-MISC, 60-DURATION, years-DURATION, 25.6-NUMBER, 2-NUMBER, 60-NUMBER, 10.3-PERCENT, %-PERCENT, 175-NUMBER, 30.1-PERCENT, %-PERCENT, 72-NUMBER, 12.4-PERCENT, %-PERCENT, NAC-ORGANIZATION, 82.5-NUMBER, 0-3012.5-NUMBER, surgery-CAUSE\_OF\_DEATH, surgery-CAUSE\_OF\_DEATH, NAC-ORGANIZATION, IORT-ORGANIZATION, surgery-CAUSE\_OF\_DEATH

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| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 103 | (SEE ABOVE) |
| POS: Verb | 27 | (SEE ABOVE) |
| NN: | 86 | trend, breast, cancer, understanding, tumour, biology, treatment, chemotherapy, NAC, radiotherapy, IORT, seroma, production, recovery, delay, radiotherapy, patient, discomfort, aim, study, risk, seroma, production, breast, cancer, surgery, treatment, analysis, seroma, production, breast, cancer, Breast, Cancer, surgery, intervention, Seroma, formation, wound, breast, axilla, total, inclusion, age, diagnosis, BMI, kg/m, <sup>, </sup>, %, mastectomy, %, %, NAC, amount, seroma, production, ml, range, ml, analysis, variation, seroma, production, type, surgery, mastectomy, breast, conserving, length, surgery, number, lymph, NAC, IORT, amount, variation, seroma, production, CONCLUSION, seroma, production, extent, duration, breast, surgery |
| NNS: | 17 | approaches, options, effects, factors, options, METHODS, patients, Patients, RESULTS, patients, criteria, years, patients, patients, patients, nodes, factors |
| VB: | 3 | result, provide, update |
| VBD: | 12 | was, were, was, met, was, had, received, received, was, revealed, was, explained |
| VBP: | 1 | are |
| VBZ: | 3 | remains, is, drains |
| VBN: | 8 | treated, performed, excluded, measured, placed, observed, removed, observed |
| IN: | 32 | Despite, for, in, of, as, of, in, of, of, on, for, after, of, in, between, at, with, than, in, In, at, of, that, of, in, of, of, of, of, in, for, of |
| TO: | 3 | to, to, to |
| EX: | 0 |  |
| DT: | 15 | a, the, The, this, an, the, A, the, the, a, the, Both, a, the, The |
| WDT: | 1 | that |
| CC: | 13 | and, and, and, and, or, and, and, and, vs., and, and, but, and |
| CD: | 16 | one, 01.01.2010, 31.12.2014, one, 581, 60, 25.6, 2, 60, 10.3, 175, 30.1, 72, 12.4, 82.5, 0-3012.5 |
| JJ: | 23 | radical, surgical, due, new, such, neoadjuvant, intra-operative, main, surgical, side, prolonged, retrospective, primary, previous, breast/axillary, Median, median, Median, Multivariate, due, significant, small, important |
| JJR: | 3 | less, better, more |
| RB: | 1 | very |
| RBR: | 0 |  |
| PRP: | 0 |  |
| OTHER: | 49 | -LRB-, -RRB-, -LRB-, -RRB-, ,, can, ,, ., considering, latest, ., : Centre, ,, University, Hospital, Ulm, ,, ., ., using, ., : ,, ., ,, ., -LRB-, -RRB-, ,, -LRB-, -RRB-, IORT, ,, -LRB-, -RRB-, ., -LRB-, -RRB-, ., most, -LRB-, -RRB-, ,, ., ., : most, . |
| Name Entity Recognition: | 41 | (SEE ABOVE) |
| Triplets (all sentences): | 261 | (SEE triplet2.txt) |
| #Words: | 47 | (SEE syn2.txt) |
| Medical Terms (includes duplicates): | 2350 | Trend, Radical, Surgical, Surgery-related concept, stenting, Surgical procedure, Procedural approach, Approaches, Adjacent to, Breast Carcinoma, Breast Cancer, Malignant tumour of breast, Malignant neoplasm of breast, Childhood breast carcinoma, Breast, Cancer, Oncology, tumeur malign, neoplasm, malignant neolasm, has disease, due to, better, better than others, comprehension, understanding, Neoplasm, Tumour, Biology, … |

Abstract 3

Nouns (lemmas – unique): breast, test, cancer, detection, imaging, mammography, tomosynthesis, ultrasound, time, cost, use, screening, woman, risk, limitation, dce, protocol, image, acquisition, interpretation, accuracy, effort, scrutiny, contribution, radiology, healthcare, expenditure, policy, maker, examination, quality, appropriateness, cornerstone, value, patient, outcome, concept, exam, possibility, reduction, concern, contrast, agent, technique, dwi, diagnosis, study, reproducibility, result, dce-mri, population, article, overview, utility, role, paradigm, model, level, reson

Verbs (lemmas – unique): be, outperform, scan, limit, implement, increase, overcome, have, introduce, shorten, develop, reflect, promote, define, give, couple, investigate, suggest, seem, offer, aim, replace

Name Entity Resolution: breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, currently-DATE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, now-DATE, MRI-MISC, DWI-CRIMINAL\_CHARGE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, model-TITLE, 1-NUMBER, 2-NUMBER, 2018-DATE

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| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 88 | (SEE ABOVE) |
| POS: Verb | 31 | (SEE ABOVE) |
| NN: | 70 | breast, test, breast, cancer, detection, imaging, mammography, breast, tomosynthesis, ultrasound, time, use, screening, risk, breast, cancer, DCE, image, acquisition, interpretation, time, accuracy, scrutiny, contribution, radiology, healthcare, policy, use, imaging, quality, appropriateness, imaging, cornerstone, healthcare, value, patient, outcome, concept, exam, accuracy, possibility, reduction, cost, examination, contrast, imaging, DWI, breast, cancer, diagnosis, imaging, protocol, reproducibility, breast, DCE-MRI, population, article, overview, breast, utility, breast, cancer, detection, role, healthcare, paradigm, model, LEVEL, RESON, IMAGING |
| NNS: | 18 | costs, women, limitations, protocols, Efforts, protocols, expenditures, makers, examinations, costs, concerns, agents, techniques, studies, studies, results, protocols, protocols |
| VB: | 7 | scan, overcome, shorten, develop, promote, offer, give |
| VBD: | 0 |  |
| VBP: | 7 | limit, have, reflect, are, are, are, suggest |
| VBZ: | 8 | is, outperforms, is, defines, is, seems, aims, has |
| VBN: | 9 | implemented, increased, been, introduced, given, coupled, Given, investigated, replaced |
| IN: | 34 | of, for, with, in, of, at, of, that, while, of, of, on, of, as, while, of, of, as, over, of, with, of, in, of, about, as, for, Although, with, that, of, for, in, OF |
| TO: | 7 | To, to, to, to, to, to, to |
| EX: | 0 |  |
| DT: | 25 | the, the, the, the, an, these, a, the, the, the, the, the, An, the, the, a, the, a, the, an, a, This, an, the, the |
| WDT: | 1 | that |
| CC: | 8 | and, or, and, and, and, and, and, and |
| CD: | 3 | 1, 2, 2018 |
| JJ: | 40 | sensitive, conventional, digital, long, high, widespread, abbreviated, dynamic, contrast-enhanced, high, diagnostic, abbreviated, disproportionate, overall, advanced, such, important, value-based, abbreviated, appealing, high, diagnostic, marked, recent, gadolinium-based, unenhanced, such, diffusion-weighted, prospective, standardized, necessary, initial, abbreviated, feasible, screening, abbreviated, fast, new, value-based, fee-for-service |
| JJR: | 2 | larger, broader |
| RB: | 13 | However, relatively, Hence, currently, only, routinely, substantially, now, Therefore, fast, very, also, further |
| RBR: | 0 |  |
| PRP: | 2 | it, it |
| OTHER: | 65 | MRI, most, ,, ,, ., ,, its, ., ,, ., ,, -LRB-, -RRB-, -, MRI, maintaining, ., MRI, increasing, rising, ., Healthcare, focusing, curbing, MRI, continuing, ., s, ., ,, ,, MRI, ,, its, MRI, ., ,, MRI, -LRB-, -RRB-, being, ., ,, ,, ,, MRI, ., MRI, ,, their, ,, their, emerging, ., EVIDENCE, : Technical, Efficacy, : Stage, J., MAGN, ., ., . |
| Name Entity Recognition: | 16 | (SEE ABOVE) |
| Triplets (all sentences): | 36517 | (SEE triplet3.txt) |
| #Words: | 140 | (SEE syn3.txt) |
| Medical Terms (includes duplicates): | 2754 | magnetic resonance imaging, C7orf49, Structural MRI protocol, Structural MRI imaging protocol, magnectic resonance imaging (MRI) technique, cell cycle regulator of non-homologous end joining (mouse), MRI, cell cycle regulator of non-homologous end joining (rat), Maori Language, MRI protocol, modulator of retrovirus infection, 3110062M04Rik, LOC500077, Magnetic Resonance Imaging Study File, Breast, sensitive toward, Sensitivity, Sensitive, Allergic reaction, Hypersensitivity, Test, Blood Products Laboratory Testing, Assessment, exoskeleton, Laboratory Procedure, Test name, Breast Cancer Detection Research, Breast Carcinoma, Breast Cancer, Malignant tomour of breast, malignant neoplast of breast |

Abstract 4

Nouns (lemmas – unique): cohort, study, %, risk, breast, cancer, contraception, user, result, stage, disease, diagnosis, extent, advance, timing, use, ethinyl, estradiol, pill, duration, levonorgestrel, system-both, finding, investigation, effect, time, term, total

Verbs (lemmas – unique): report, increase, be, do, associate, find, have, require, describe, wane

Name Entity Resolution: Danish-NATIONALITY, 20-PERCENT, %-PERCENT, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, current-DATE, disease-CAUSE\_OF\_DEATH, current-DATE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, now-DATE, cancer-CAUSE\_OF\_DEATH

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| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 46 | (SEE ABOVE) |
| POS: Verb | 26 | (SEE ABOVE) |
| NN: | 38 | cohort, study, %, risk, breast, cancer, contraception, study, stage, disease, diagnosis, extent, risk, advance, timing, diagnosis, study, risk, use, ethinyl, estradiol, pill, risk, duration, risk, use, levonorgestrel, system-both, investigation, breast, cancer, time, term, contraception, use, total, cancer, risk |
| NNS: | 8 | users, results, studies, users, findings, studies, effects, studies |
| VB: | 6 | report, be, report, find, require, be |
| VBD: | 5 | reported, increased, did, did, did |
| VBP: | 3 | are, have, wane |
| VBZ: | 2 | is, has |
| VBN: | 10 | increased, associated, increased, been, found, described, been, found, associated, increased |
| IN: | 21 | of, among, with, on, of, at, in, of, on, with, of, in, of, with, of, of, in, in, with, in, with |
| TO: | 3 | to, to, to |
| EX: | 0 |  |
| DT: | 18 | The, a, These, This, the, a, the, This, the, the, a, an, an, the, these, The, the, any |
| WDT: | 0 |  |
| CC: | 5 | and, and, and, and, and |
| CD: | 1 | 20 |
| JJ: | 20 | recent, Danish, current, recent, hormonal, consistent, previous, clear, apparent, due, small, 20-mcg, current, intrauterine, important, previous, further, multiple, long, hormonal |
| JJR: | 1 | longer |
| RB: | 9 | largely, not, not, not, potentially, not, consistently, now, not |
| RBR: | 0 |  |
| PRP: | 2 | it, They |
| OTHER: | 12 | ., ., ,, what, may, ., ., increasing, ., ,, ,, . |
| Name Entity Recognition: | 12 | (SEE ABOVE) |
| Triplets (all sentences): | 26286 | (SEE triplet4.txt) |
| #Words: | 91 | (SEE syn4.txt) |
| Medical Terms (includes duplicates): | 2758 | recent, Danish, Danish Language, cohort study, cohort, propyzamide, study, investigation, clinical study, study object, report, reported, final report approved, 20%, increased risk, increased, increased amount, risk of, risk, breast carinoma, breast cancer, malignant tumour of breast, malignant neoplast of breast, breast, cancer, oncology, nervous system neoplastic disease, neoplasm, ... |

Abstract 5

Nouns (lemmas – unique): background, cxcr4, chemokine, receptor, breast, cancer, role, signaling, pathway, metastasis, aim, analysis, performance, pet, imaging, patient, probe, <sup>, </sup>, result, diagnosis, disease, lymph, node, uptake, value, suvmax, tumor-to-background, /b, ratio, tumor, lesion, factor, subtype, f-fdg, pet/ct, image, case, comparison, expression, immunohistochemistry, carcinoma, ilc, type, nst, hormone, her2, metastase, mean, correlation, estrogen, er, progesterone, pr, growth, status, proliferation, index, grade, conclusion, detectability, tracer, accumulation, cohort, tool, study, modality, application, approach, view, development, cell, checkpoint, therapy

Verbs (lemmas – unique): be, overexpress. have, show, play, involve, assess, introduce, undergo, measure, compare, determine, perform, mean, include, demonstrate, <sup>, obtain, observe, do, find, base, seem, investigate, target

Name Entity Resolution: breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, metastasis-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, recently-DATE, 68-NUMBER, Thirteen-NUMBER, first-ORDINAL, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, four-NUMBER, disease-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, one-NUMBER, metastasis-CAUSE\_OF\_DEATH, 68-NUMBER, tumor-CAUSE\_OF\_DEATH, 18-NUMBER, 8/18-NUMBER, 7/18-NUMBER, Nine-NUMBER, 13-NUMBER, 68-NUMBER, 3.0-NUMBER, two-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, five-NUMBER, 3.5-NUMBER, 18-NUMBER, 68-NUMBER, 68-NUMBER, PR-STATE\_OR\_PROVINCE, 2-NUMBER, tumor-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, tumor-CAUSE\_OF\_DEATH, 18-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, tracer-TITLE, general-TITLE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, Future-DATE, current-DATE

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| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 148 | (SEE ABOVE) |
| POS: Verb | 43 | (SEE ABOVE) |
| NN: | 117 | BACKGROUND, CXCR4, chemokine, receptor, breast, cancer, role, signaling, metastasis, aim, analysis, performance, PET, imaging, breast, cancer, PET, probe, <sup>, </sup>, diagnosis, breast, cancer, disease, breast, cancer, patient, lymph, node, metastasis, PET, imaging, <sup>, </sup>, uptake, SUVmax, tumor-to-background, T/B, tumor, <sup>, </sup>, F-FDG, PET/CT, Comparison, CXCR4, expression, immunohistochemistry, breast, <sup>, </sup>, SUVmax, carcinoma, ILC, carcinoma, type, NST, hormone, receptor, HER2, expression, breast, cancer, cancer, mean, SUVmax, <sup>, </sup>, F-FDG, PET, SUVmax, correlation, SUVmax, <sup>, </sup>, estrogen, receptor, ER, progesterone, receptor, PR, growth, factor, receptor, HER2, status, proliferation, index, tumor, grade, PET, imaging, breast, cancer, tumor, detectability, F-FDG, PET, correlation, breast, cancer, tracer, accumulation, patient, cohort, PET, imaging, tool, imaging, breast, cancer, CXCR4, imaging, modality, view, cell, checkpoint, therapy |
| NNS: | 31 | pathways, patients, RESULTS, patients, patients, values, ratios, lesions, factors, subtypes, images, cases, patients, cancers, images, lesions, cases, cases, Metastases, cases, patients, factors, subtypes, CONCLUSIONS, patients, factors, results, studies, applications, approaches, developments |
| VB: | 10 | play, assess, mean, <sup>, <sup>, find, seem, be, investigate, be |
| VBD: | 12 | was, underwent, were, were, were, was, were, included, were, demonstrated, was, did |
| VBP: | 0 |  |
| VBZ: | 5 | is, has, is, is, does |
| VBN: | 16 | overexpressed, been, shown, involved, introduced, measured, compared, compared, determined, performed, compared, obtained, observed, compared, Based, targeted |
| IN: | 47 | in, in, in, of, of, in, with, with, of, with, after, with, of, of, with, in, with, by, in, of, on, of, of, of, of, without, of, in, of, in, between, from, in, with, between, of, on, in, as, for, of, whether, in, in, under, of, in |
| TO: | 5 | to, to, to, to, to |
| EX: | 0 |  |
| DT: | 20 | a, a, The, this, the, the, The, both, no, any, all, a, all, A, any, these, a, a, this, the |
| WDT: | 1 | that |
| CC: | 13 | and, and, and, and, and, and, and, and, and, or, and, and, and |
| CD: | 20 | 68, Thirteen, four, one, 68, 18, 8/18, 7/18, Nine, 13, 68, 3, two, five, 3.5, 18, 68, 68, 2, 18 |
| JJ: | 57 | invasive, major, retrospective, diagnostic, CXCR4-directed, CXCR4-targeted, first, recurrent, primary, axillary, unknown, primary, CXCR4-targeted, standardized, pathological, prognostic, molecular, available, primary, detectable, undetectable, invasive, lobular, invasive, special, triple, negative, recurrent, unknown, primary, detectable, </sup>, prognostic, human, epidermal, molecular, CXCR4-directed, primary, recurrent, feasible, </sup>, aforementioned, prognostic, CXCR4-targeted, small, CXCR4-targeted, suitable, general, diagnostic, Future, useful, specific, therapeutic, current, immune, immune, inhibitory |
| JJR: | 3 | higher, lower, more |
| RB: | 13 | frequently, recently, semi-quantitatively, visually, visually, visually, not, however, significantly, Moreover, not, not, especially |
| RBR: | 0 |  |
| PRP: | 1 | we |
| OTHER: | 66 | ., using, Ga-Pentixafor, ., : ,, ,, using, Ga-Pentixafor, ., Maximum, -LRB-, -RRB-, -LRB-, -RRB-, ., ., ., Ga-Pentixafor, PET, -LRB-, -RRB-, ., -LRB-, -RRB-, -LRB-, -RRB-, -LRB-, -RRB-, ., ,, exhibiting, ., Ga-Pentixafor, PET, ., Ga-Pentixafor, PET, including, -LRB-, -RRB-, ,, -LRB-, -RRB-, ,, -LRB-, -RRB-, ,, ,, ,, ., : ;, ,, ., ,, ., ,, ., should, might, ,, e.g., ,, . |
| Name Entity Recognition: | 50 | (SEE ABOVE) |
| Triplets (all sentences): | 1024 | (SEE triplet5.txt) |
| #Words: | 28 | (SEE syn5.txt) |
| Medical Terms (includes duplicates): | 3156 | CXCR4, Cxcr4 gene, C-X-C chemokine receptor type 4, CXCR4 receptor, C-X-C motif chemokine 12 receptor activity, is a, chemokine receptor, CCL5, chemokine, receptor, frequency, invasive breast carcinoma, invasive breast cancer, invasive, invasive lesion, breast carcinoma, breast cancer, malignant tumour of breast, malignant neoplasm of breast, breast, maurine breast, cancer, oncology, neoplasm, malignant neoplasm, has disease, malignancy, play behavior, play, play and playthings, d9200. play, playing behavior, a major, major, role, ... |

Abstract 6

Nouns (lemmas – unique): x-ray, mammography, sensitivity, woman, breast, result, screening, tool, energy, dem, tomography, ct, resonance, imaging, fluorescence, nirf, contrast, agent, safety, issue, technique, modality, diagnosis, process, all-in-one, nanoparticle, aion, probe, property, biocompatibility, co-encapsulation, fluorophore, dir, silver, sulfide, ag2s-np, iron, oxide, io-np, micelle, cytotoxicity, agreement, ion, release, profile, tumor, increase, injection, study, potential, cancer, range, method

Verbs (lemmas – unique): have, be, use, investigate, require, seek, develop, simplify, address, present, improve, form, pegylate, show, generate, demonstrate, allow, evidence, indicate

Name Entity Resolution: DEM-IDEOLOGY, CT-STATE\_OR\_PROVINCE, MRI-MISC, currently-DATE, present-DATE, DEM-IDEOLOGY, CT-STATE\_OR\_PROVINCE, NIRF-ORGANIZATION, AION-ORGANIZATION, AION-ORGANIZATION, AION-ORGANIZATION, AION-ORGANIZATION, tumor-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH

|  |  |  |
| --- | --- | --- |
| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 87 | (SEE ABOVE) |
| POS: Verb | 25 | (SEE ABOVE) |
| NN: | 72 | X-ray, mammography, sensitivity, result, screening, energy, mammography, DEM, tomography, CT, resonance, imaging, fluorescence, NIRF, imaging, contrast, safety, imaging, technique, contrast, agent, contrast, agent, breast, imaging, modality, diagnosis, process, contrast, all-in-one, nanoparticle, AION, imaging, probe, DEM, CT, NIRF, contrast, biocompatibility, co-encapsulation, fluorophore, DiR, silver, sulfide, Ag2S-NP, iron, oxide, IO-NP, AION, cytotoxicity, agreement, silver, ion, release, contrast, imaging, imaging, AION, tumor, imaging, increase, contrast, injection, study, potential, contrast, agent, breast, cancer, diagnosis, range, imaging |
| NNS: | 15 | women, breasts, tools, women, agents, issues, issues, agents, properties, nanoparticles, nanoparticles, micelles, profiles, modalities, methods |
| VB: | 3 | develop, simplify, address |
| VBD: | 7 | sought, improved, were, showed, was, generated, allowed |
| VBP: | 4 | are, are, have, present |
| VBZ: | 5 | has, requires, is, has, indicates |
| VBN: | 6 | used, investigated, formed, PEGylated, demonstrated, evidenced |
| IN: | 24 | for, with, As, as, for, for, of, by, of, in, in, with, with, as, in, as, by, in, after, of, as, for, with, of |
| TO: | 2 | to, to |
| EX: | 0 |  |
| DT: | 16 | a, these, each, a, a, each, the, the, a, a, all, the, This, the, an, a |
| WDT: | 3 | that, that, which |
| CC: | 7 | and, or, and, and, and, and, and |
| CD: | 0 |  |
| JJ: | 26 | Conventional, low, diagnostic, dense, alternative, contrast-enhanced, such, dual, computed, magnetic, near-infrared, available, non-ideal, different, multimodal, functional, novel, multimodal, potent, near-infrared, negligible, minimal, strong, phantom, effective, multimodal |
| JJR: | 0 |  |
| RB: | 4 | However, currently, therefore, Herein |
| RBR: | 0 |  |
| PRP: | 2 | We, we |
| OTHER: | 52 | ., ,, -LRB-, -RRB-, ,, -LRB-, -RRB-, ,, -LRB-, MRI, -RRB-, ,, -LRB-, -RRB-, being, ., ,, ,, ,, ., existing, ., ,, ``, ', -LRB-, -RRB-, ,, ,, MRI, ,, ., AION, -LRB-, -RRB-, ,, -LRB-, -RRB-, ,, -LRB-, -RRB-, ., ,, its, ., AION, ., in, vivo, ., AION, . |
| Name Entity Recognition: | 15 | (SEE ABOVE) |
| Triplets (all sentences): | 1943 | (SEE triplet6.txt) |
| #Words: | 106 | (SEE syn6.txt) |
| Medical Terms (includes duplicates): | 3467 | Diagnostic Radiology, X-Ray Imaging, Convention, Conventional, Conventional Release Mechanism of Action, x-ray, x-ray powder diffraction, Radiography Study File, projection radiography, radiograph, radiography, x-ray fiber diffraction, x-ray crystallography, x-ray radiation, SH3YL1, first order inflorescence axis, ray, ray secondary xylem parenchyma, Dipturus trachyderma, ray system, Rab35, Sh3yl1, Ras-related protein Rab-35, actine ray, mammography, value below reference range, low, T, Low Mitosis-Karorrhexis Index, short, Diagnostic Sensitivity, Diagnosis, Diagnostic, Sensitivity of Diagnostic Test, Sensitivity, Allergic Reaction, sensitivity toward, Sensory defensiveness, noise\_sensitivity, increased sensitivity, sensitivity and specificity, Signal Sensitivity, Antimicrobial susceptibility, Hypersensitivity, Women, condensed, dense, Breast, ... |

Abstract 7

Nouns (lemmas – unique): background, association, vitamin, a, intake, breast, cancer, survival, review, meta-analysis, result, supplement, derivative, os, material, method, search, inception, summary, hazard, ratio, %, confidence, interval, effect, model, study, cohort, trial, case, b-carotene, </sup>, increment, diet, diagnosis, meta-regression, analysis, adjustment, body, mass, index, factor, p, a-carotene, b-cryptoxanthin, lycopene, retinol, lutein, prognosis, conclusion, finding, evidence, prediagnosis, woman

Verbs (lemmas – unique): have, be, conduct, summarize, perform, estimate, include, associate, <sup>, show, suggest

Name Entity Resolution: breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, January-DATE, 31-DATE, ,-DATE, 2018-DATE, 95-PERCENT, %-PERCENT, model-TITLE, Ten-NUMBER, 8-NUMBER, 1-NUMBER, 1-NUMBER, 19,450-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, 0.70-NUMBER, 95-PERCENT, %-PERCENT, 0.50-0.99-NUMBER, 2-NUMBER, 37.5-PERCENT, %-PERCENT, 0.93-NUMBER, 95-PERCENT, %-PERCENT, 0.88-0.99-NUMBER, 2-NUMBER, 38.7-PERCENT, %-PERCENT, 1200-DATE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, .013-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH

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| --- | --- | --- |
| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 109 | (SEE ABOVE) |
| POS: Verb | 20 | (SEE ABOVE) |
| NN: | 94 | BACKGROUND, association, vitamin, A, intake, breast, cancer, survival, review, meta-analysis, association, supplement, vitamin, A, breast, survival, survival, OS, search, inception, summary, hazard, %, confidence, model, cohort, trial, breast, cancer, meta-analysis, intake, b-carotene, breast, cancer, OS, summary, hazard, ratio, %, confidence, interval, </sup>, %, intake, %, confidence, interval, </sup>, %, increment, intake, diet, diagnosis, Meta-regression, analysis, adjustment, body, mass, index, factor, association, intake, b-carotene, breast, cancer, OS, P, intake, vitamin, A, a-carotene, b-cryptoxanthin, lycopene, retinol, lutein, effect, breast, cancer, prognosis, diet, diagnosis, CONCLUSION, evidence, association, prediagnosis, intake, b-carotene, OS, breast, cancer, intake, vitamin, A, survival |
| NNS: | 15 | results, derivatives, MATERIALS, METHODS, ratios, intervals, effects, RESULTS, studies, studies, cases, derivatives, findings, women, derivatives |
| VB: | 1 | summarize |
| VBD: | 9 | conducted, was, were, were, was, showed, was, had, was |
| VBP: | 3 | <sup>, <sup>, suggest |
| VBZ: | 1 | has |
| VBN: | 6 | been, performed, estimated, included, associated, associated |
| IN: | 32 | between, on, between, of, from, of, with, in, of, with, with, of, for, per, of, before, that, for, for, between, of, of, on, before, after, for, between, of, among, with, of, with |
| TO: | 2 | to, to |
| EX: | 0 |  |
| DT: | 20 | The, a, the, the, A, The, a, the, The, a, the, a, the, the, the, no, the, the, the, the |
| WDT: | 0 |  |
| CC: | 15 | and, and, or, and, and, and, AND, and, and, and, versus, and, and, and, and |
| CD: | 20 | 31, 2018, 95, Ten, 8, 1, 1, 19,450, 0.7, 95, 0.50-0.99, 2, 37.5, 0.93, 95, 0.88-0.99, 2, 38.7, 1200, 0.013 |
| JJ: | 21 | inconsistent, systemic, dietary, cancer-specific, overall, comprehensive, random, clinical, pooled, dietary, improved, #ERROR!, #ERROR!, g/day, modified, #ERROR!, other, limited, inverse, dietary, other |
| JJR: | 0 |  |
| RB: | 6 | significantly, However, significantly, However, not, significantly |
| RBR: | 0 |  |
| PRP: | 3 | We, I, I |
| OTHER: | 56 | ., its, -LRB-, -RRB-, ., : PubMed, EMBASE, January, ,, ., using, ., : -LRB-, ,, ,, -RRB-, ,, ,, ., ,, -LRB-, ,, ;, -RRB-, highest, lowest, -LRB-, ,, ;, -RRB-, when, assessing, ., -LRB-, -RRB-, ., ,, -LRB-, eg, ,, ,, ,, ,, ,, -RRB-, when, assessing, ., : Our, ., ,, . |
| Name Entity Recognition: | 40 | (SEE ABOVE) |
| Triplets (all sentences): | 90 | (SEE triplet7.txt) |
| #Words: | 30 | (SEE syn7.txt) |
| Medical Terms (includes duplicates): | 3534 | Background, introduction to a publication about an investigation, Association, linkage, NCI Thesaurus Association, Relationship, Association Class, Chemical Association, Vitamin A intake, Vitamin A, Vitamin A[EPC], Vitamin A Compound, [VT050] VITAMIN A, Vitamin A Measurement, all-trans-retinol, Vitamin, Intake, Consumption, Breast Carcinoma, Breast Cancer, Malignant Tumour of breast, ... |

Abstract 8

Nouns (lemmas – unique): breast, cancer, disease, mechanism, carcinogenesis, behavior, identification, risk, factor, diagnosis, treatment, signature, trial, practice, study, value, ability, prognosis, prediction, population, outcome, estrogen, receptor, er, patient, cohort, subtype, framework, multi-omic, profile, survival, discovery, data, set, result, resolution, stratification, therapy, precision, medicine

Verbs (lemmas – unique): be, enable, develop, have, apply, summarize, assess, target, collect, design, predict, use, attempt, identify, confirm, indicate, lead, improve

Name Entity Resolution: Breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, disease-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, representative-TITLE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, independent-RELIGION, independent-RELIGION, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH

|  |  |  |
| --- | --- | --- |
| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 62 | (SEE ABOVE) |
| POS: Verb | 24 | (SEE ABOVE) |
| NN: | 44 | Breast, cancer, disease, carcinogenesis, identification, risk, diagnosis, treatment, breast, cancer, practice, study, value, ability, prognosis, prediction, breast, cancer, estrogen, receptor, ER, breast, cancer, cohort, prediction, population, subtype, framework, patient, survival, discovery, data, set, signature, factor, cohort, signature, resolution, risk, stratification, precision, medicine, breast, cancer |
| NNS: | 18 | mechanisms, behaviors, factors, signatures, trials, signatures, populations, signatures, outcomes, patients, signatures, patients, signatures, multi-omics, profiles, results, therapies, patients |
| VB: | 4 | enable, predict, identify, lead |
| VBD: | 5 | were, summarized, were, attempted, confirmed |
| VBP: | 3 | have, are, indicate |
| VBZ: | 3 | is, is, has |
| VBN: | 9 | developed, been, applied, assessed, targeted, collected, designed, used, improved |
| IN: | 27 | with, of, of, of, In, of, into, In, with, of, in, of, of, of, for, in, of, with, via, for, For, that, in, that, in, for, with |
| TO: | 3 | to, to, to |
| EX: | 1 | there |
| DT: | 20 | a, The, some, this, the, the, the, no, the, a, the, a, the, an, a, the, These, the, a, the |
| WDT: | 1 | which |
| CC: | 13 | and, and, and, and, and, and, =+, or, and, both, and, and, and |
| CD: | 0 |  |
| JJ: | 36 | complex, heterogeneous, variable, molecular, clinical, prognostic, effective, particular, numerous, gene-expression-based, prognostic, clinical, several, representative, gene-expression-based, significant, prognostic, many, positive, whole, typical, prognostic, specific, intrinsic, subtype-specific, prognostic, computational, independent, subtype-specific, strong, significant, independent, prognostic, corresponding, subtype-specific, prognostic |
| JJR: | 1 | higher |
| RB: | 8 | very, already, separately, originally, Notably, originally, thus, much |
| RBR: | 0 |  |
| PRP: | 4 | them, we, We, we |
| OTHER: | 21 | ., may, ., ,, ., ,, their, their, ., ,, -LRB-, -RRB-, ;, ., analyzing, ., ,, ., ,, may, ., |
| Name Entity Recognition: | 14 | (SEE ABOVE) |
| Triplets (all sentences): | 8849 | (SEE triplet8.txt) |
| #Words: | 100 | (SEE syn8.txt) |
| Medical Terms (includes duplicates): | 3508 | Breast Carcinoma, Breast Cancer, Malignant Tumour of breast, Malignant neoplasm of breast, breast, murine breast, obsolete\_mammary gland, cancer, oncology, Nervous system neoplastic disease, neoplasm, has disease, malignant neoplastic disease, complex, complex\_structural\_alteration, heterogeneous, Heterogeneity, Disease, PATHOLOGY, variable, variant, Study Variable, Molecular, Mechanisms, Carcinogenesis, Clinical Lot, Clinical, ... |

Abstract 9

Verbs (lemmas – unique): be, report, present, discuss, have, yield, obtain, rule, select, underline, consider, require, miss

Nouns (lemmas – unique): neuroma, breast, cancer, surgery, entity, case, date, patient, history, pain, evaluation, management, review, literature, lesion, mastectomy, imaging, feature, excision, diagnosis, treatment, tissue, sampling, necessity, index, suspicion, investigation

Name Entity Resolution: Traumatic-MISC, cancer-CAUSE\_OF\_DEATH, surgery-CAUSE\_OF\_DEATH, present-DATE, surgery-CAUSE\_OF\_DEATH, four-month-DURATION, 35-NUMBER, 28-NUMBER, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, Conservative-IDEOLOGY, surgery-CAUSE\_OF\_DEATH

|  |  |  |
| --- | --- | --- |
| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 57 | (SEE ABOVE) |
| POS: Verb | 27 | (SEE ABOVE) |
| NN: | 46 | neuroma, breast, cancer, surgery, entity, date, case, breast, neuroma, patient, history, surgery, history, breast, pain, evaluation, management, review, literature, breast, mastectomy, literature, review, breast, imaging, lesion, excision, diagnosis, breast, cancer, treatment, tissue, sampling, case, necessity, neuroma, diagnosis, history, breast, surgery, breast, pain, index, suspicion, lesion, imaging |
| NNS: | 11 | cases, neuromas, lesions, cases, neuromas, patients, features, cases, neuromas, patients, investigations |
| VB: | 6 | be, obtain, rule, consider, be, be |
| VBD: | 2 | presented, yielded |
| VBP: | 4 | present, are, are, have |
| VBZ: | 5 | is, is, is, underlines, is |
| VBN: | 10 | been, reported, discussed, been, reported, reported, selected, presented, required, missed |
| IN: | 28 | of, after, with, of, in, with, of, with, of, along, with, of, after, of, in, Although, of, in, with, after, in, in, with, of, with, of, because, on |
| TO: | 4 | to, to, to, to |
| EX: | 0 |  |
| DT: | 19 | the, a, a, a, a, a, a, a, the, a, a, a, an, The, the, the, a, A, the |
| WDT: | 1 | that |
| CC: | 3 | and, and, and |
| CD: | 2 | 35, 28 |
| JJ: | 32 | Traumatic, rare, clinical, few, rare, traumatic, postmenopausal, breast-conserving, four-month, intractable, neuropathic, Diagnostic, Traumatic, rare, benign, traumatic, indicative, benign, surgical, necessary, definitive, recurrent, Conservative, feasible, asymptomatic, accurate, traumatic, differential, refractory, neuropathic, high, small |
| JJR: | 0 |  |
| RB: | 12 | very, only, herein, very, very, mainly, only, so, far, properly, herein, too |
| RBR: | 0 |  |
| PRP: | 1 | We |
| OTHER: | 20 | having, ., ,, who, ., ., ., Our, ,, ., may, ,, out, ., ., presenting, ., may, can, . |
| Name Entity Recognition: | 12 | (SEE ABOVE) |
| Triplets (all sentences): | 106401 | (SEE triplet9.txt) |
| #Words: | 117 | (SEE syn9.txt) |
| Medical Terms (includes duplicates): | 3537 | Traumatic neuroma, Traumatic, Neuroma, Neuroma [Disease/Finding], Breast, Murine Breast, obsolete\_mammary gland, Cancer surgery, Cancer, Oncology, Nervous system neoplastic disease, tumeur maligne, Neoplasm, Malignant Tumour, Malignant Neoplasm, has disease, Malignancy, Malignant neoplastic disease, cancer (animal), Surgery, surgical procedure, stenting, surgical technique, is a, very rare, Rare, Retinoic Acid Response Element, Retonoic\_acid\_response\_element, fast-spin echo, infrequent, clinical entity, clinical lot, clinical, ... |

Abstract 10

Nouns (lemmas – unique): background, management, breast, cancer, factor, patient, metastase, therapy, surgery, radiation, tumour, radiotherapy, shrinkage, disease, symptom, experience, method, chart, review, labc, beam, chest, wall, lymph, node, presence, presentation, demographic, characteristic, treatment, outcome, result, case, follow-up, month, diagnosis, completion, %, desquamation, none, grade, dermatitis, survival, p, os, conclusion, response, control, study, role

Verbs (lemmas – unique): be, determine, involve, remain, use, reserve, review, conduct, stratify, base, record, analyze, occur, improve, develop, experience, provide

Name Entity Resolution: breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, surgery-CAUSE\_OF\_DEATH, surgery-CAUSE\_OF\_DEATH, disease-CAUSE\_OF\_DEATH, present-DATE, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, breast-CAUSE\_OF\_DEATH, cancer-CAUSE\_OF\_DEATH, disease-CAUSE\_OF\_DEATH, disease-CAUSE\_OF\_DEATH, Forty-three-NUMBER, 2004-DATE, and-DATE, 2016-DATE, Median-MISC, 25-DURATION, months-DURATION, 14-DURATION, months-DURATION, 24-NUMBER, 56-PERCENT, %-PERCENT, disease-CAUSE\_OF\_DEATH, 19-NUMBER, 44-PERCENT, %-PERCENT, 3-DURATION, months-DURATION, 36-NUMBER, 84-PERCENT, %-PERCENT, 13-NUMBER, 54-PERCENT, %-PERCENT, 24-NUMBER, Twenty-six-NUMBER, 60-PERCENT, %-PERCENT, 4-NUMBER, 5-NUMBER, Median-MISC, 12-DURATION, months-DURATION, 0.2-NUMBER, 0.4-NUMBER, LABC-ORGANIZATION

|  |  |  |
| --- | --- | --- |
| Type | Count | Examples (Even List all words Depending on the Size) |
| POS: Noun | 100 | (SEE ABOVE) |
| POS: Verb | 29 | (SEE ABOVE) |
| NN: | 73 | BACKGROUND, Management, breast, cancer, therapy, surgery, radiation, tumour, therapy, radiotherapy, tumour, shrinkage, surgery, disease, radiotherapy, management, experience, radiotherapy, breast, cancer, chart, review, breast, cancer, LABC, beam, radiotherapy, breast, chest, wall, lymph, presence, disease, presentation, Patient, disease, treatment, follow-up, diagnosis, completion, radiotherapy, %, disease, presentation, %, shrinkage, radiotherapy, %, radiotherapy, %, %, desquamation, none, grade, radiation, dermatitis, survival, completion, radiotherapy, survival, P, survival, OS, P, presentation, Radiotherapy, response, symptom, control, study, role, radiotherapy, LABC |
| NNS: | 27 | factors, patients, metastases, symptoms, METHODS, patients, nodes, Patients, demographics, characteristics, outcomes, RESULTS, cases, months, months, cases, months, cases, cases, patients, patients, months, patients, metastases, CONCLUSIONS, patients, patients |
| VB: | 1 | be |
| VBD: | 13 | reviewed, was, were, were, were, was, were, occurred, developed, experienced, was, were, provided |
| VBP: | 0 |  |
| VBZ: | 6 | is, involves, remains, is, is, is |
| VBN: | 9 | determined, used, reserved, conducted, stratified, based, recorded, analyzed, improved |
| IN: | 39 | of, by, in, without, If, for, for, of, of, for, of, with, on, of, at, between, from, from, of, with, on, without, within, of, in, in, of, for, from, of, between, with, without, at, in, in, for, in, with |
| TO: | 2 | to, to |
| EX: | 2 | There, there |
| DT: | 8 | the, A, the, the, the, all, this, a |
| WDT: | 0 |  |
| CC: | 13 | but, and, and/or, and, and, and, and, and, but, or, and, and, and |
| CD: | 22 | Forty-three, 2004, 2016, 25, 14, 24, 56, 19, 44, 3, 36, 84, 13, 54, 24, Twenty-six, 60, 4, 5, 12, 0.2, 0.4 |
| JJ: | 38 | locally-advanced, multiple, distant, neoadjuvant, systemic, primary, unresectable, systemic, metastatic, present, locoregional, tumour-related, high-dose, unresected, locally-advanced, retrospective, unresected, advanced, external, regional, metastatic, Median, metastatic, Tumour, applicable, moist, Median, locoregional, progression-free, Locoregional, progression-free, #ERROR!, overall, #ERROR!, different, distant, good, palliative |
| JJR: | 0 |  |
| RB: | 6 | often, prior, generally, locally, not, significantly |
| RBR: | 0 |  |
| PRP: | 1 | We |
| OTHER: | 57 | : ,, ,, ., following, ,, may, ., When, ,, ., our, ., : -LRB-, -RRB-, receiving, ,, ., ., ,, ,, ., : ., ., -LRB-, -RRB-, ,, -LRB-, -RRB-, ., completing, -LRB-, -RRB-, ., Ulceration, bleeding, following, -LRB-, -RRB-, ., -LRB-, -RRB-, ., ., -LRB-, -RRB-, -LRB-, -RRB-, -LRB-, -RRB-, ., : most, ;, . |
| Name Entity Recognition: | 48 | (SEE ABOVE) |
| Triplets (all sentences): | 509 | (SEE triplet10.txt) |
| #Words: | 32 | (SEE syn10.txt) |
| Medical Terms (includes duplicates): | 5455 | Background, introduction to a publication about an investigation, Management, Administration, Management Occupations, focal, locally, advanced breast cancer, advanced, premature, breast carcinoma, breast cancer, Malignant tumour of breast, Malignant neoplasm of breast, Childhood Breast Carcinoma, Breast, Murine Breast, Cancer, Oncology, Nervous system neoplastic disease, tumeur maligne, neoplasm, Malignant tumour, Malignant Neoplasm, has disease, Malignancy, malignant neoplastic disease, Cancer (animal), Determined by, Determine, multiple, many, Plural, Patients, Patient,... |