Signatures of single mutagens

Mixtures of mutation signatures

Observation of signature in tumors with known predominant exposure

Somatic mutation catalogs from many thousands of tumors

Match extracted signatures to experimentally determined signatures

Correlate signature strength to exposures or endogenous factors

Signatures due to known factors

Signatures due to unknown factors

Set of extended signatures + Contribution of each signature to each tumor

Correlate signature strength to exposures or endogenous factors