FCH Group

THE BRAND NEW SCREENING COLLECTION

1,848,622 Compounds

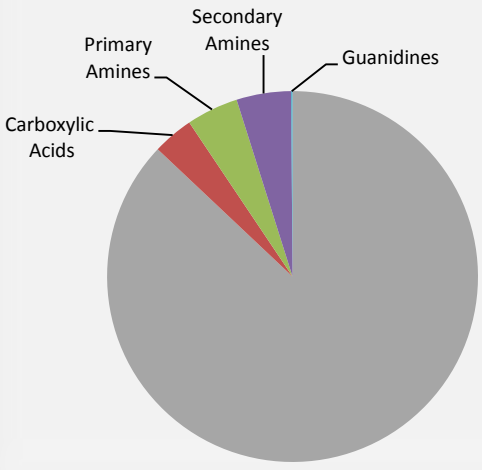
High throughput screening (HTS) remains the most powerful method to obtain starting points in drug discovery projects. There have been numerous reports in the industry where screening of even a million compounds library didn't produce any significant number of hits. The failures to identify hits in massive screening campaigns cannot be attributed to drawbacks of the technology itself: it just has been applied to a wrong chemical space.

Moving towards usage of the lead-like screening libraries with 3D-shaped cores, high Fsp^3, and molecular properties close to those of fragments has been extensively highlighted. This obviously improves the HTS approach efficiently providing better starting points for optimization.

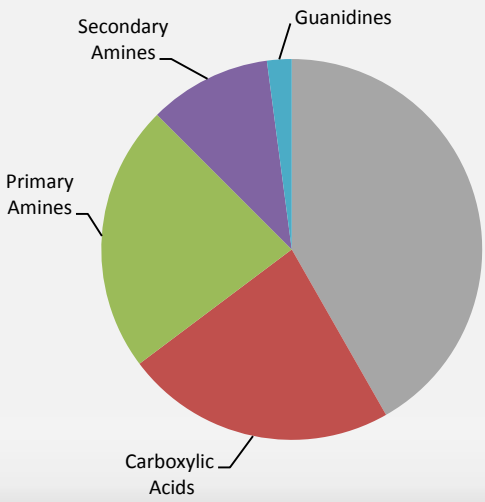
A challenge to tackle difficult targets has been recently addressed with macrocyclic compounds but such libraries remain expensive, specialized and difficult to optimize. With the size of macromolecules the chances that they fit required binding site are low unless they originate from a narrowed pre-defined chemical space of the natural compounds.

In our search of the innovative compound libraries that would provide desired hits in most challenging screening programs, we have analyzed the chemical space of the drugs and compared it with that of the established commercial libraries.

Established Commercial Libraries

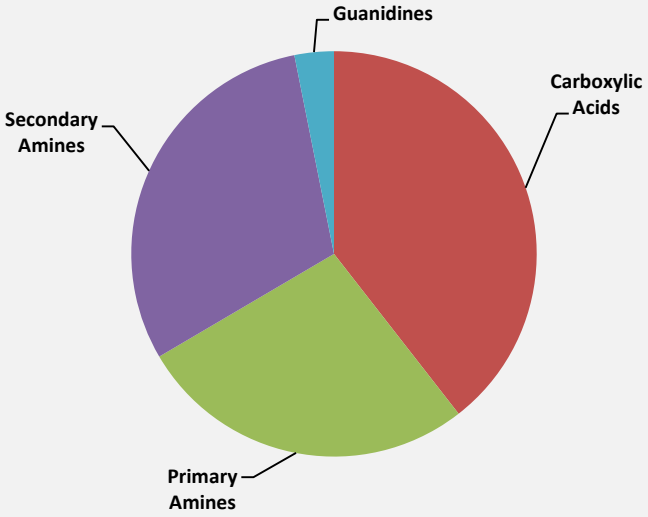


Known Drugs



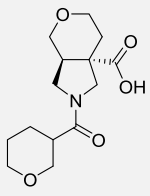
Surprisingly, there's a remarkable enrichment of the segment represented by carboxylic acids and NH amines in drugs compared to that in the established commercial libraries. Following this trend, we have designed and synthesized compound libraries within these and other underrepresented chemical classes.

FCH Screening Collection



Besides the contemporary design of the molecular cores, our compounds are decorated with the most interesting building blocks. Our proprietary **DRUGS** design concept is grounded on the following principles:

- **D**iverse (chemical diversity > 0.8)
- **R**efined (PAINS-free, lead-like)
- **U**nique (> 99 % exclusive compounds)
- **G**roup-oriented (40 % carboxylic acids, 27 % primary amines, 30 % secondary amines)
- **S**mall, **S**haped, and **S**oluble (average MW 315, average Fsp^3 0.52, S_w > 30 µM for > 85 %)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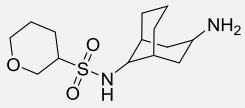
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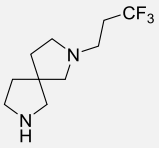
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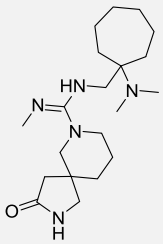
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All of this makes FCH Compound Collection an ultimate tool for hit finding.

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