Exclude and Restrict to UMLS Semantic Types

Exclude Semantic Types
If certain UMLS Semantic Types (SemTypes) are not useful for your research or produce undesirable results, MetaMap will ignore those SemTypes if called with the --exclude_sts or -k command-line option. E.g., to exclude Drug Delivery Devices, Medical Devices, and Research Devices, call MetaMap with

-k drdd,medd,read

Restrict to Semantic Types
Conversely, if your research is focused exclusively on certain SemTypes, MetaMap will restrict its results to those SemTypes if called with the --restrict_to_sts or -J command-line option. E.g., to restrict results to concepts in the Disease or Syndrome and Injury or Poisoning SemTypes, call MetaMap with

-J dsyn,inpo

The names of the SemTypes called with -k and -J are all lowercase.

More information about UMLS Semantic Types is available here.

Here are two examples of using --exclude_sts to reduce spurious ambiguity and/or limit false positives:

1. Ambiguous strings of SemType Gene or Genome (gngm): Many strings of the gngm SemType such as those below are ambiguous because they also denote UMLS concepts that are not primarily genetic. Excluding the gngm SemType may be useful to some researchers.

   AIM ARM ART BAR CAMEL CAR CELL CHAD CLAMP CLOCK COIL
   CRAMP DREAM DUET BAR CAMEL CAR CELL CHAD CLAMP CLOCK COIL
   GRASP GRID GRIT HANG HASH HIP HOP HUB HUGO IMPACT ITCH
   JAM JET KID KIR LAMA LAP LARD LIP LOTUS MAIL MASK
   MELT MICA MINERVA MINT MIST MOLT NAIL NET NODAL NUMB PAD
   PALM PARIS PHI PINCH PION PIP PIT POLE PRUNE PRY RAGE
   RAMP SHARP SHOT SLUG SOUL SPA SPICE SPOT STING TACTILE TAUT
   TESMIN TIP TOPORS TRAM TRAP TRUSS TUB TUNA VERGE WAVE iCE

2. Strings of SemType Finding (fndg): We have found the fndg SemType to be especially noisy because many strings of that SemType, in particular numerical strings such as those below, are of dubious usefulness. Excluding the fndg SemType may be useful to some researchers.

   0 0% 0.15 0.3 0.45 0.6 0.75 0.9 1
   1 - 3 1+ 1-10 1-2 1-24% 1.05 1.2 1.35 1.5
   1.65 1.8 1.95 1/24 1/36 1/60 10% 10-14 11-12
   11-16 13-14 15 15-19 15-21 16 17-24 19-26 2
   2+ 2.25 2.5 20% 20-24 20-25 29+ 3 3 4
   3 6 3+ 3-4 3.5 3/12 3/18 3/24 3/36 3/4
   3/6 3/60 3/9 30% 4 4+ 4.5 400 4000
   425 450 5 5 6 6 5-6 5-9 5.5 50% 500
   550 575 6 9 6+11 6.5 6/12 6/18 6/24 6/3
   6/30 6/36 6/4 6/45 6/5 6/6 6/60 6/9 60%
   600 6000 65+ 650 7-8 70% 75% 80% 800
   8000 850 9-10 9-18 90% <50 + ++ +++

Suppressing mostly numerical concepts such as those shown above can also be accomplished using this option of MetaMap2016V2.