Main MF top level classes

- **GO:0140110 transcription regulator activity**
  - **GO:0003700 DNA-binding transcription factor activity**
  - **GO:0140223 general transcription factor activity**
    - GO:0001181 RNA polymerase I general transcription initiation factor activity
    - GO:0016251 RNA polymerase III general transcription initiation factor activity
    - GO:0000995 RNA polymerase II general transcription initiation factor activity
  - **GO:0001070 RNA-binding transcription regulator activity**
    - GO:0001181 RNA polymerase I general transcription initiation factor activity
    - GO:0016251 RNA polymerase II general transcription initiation factor activity
    - GO:0000995 RNA polymerase III general transcription initiation factor activity
  - **GO:0003712 transcription coregulator activity**
    - GO:0003713 transcription coactivator activity
    - GO:0003714 transcription corepressor activity
  - GO:0016987 sigma factor activity
  - GO:0001073 transcription antitermination factor activity, DNA binding
  - GO:0001072transcription antitermination factor activity, RNA binding

Do not annotate

Difference between various types of transcription regulator activities

1. Effect on transcription

	GO:0003700 DNA-binding transcription factor activity	GO:0016251 RNA polymerase II general transcription initiation factor activity	GO:0003712 transcription coregulator activity
Capacity to induce expression of **specific** target genes	Y- mandatory	N	
Capacity to **induce** gene expression on a basal promoter[1]	N	Y- mandatory	
Capacity to **enhance** gene expression on a basal promoter			Y

[1]A basal promoter contains ONLY a TATA box and an initiator element
- http://www2.oakland.edu/biology/dvir/index.cfm?pageid=1212
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4422821/

2. Other molecular activities

	GO:0003700 DNA-binding transcription factor activity	GO:0016251 RNA polymerase II general transcription initiation factor activity	GO:0003712 transcription coregulator activity
Sequence-specific binding to a 'DNA motif' present in regulatory regions of promoters	Y- mandatory	N	N
DNA binding to the core promoter elements (encompassing the TSS, TATA box and other elements close to the TSS)		Y (not all subunits)	
Binding to general transcription factors			Y (not all subunits)
Has histone de/acetylase activity			Y