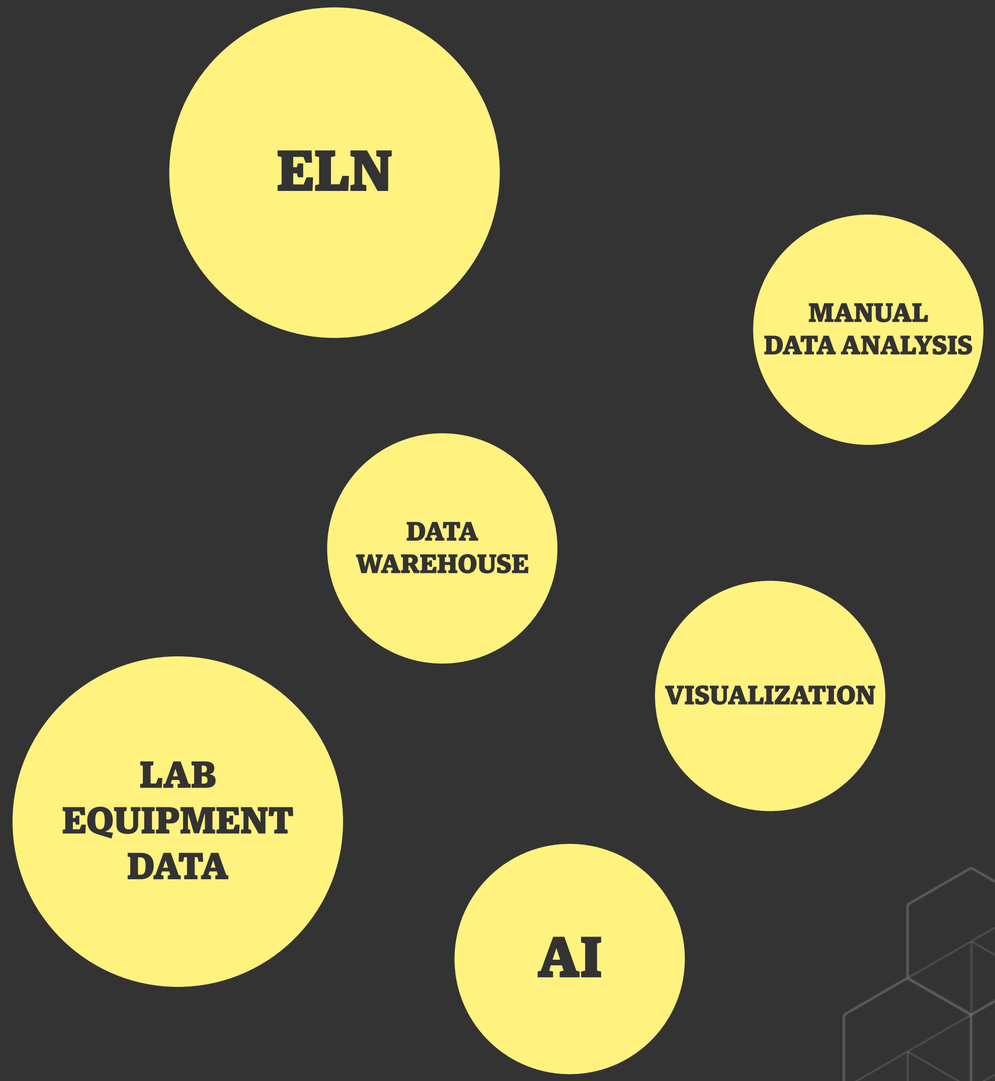
Deal with messy AMR data the clever way

Escape disconnected workflows with a novel digital laboratory infrastructure.

Copenhagen

42

The research and lab software landscape



"For Big-Data Scientists, spending upwards of 80% of their time doing 'janitor work' is the key hurdle to insights."

- New York Times

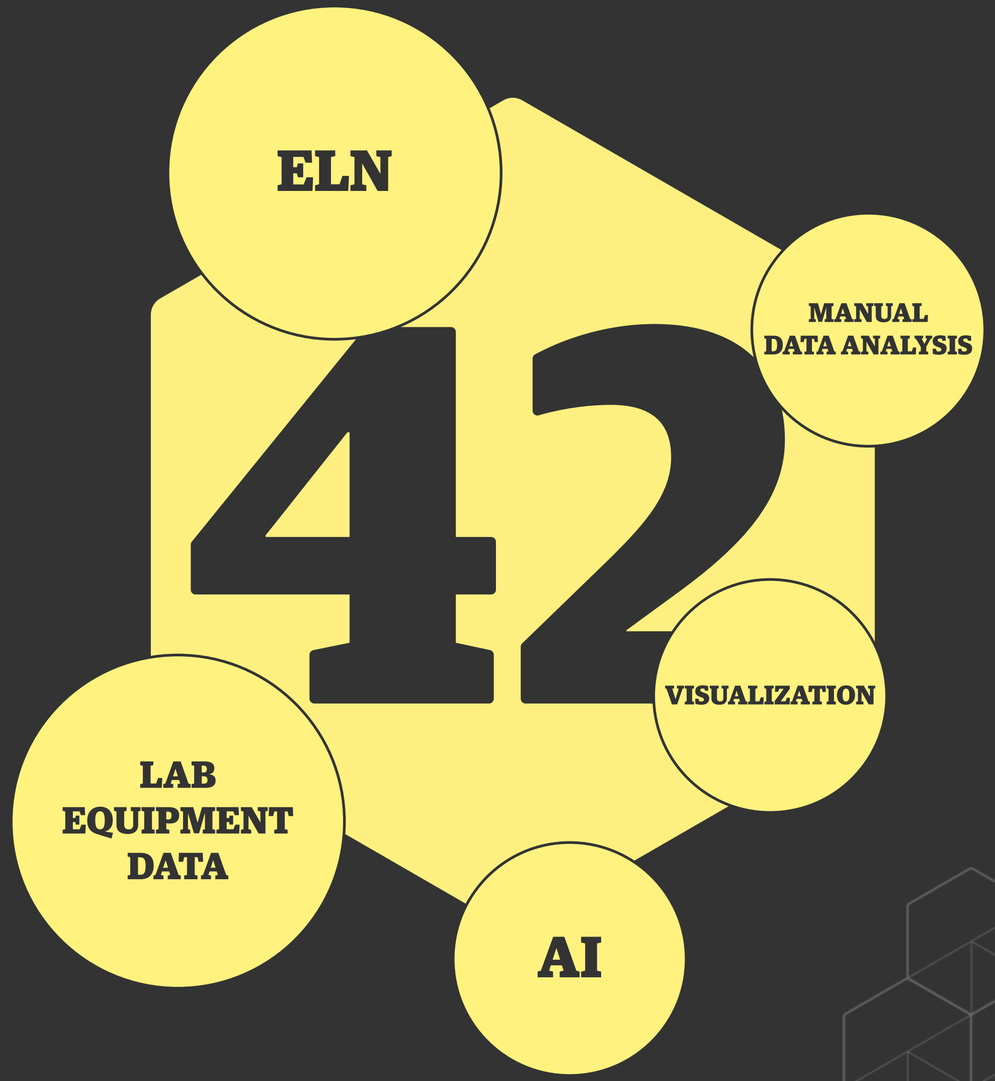
"76% of data scientists view data preparation as the least enjoyable part of their work."

- Forbes

"79% of data scientists said they spent most of their time collecting, cleaning, and organizing data sets."

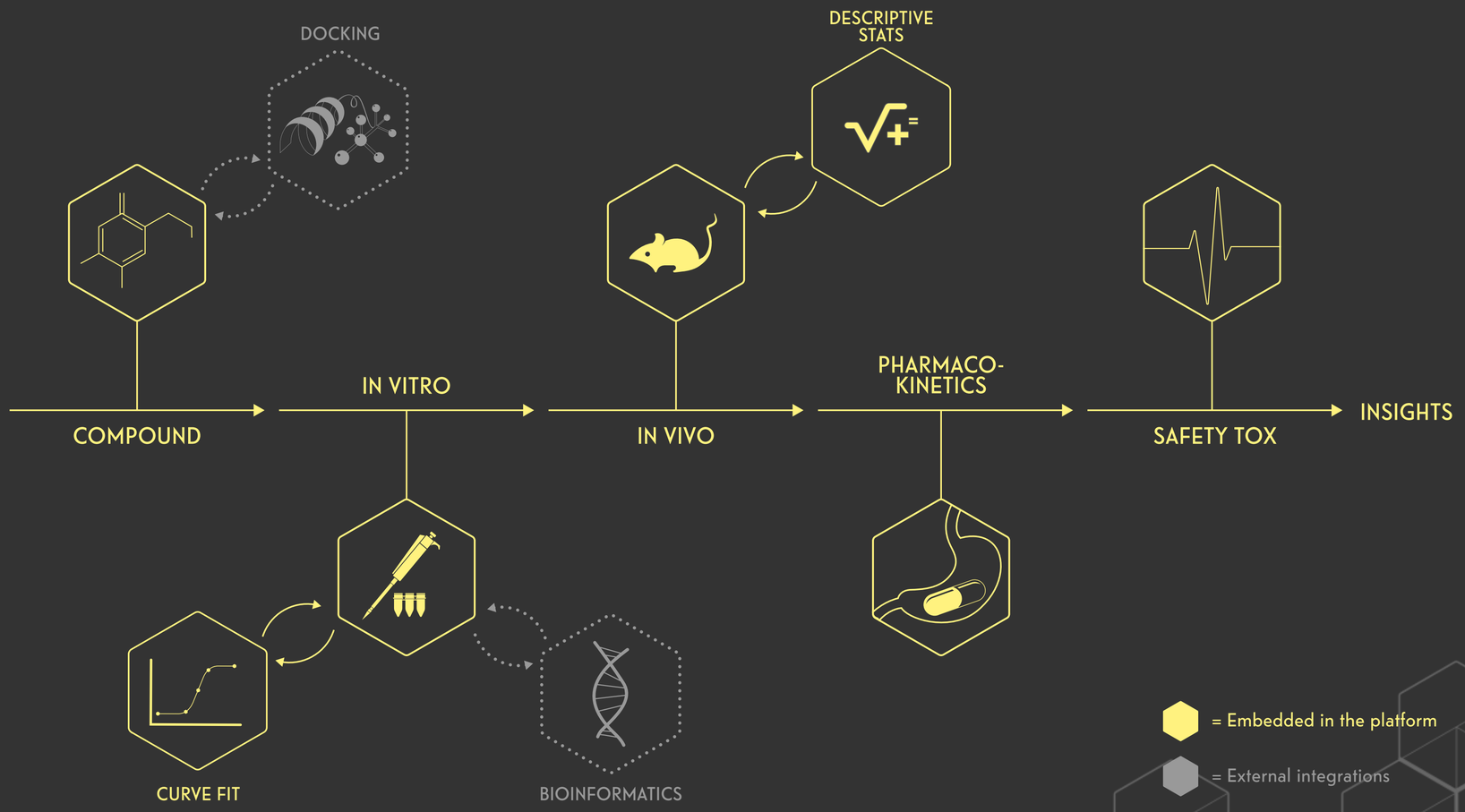
- Figure Eight

Our take on research and lab informatics



All types of data is captured close to the source, tagged, and stored on the platform

The grit42 platform



Capture, manage, analyse, and visualise data across all pre-clinical drug discovery phases

I wish I could spend my day copying and pasting

...said no one ever

A workflow example

1 → 2 → 3 → 4 → 5 → 6

Data

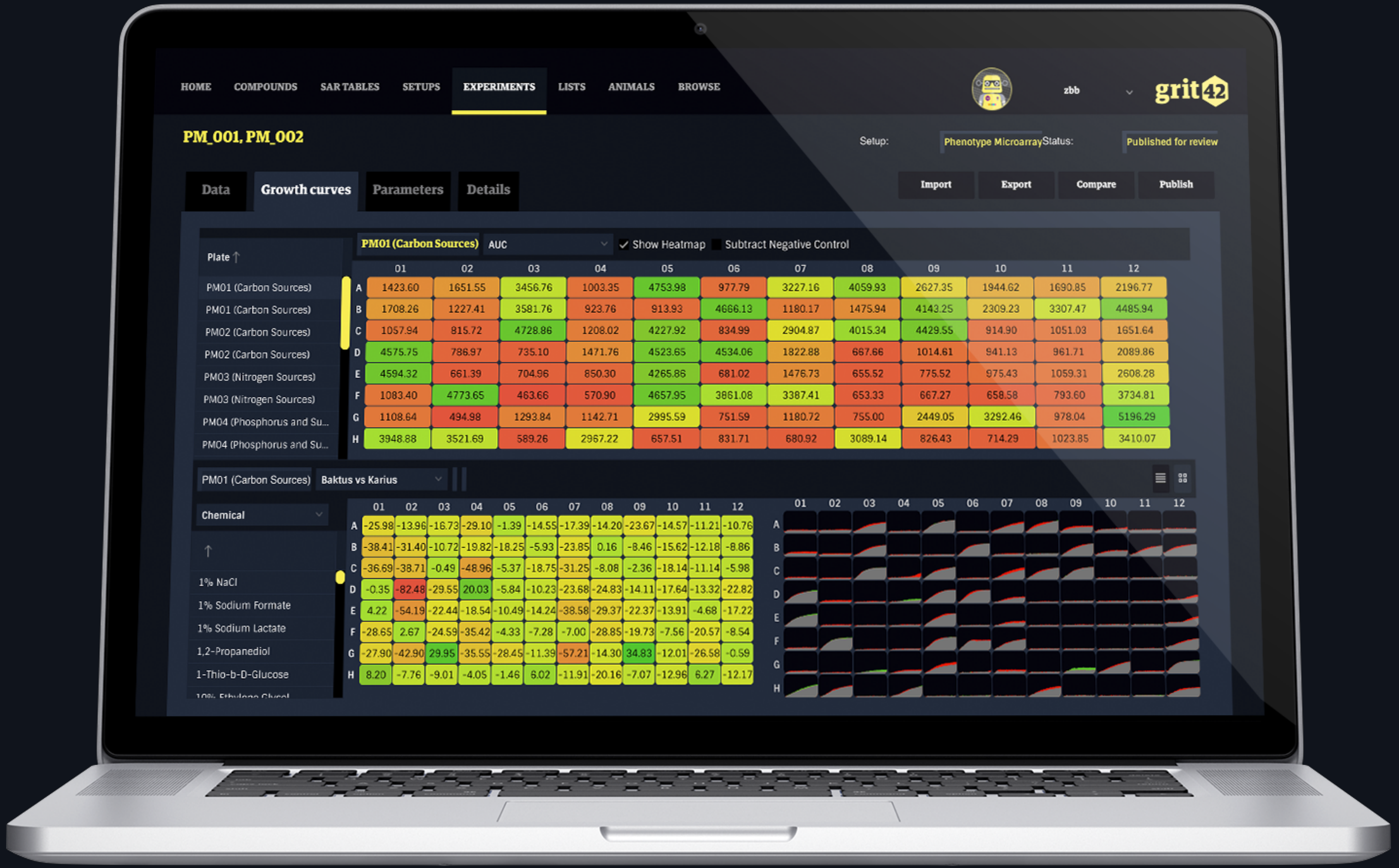
Import

Math

QC and visualisation

Analysis

Save/Done


HOME
COMPOUNDS
SAR TABLES
SETUPS
EXPERIMENTS
LISTS
ANIMALS
BROWSE
zbb
grit42
PM_001, PM_002
Setup:
Phenotype Microarray
Status:
Published for review
Data
Growth curves
Parameters
Details
Import
Export
Compare
Publish
Plate
PM01 (Carbon Sources)
AUC
Show Heatmap
Subtract Negative Control
PM01 (Carbon Sources)
PM01 (Carbon Sources)
PM02 (Carbon Sources)
PM02 (Carbon Sources)
PM03 (Nitrogen Sources)
PM03 (Nitrogen Sources)
PM04 (Phosphorus and Su...
PM04 (Phosphorus and Su...
01 02 03 04 05 06 07 08 09 10 11 12
A 1423.60 1651.55 3456.76 1003.35 4753.98 977.79 3227.16 4059.93 2627.35 1944.62 1690.85 2196.77
B 1708.26 1227.41 3581.76 923.76 913.93 4666.13 1180.17 1475.94 4143.25 2309.23 3307.47 4485.94
C 1057.94 815.72 4728.86 1208.02 4227.92 834.99 2904.87 4015.34 4429.55 914.90 1051.03 1651.64
D 4575.75 786.97 735.10 1471.76 4523.65 4534.06 1822.88 667.66 1014.61 941.13 961.71 2089.86
E 4594.32 661.39 704.96 850.30 4265.86 681.02 1476.73 655.52 775.52 975.43 1059.31 2608.28
F 1083.40 4773.65 463.66 570.90 4657.95 3861.08 3387.41 653.33 667.27 658.58 793.60 3734.81
G 1108.64 494.98 1293.84 1142.71 2995.59 751.59 1180.72 755.00 2449.05 3292.46 978.04 5196.29
H 3948.88 3521.69 589.26 2967.22 657.51 831.71 680.92 3089.14 826.43 714.29 1023.85 3410.07
PM01 (Carbon Sources)
Baktus vs Karius
Chemical
1% NaCl
1% Sodium Formate
1% Sodium Lactate
1,2-Propanediol
1-Thio-b-D-Glucose
01 02 03 04 05 06 07 08 09 10 11 12
A -25.98 -13.96 -16.73 -29.10 -1.39 -14.55 -17.39 -14.20 -23.67 -14.57 -11.21 -10.76
B -38.41 -31.40 -10.72 -19.82 -18.25 -5.93 -23.85 0.16 -8.46 -15.62 -12.18 -8.86
C -36.69 -38.71 -0.49 -48.96 -5.37 -18.75 -31.25 -8.08 -2.36 -18.14 -11.14 -5.98
D -0.35 -82.48 -29.55 20.03 -5.84 -10.23 -23.68 -24.83 -14.11 -17.64 -13.32 -22.82
E 4.22 -54.19 -22.44 -18.54 -10.49 -14.24 -38.58 -29.37 -22.37 -13.91 -4.68 -17.22
F -28.65 2.67 -24.59 -35.42 -4.33 -7.28 -7.00 -28.85 -19.73 -7.56 -20.57 -8.54
G -27.90 -42.90 29.95 -35.55 -28.45 -11.39 -57.21 -14.30 34.83 -12.01 -26.58 -0.59
H 8.20 -7.76 -9.01 -4.05 -1.46 6.02 -11.91 -20.16 -7.07 -12.96 6.27 -12.17
01 02 03 04 05 06 07 08 09 10 11 12
A
B
C
D
E
F
G
H

We're combining data capture, scientific analyses, visualisations, and logistics

Workflow example

grit42 platform General data management, SAR tables, and ordering.

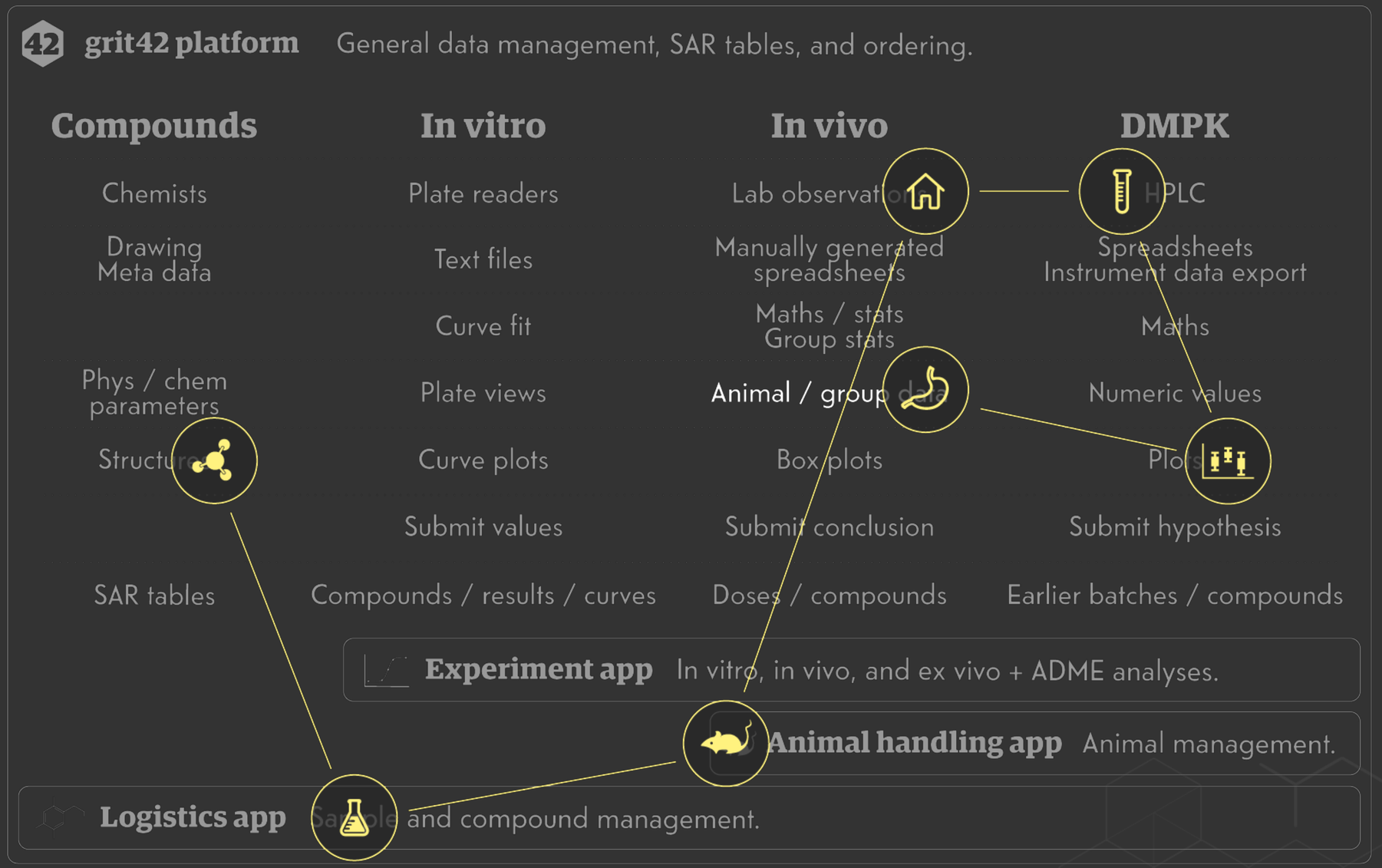
Compounds	In vitro	In vivo	DMPK	Discipline
Chemists	Plate readers	Lab observations	HPLC	Data production
Drawing Meta data	Text files	Manually generated spreadsheets	Spreadsheets Instrument data export	Raw data
	Curve fit	Maths / stats Group stats	Maths	Algorithms
Phys / chem parameters	Plate views	Animal / group data	Numeric values	Results
Structures	Curve plots	Box plots	Plots	Visualisation
	Submit values	Submit conclusion	Submit hypothesis	Conclude exp.
SAR tables	Compounds / results / curves	Doses / compounds	Earlier batches / compounds	Compare to

Experiment app In vitro, in vivo, and ex vivo + ADME analyses.

Animal handling app Animal management.

Logistics app Sample and compound management.

Workflow example



But how?

The built-in advantage of defining roles and parameters for each assay

The roles of parameters

Hypothesis roles

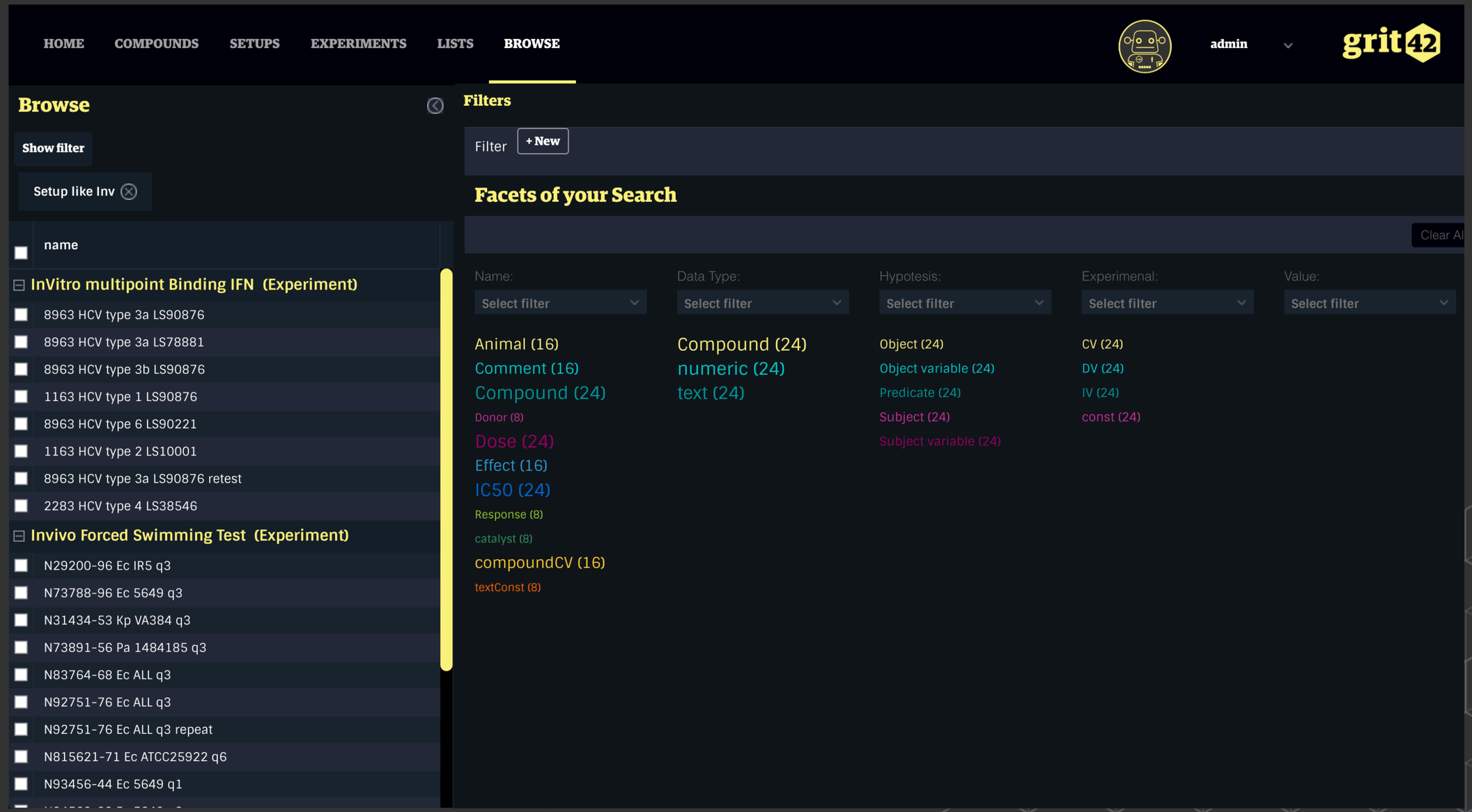
- Bacteria (subject) - gives - infection (predicate) - in - mouse (object)

Definition of roles

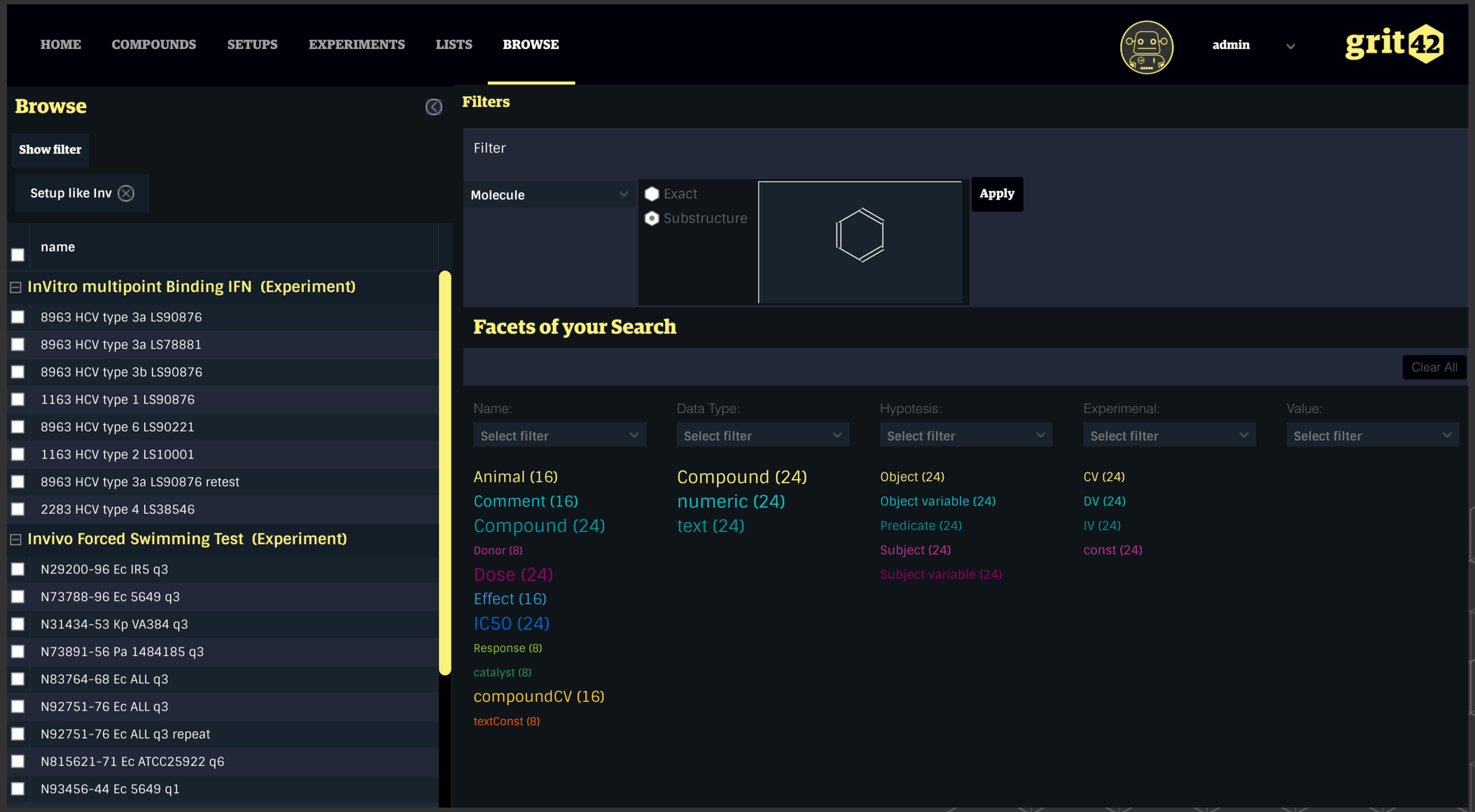
- Mouse (controlled) - infected with - bacteria (independent) - get's this level of - CFU's (dependent)

The intelligent way of searching using parameters

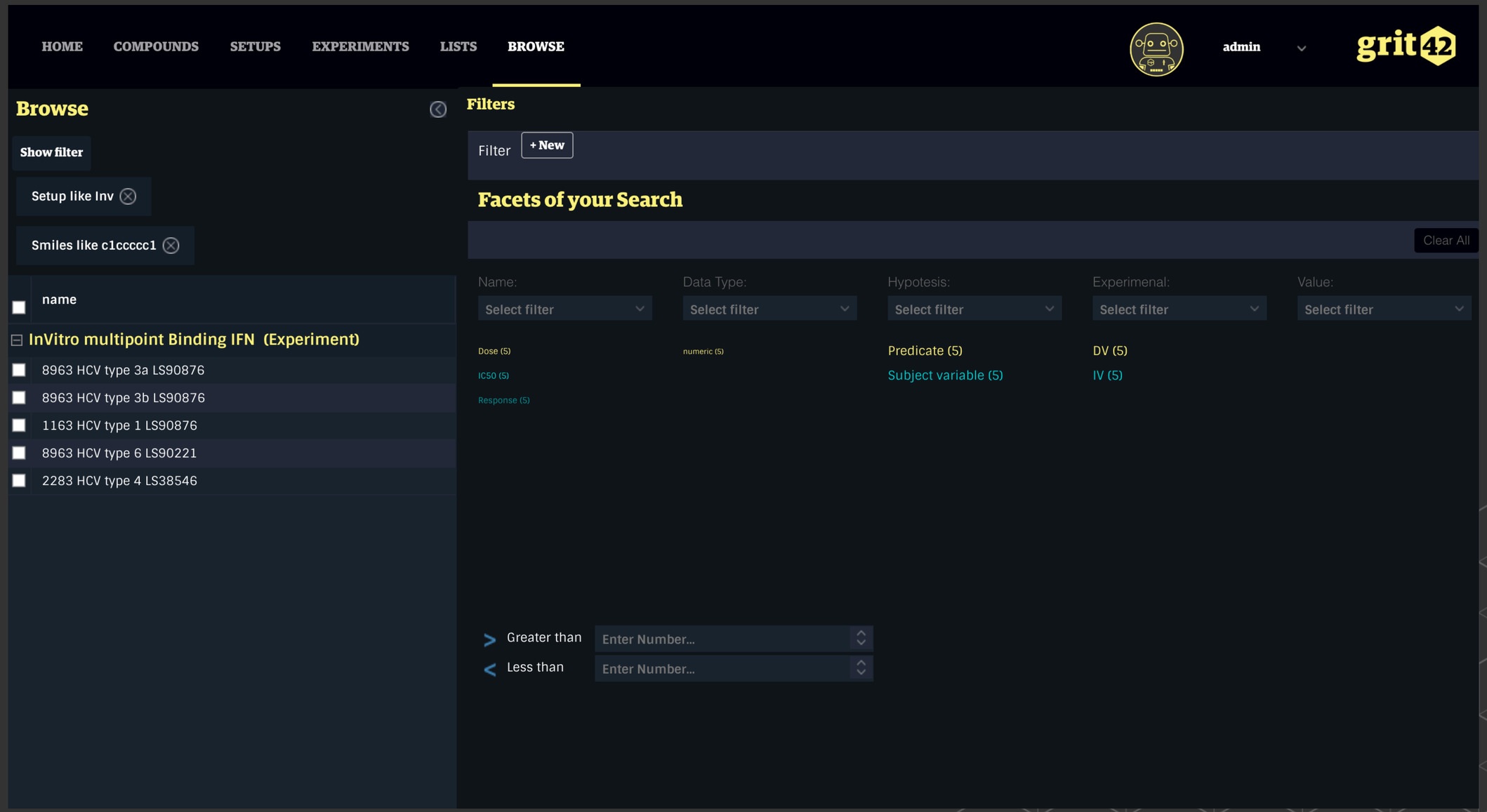
Filter - Text


HOME
COMPOUNDS
SETUPS
EXPERIMENTS
LISTS
BROWSE
admin
grit42
Browse
Show filter
Setup like Inv
name
InVitro multipoint Binding IFN (Experiment)
8963 HCV type 3a LS90876
8963 HCV type 3a LS78881
8963 HCV type 3b LS90876
1163 HCV type 1 LS90876
8963 HCV type 6 LS90221
1163 HCV type 2 LS10001
8963 HCV type 3a LS90876 retest
2283 HCV type 4 LS38546
Invivo Forced Swimming Test (Experiment)
N29200-96 Ec IR5 q3
N73788-96 Ec 5649 q3
N31434-53 Kp VA384 q3
N73891-56 Pa 1484185 q3
N83764-68 Ec ALL q3
N92751-76 Ec ALL q3
N92751-76 Ec ALL q3 repeat
N815621-71 Ec ATCC25922 q6
N93456-44 Ec 5649 q1
Filters
Filter
+ New
Facets of your Search
Clear Al
Name:
Select filter
Animal (16)
Comment (16)
Compound (24)
Donor (8)
Dose (24)
Effect (16)
IC50 (24)
Response (8)
catalyst (8)
compoundCV (16)
textConst (8)
Data Type:
Select filter
Compound (24)
numeric (24)
text (24)
Hypotesis:
Select filter
Object (24)
Object variable (24)
Predicate (24)
Subject (24)
Subject variable (24)
Experimenal:
Select filter
CV (24)
DV (24)
IV (24)
const (24)
Value:
Select filter

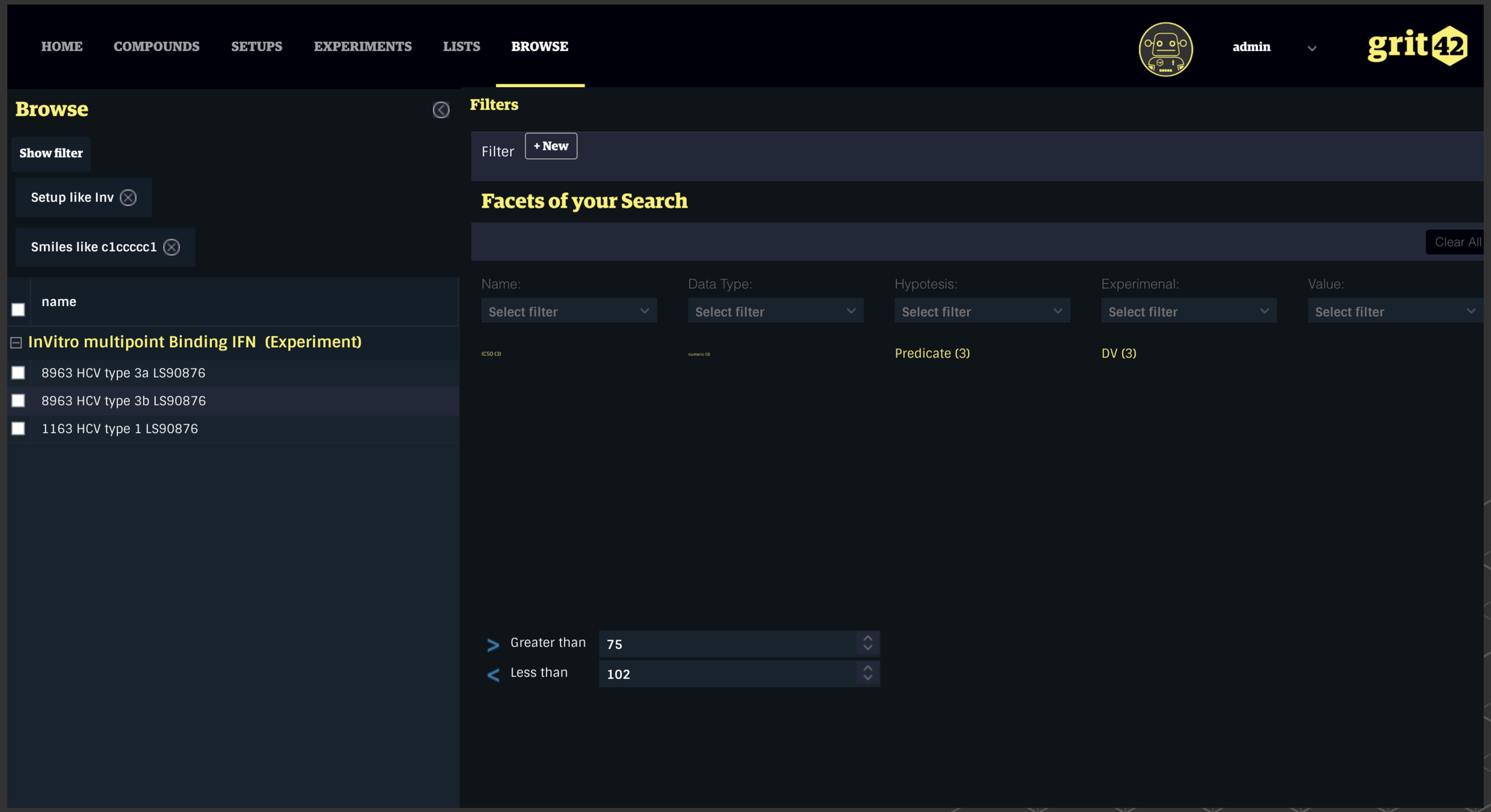
Filter - Structure



Filter - Facet/Numeric

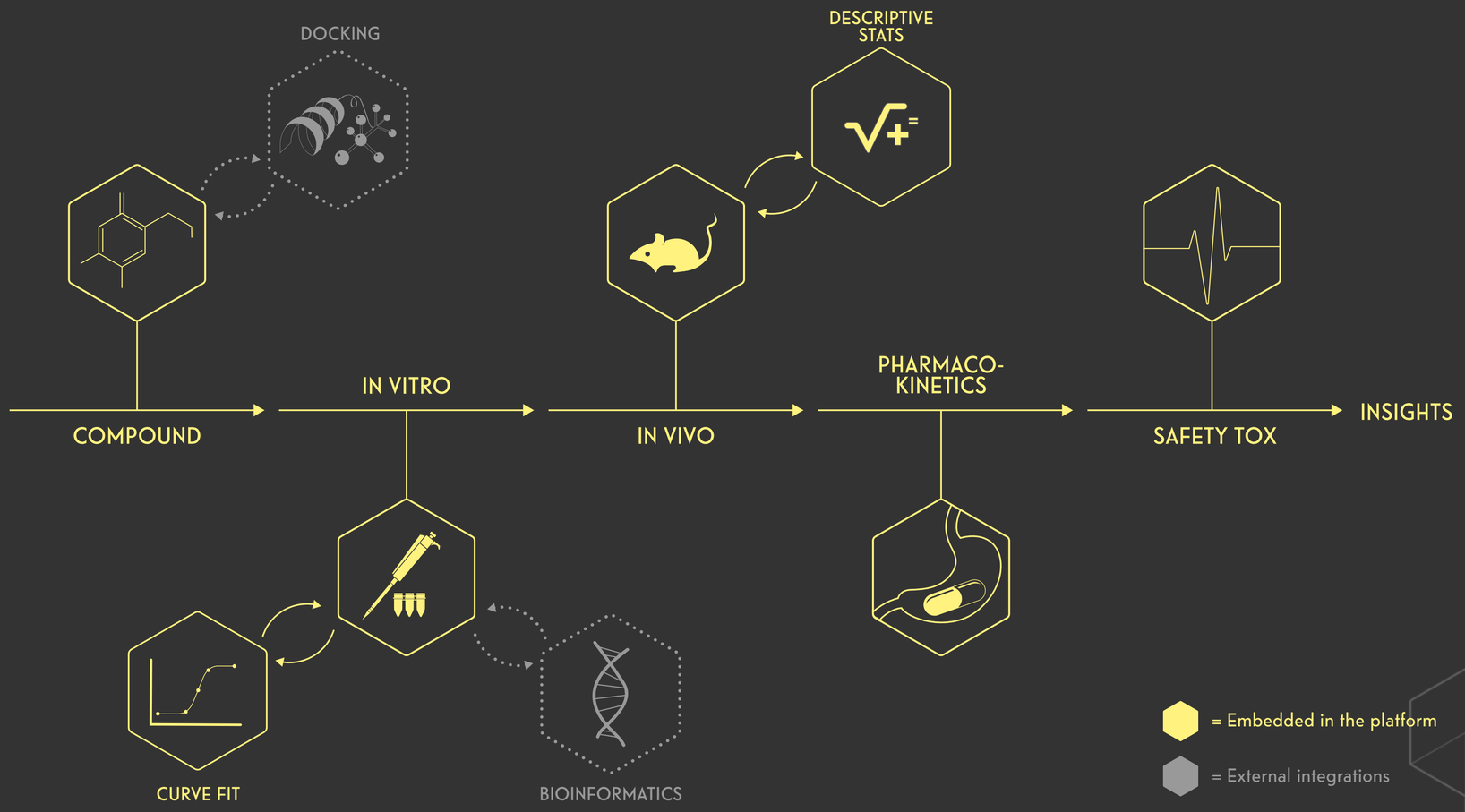


Filter - Values



In summary

A dynamic platform that supports your digital lab infrastructure



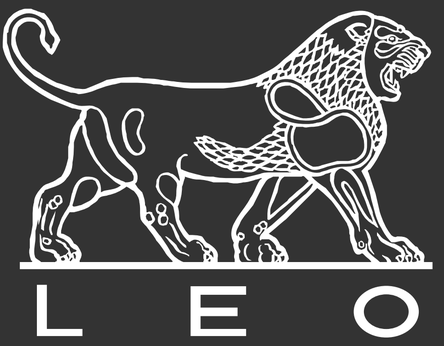
It's all here. It's all integrated. And always ready for realtime analyses.

The six major advantages of grit42

1. Data capture, scientific analyses, visualisations, and logistics - the grit42 platform supports all your day-to-day workflows
2. Compare results across new and old datasets
3. Streamlined and replicable experiments across domains and departments
4. Perform advanced queries and faceted searches on your data
5. Perfect data structure to run advanced analyses, ie. artificial intelligence
6. All the data is inherently ready for RDF, graph analysis, FAIR, etc.

Some of our customers

Lundbeck



FERRING
PHARMACEUTICALS

evotec

DK OPENSCREEN

HELMHOLTZ
ZENTRUM FÜR
INFEKTIONSFORSCHUNG

grit 42

AMR-related collaborations

ND4BB TRANSLOCATION

innovative medicines initiative

Fraunhofer

GlaxoSmithKline

SANOFI

Johnson & Johnson

grit 42

DON'T PANIC!

We offer a viable solution if you're tired of wasting your time on disconnected workflows and messy data

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