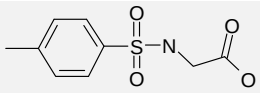
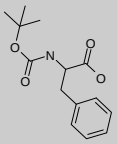
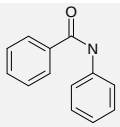
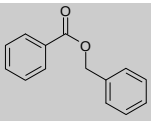
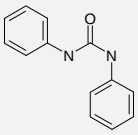
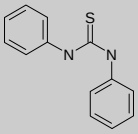
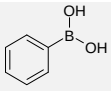
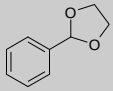
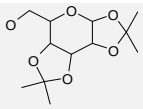
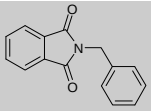
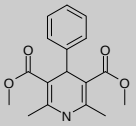
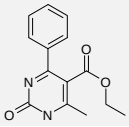
The fourth filter (**MCF-4**) screens compounds on the basis of their novelty and IP potential. For example, it flags trivial compounds readily obtained by coupling of two simple commercially available reagents. These simplistic, easy to synthesize “garbage” compounds are present in almost all random libraries from commercial sources, yet they pass through the general in silico filters. The MCF-4 filter detects such compounds and allows the library designer to decide on the desirability of having such compounds in the collection. Some examples:

Undesirable chemotype	Example of compounds	Comments
N-tosyl protected natural amino acids		Building blocks in peptide synthesis
N-Alkoxycarbonyl protected amino acids		Building blocks in peptide synthesis
Benzanilides and other simple amides		Coupling of two simple commercially available reagents
Simple benzoates and other simple esters		Coupling of two simple commercially available reagents
Linear diaryl-, dialkyl- or arylalkyl- ureas		Coupling of two simple commercially available reagents
Linear diaryl-, dialkyl- or arylalkyl- thioureas		Coupling of two simple commercially available reagents
Arylboronic acids		Popular building blocks
Protected aldehydes and ketones		Hidden carbonyl
Protected simple sugars		Building blocks in sugar chemistry
Low substituted *N*-alkyl, *N*-aralkyl, *N*-aryl phthalimides		Coupling of two simple commercially available reagents
Other protected simple compounds (amines, alcohols, carboxylic acids, etc.)	Tr-, THP-, Z-, BOC-, Fmoc-, Mps-, Ns-, Tos-, Mes-, MM-, etc derivs.	Building blocks or semi-products
Simple dihydropyridines		Low IP potential
Simple dihydropyrimidines (Biginelli compounds)		Low IP potential