

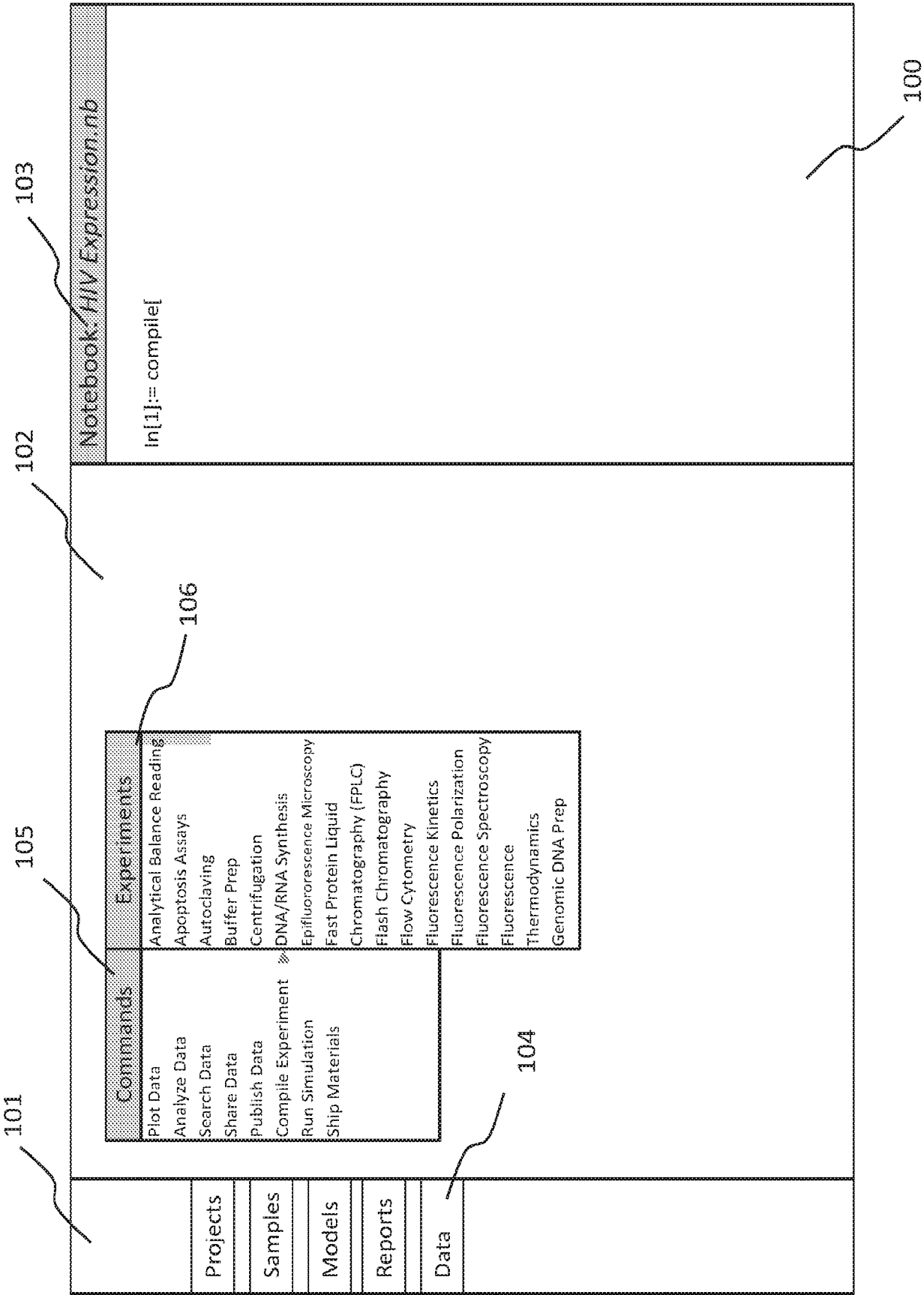


FIG. 1

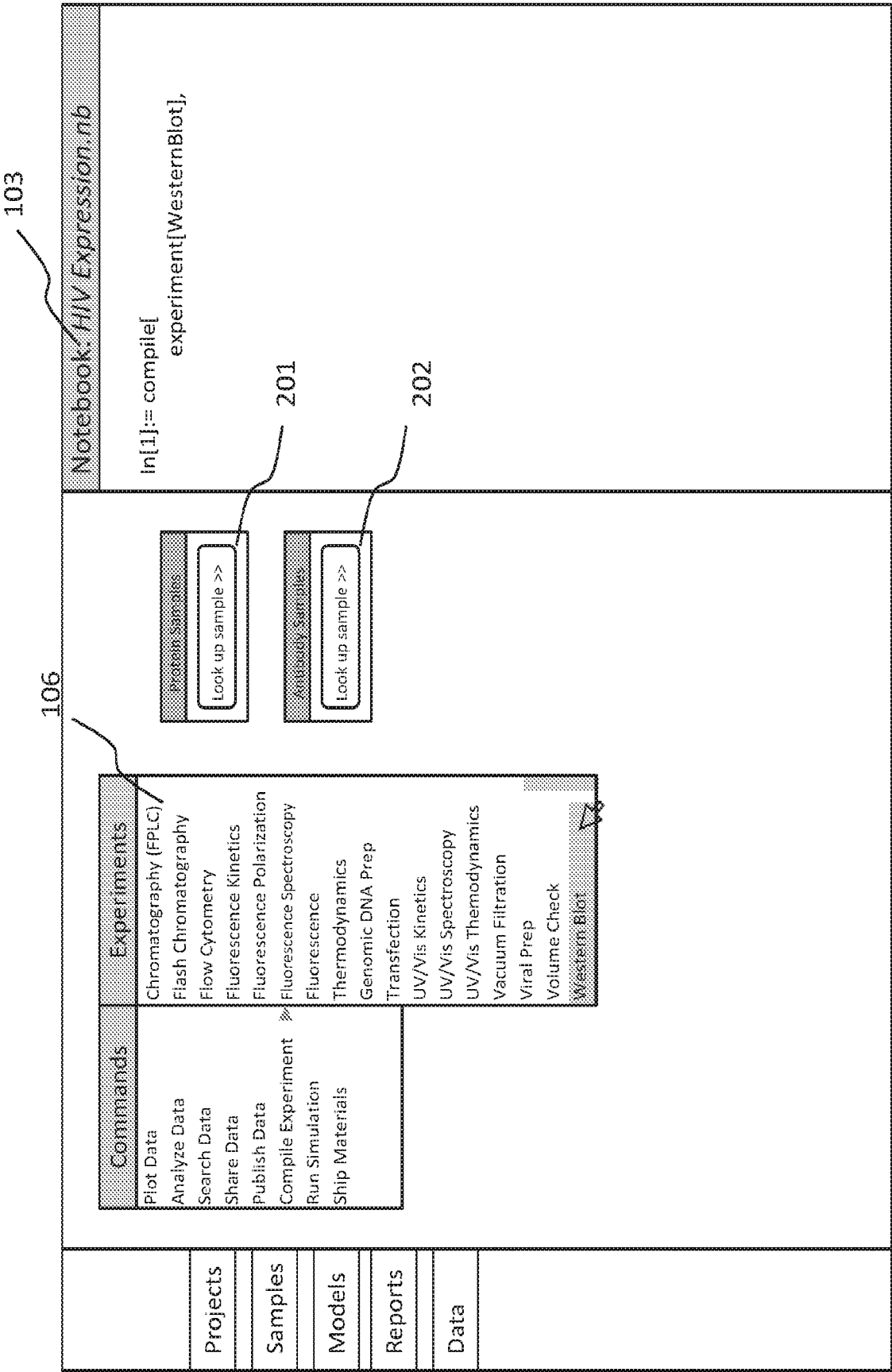


FIG. 2

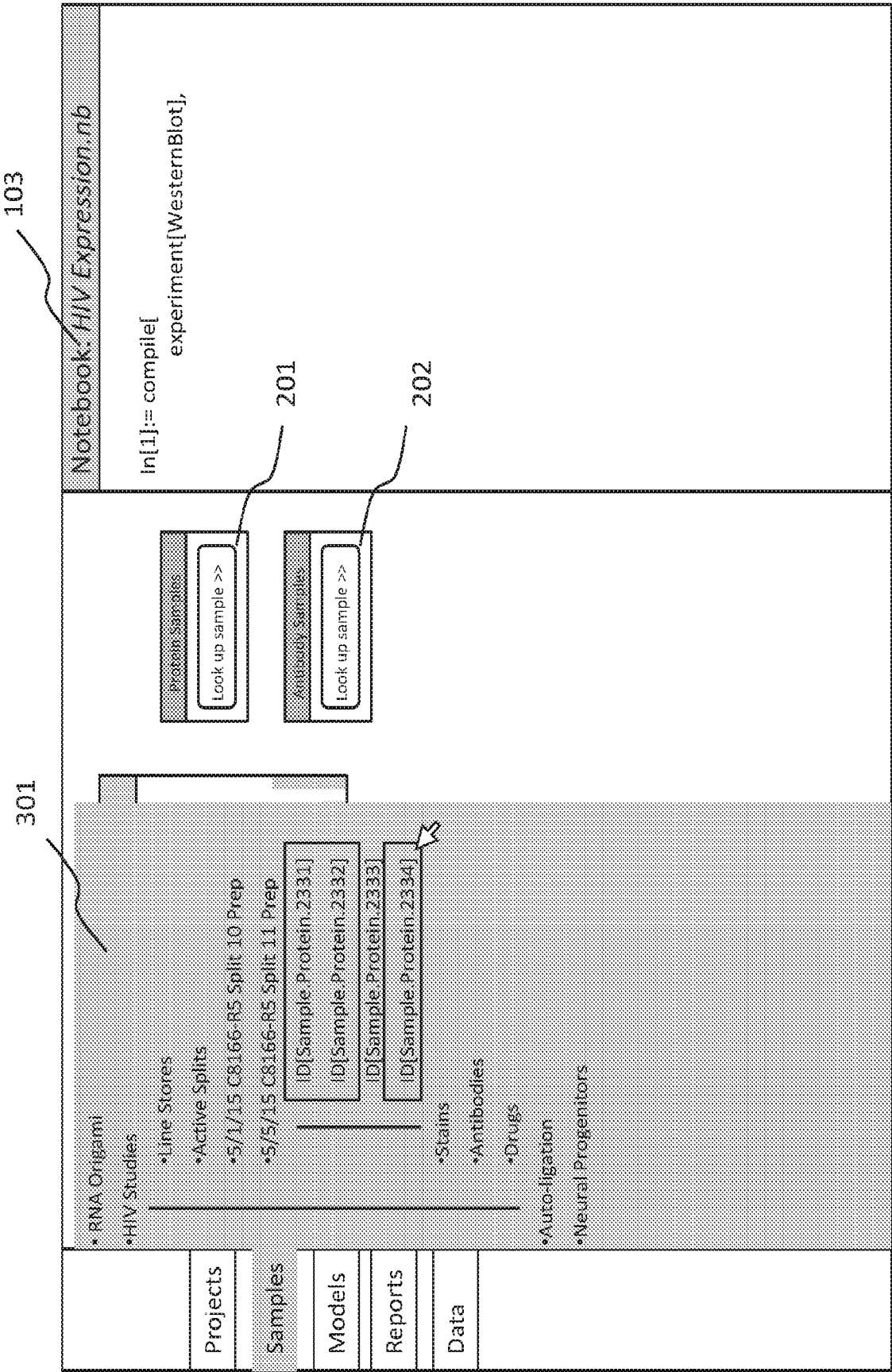


FIG. 3

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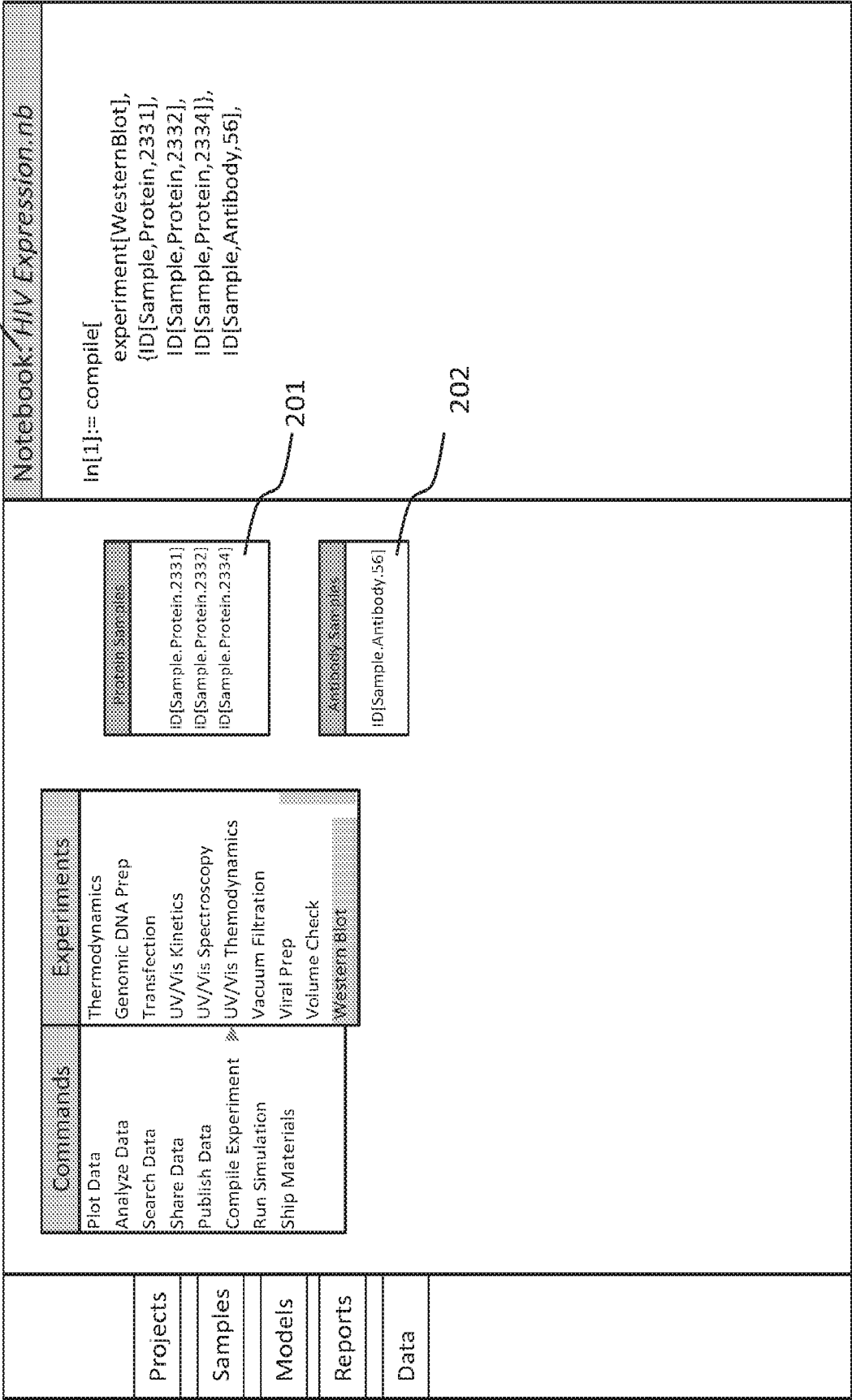


FIG. 4

Projects

Samples

Models

Reports

Data

Commands

Experiments

Plot Data

Analyze Data

Search Data

Share Data

Publish Data

Compile Experiment

Run Simulation

Ship Materials

Thermodynamics

Genomic DNA Prep

Transfection

UV/Vis Kinetics

UV/Vis Spectroscopy

UV/Vis Thermodynamics

Vacuum Filtration

Viral Prep

Volume Check

Western Blot

Protein Samples

Antibody Samples

ID[Sample,Protein,2331]

ID[Sample,Protein,2332]

ID[Sample,Protein,2334]

ID[Sample,Antibody,56]

Notebook: HIV Expression.nb

In[1]:= compile[
experiment[WesternBlot],
{ID[Sample,Protein,2331],
ID[Sample,Protein,2332],
ID[Sample,Protein,2334]},
ID[Sample,Antibody,56],
SampleVolume -> 5 Micro Liters,
SeparationTime -> 27 Minutes,
SeparationVoltage -> 375 Volts

Variables

Execute Experiment

Replicates	1	Primary Washes	2	Separation Voltage	350 (V)
Denature	5	Primary Wash Volume	150 (μL)	Stacking Time	9 (m)
Sample Volume	10 (μL)	Primary Wash Time	30 (m)	Stacking Voltage	300 (V)
Antibody Volume	5 (μL)	Secondary Washes	1	Exposure Time	100 (s)
Luminal Volume	150 (μL)	Secondary Wash Volume	150 (μL)	Number of Blockings	1
Peroxide Volume	150 (μL)	Secondary Wash Time	30 (m)	Block Volume	200 (μL)
HBB Volume	10 (μL)	Separation Time	25 (m)	Block Time	5 (m)

FIG. 5

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Projects

Samples

Models

Reports

Data

Commands	Experiments
Plot Data	Thermodynamics
Analyze Data	Genomic DNA Prep
Search Data	Transfection
Share Data	UV/Vis Kinetics
Publish Data	UV/Vis Spectroscopy
Compile Experiment	UV/Vis Thermodynamics
Run Simulation	Vacuum Filtration
Ship Materials	Viral Prep
	Volume Check
	Western Blot

Protein Samples

ID[Sample,Protein,2331]
ID[Sample,Protein,2332]
ID[Sample,Protein,2334]

Antibody Samples

ID[Sample,Antibody,56]

Notebook: HIV Expression.nb

```
In[1]:= compile[
  experiment[WesternBlot],
  {ID[Sample,Protein,2331],
   ID[Sample,Protein,2332],
   ID[Sample,Protein,2334]},
  ID[Sample,Antibody,56],
  SampleVolume -> 5 Micro Liters,
  SeparationTime -> 27 Minutes,
  SeparationVoltage -> 375 Volts
]
```

Variables

Replicates	1	Primary Washes	2	Separation Voltage	375 (V)
Denature	False	Primary Wash Volume	150 (μL)	Stacking Time	9 (m)
Sample Volume	5 (μL)	Primary Wash Time	30 (m)	Stacking Voltage	200 (V)
Antibody Volume	5 (μL)	Secondary Washes	1	Exposure Time	100 (s)
Luminal Volume	150 (μL)	Secondary Wash Volume	150 (μL)	Number of Blockings	1
Peroxide Volume	150 (μL)	Secondary Wash Time	30 (m)	Block Volume	200 (μL)
HBSP Volume	10 (μL)	Separation Time	27 (m)	Block Time	5 (m)

Execute Experiment

501

601

FIG. 6A

Projects

Samples

Models

Reports

Data

Commands

Plot Data

Analyze Data

Search Data

Share Data

Publish Data

Compile Experiment

Run Simulation

Ship Materials

Experiments

Thermodynamics

Genomic DNA Prep

Transfection

UV/Vis Kinetics

UV/Vis Spectroscopy

UV/Vis Thermodynamics

Vacuum Filtration

Viral Prep

Volume Check

Western Blot

Protein Samples

ID[Sample,Protein,2331]

ID[Sample,Protein,2332]

ID[Sample,Protein,2334]

Antibody Samples

ID[Sample,Antibody,56]

Notebook: HIV Expression.nb

In[1]:= compile[
 experiment[WesternBlot],
 {ID[Sample,Protein,2331],
 ID[Sample,Protein,2332],
 ID[Sample,Protein,2334]},
 ID[Sample,Antibody,56],
 SampleVolume -> 5 Micro Liters,
 SeparationTime -> 27 Minutes,
 SeparationVoltage -> 375 Volts
Warning: Separation voltage may be too
high to achieve optimal results

501

601

Execute Experiment

FIG. 6B

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Projects

Samples

Models

Reports

Data

Success!

Your **Western Blot** Experiment was Sent to the Emerald Cloud Lab.

Notebook: *HIV Expression.nb*

In[1]:= compile[
 experiment[WesternBlot],
 {ID[Sample,Protein,2331],
 ID[Sample,Protein,2332],
 ID[Sample,Protein,2334]],
 ID[Sample,Antibody,56],
 SampleVolume -> 5 Micro Liters,
 SeparationTime -> 27 Minutes,
 SeparationVoltage -> 375 Volts
]

 Out[1]= ID[Experiment,WesternBlot,1314]

FIG. 7

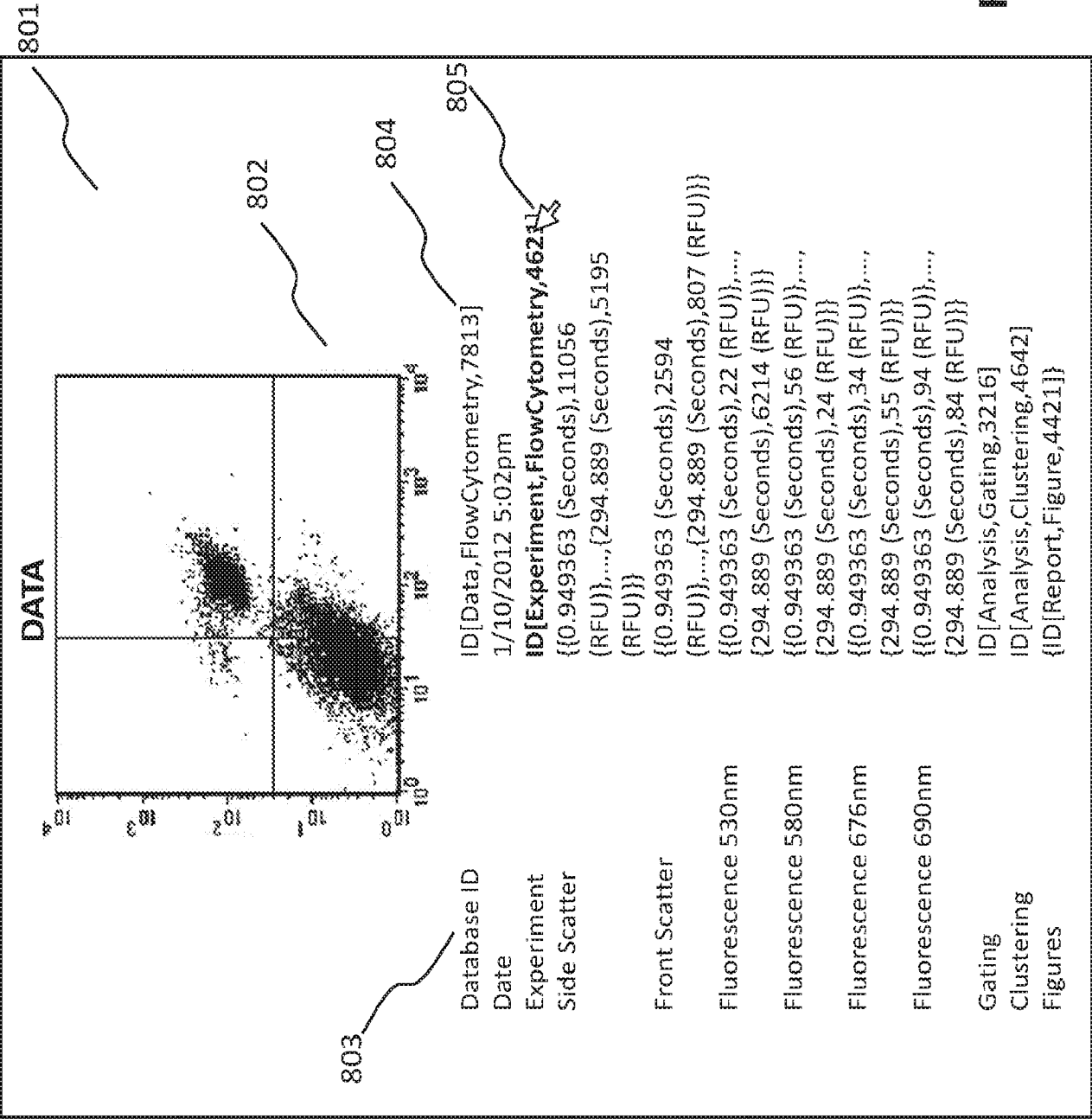


FIG. 8

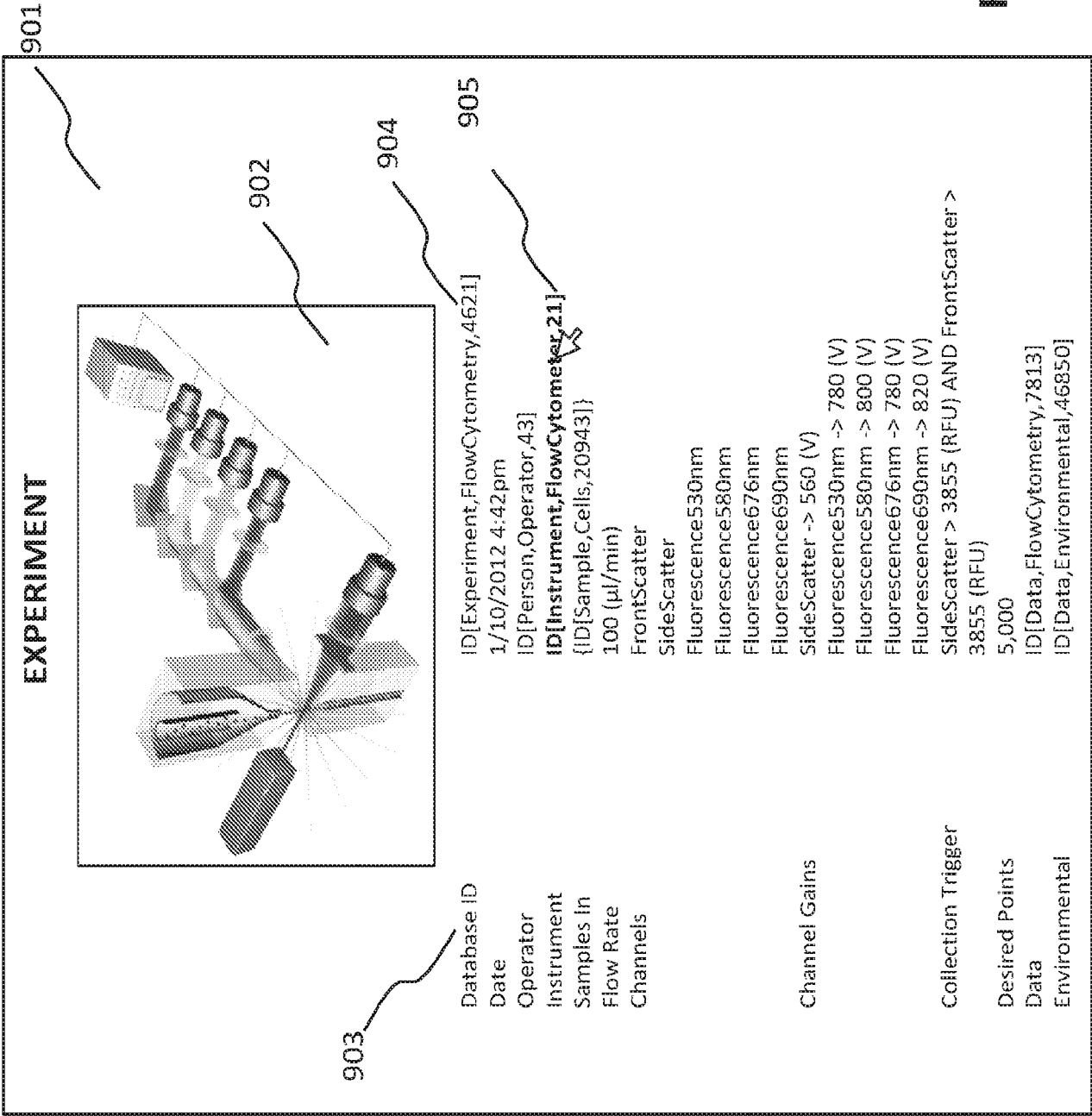


FIG. 9

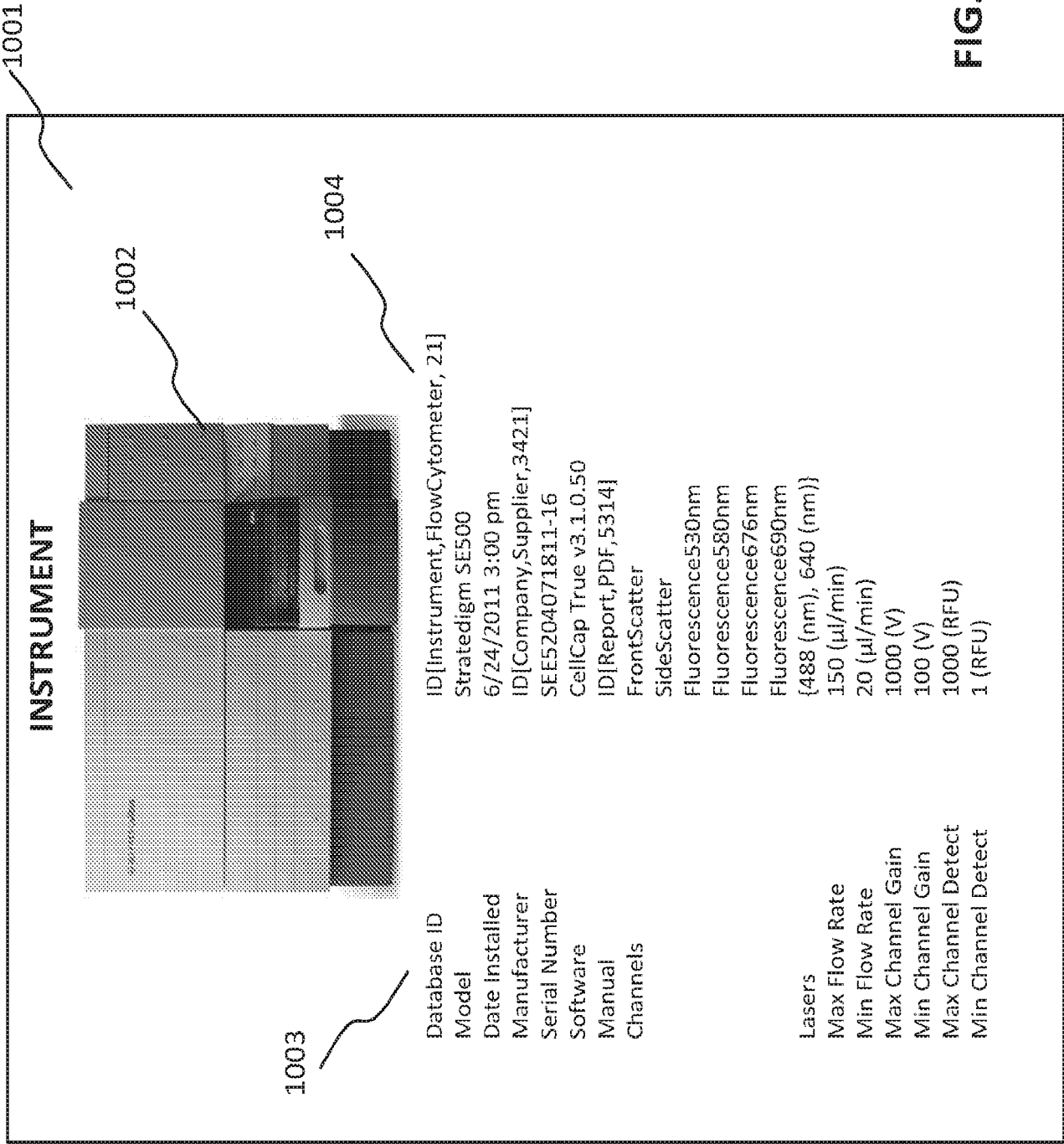


FIG. 10

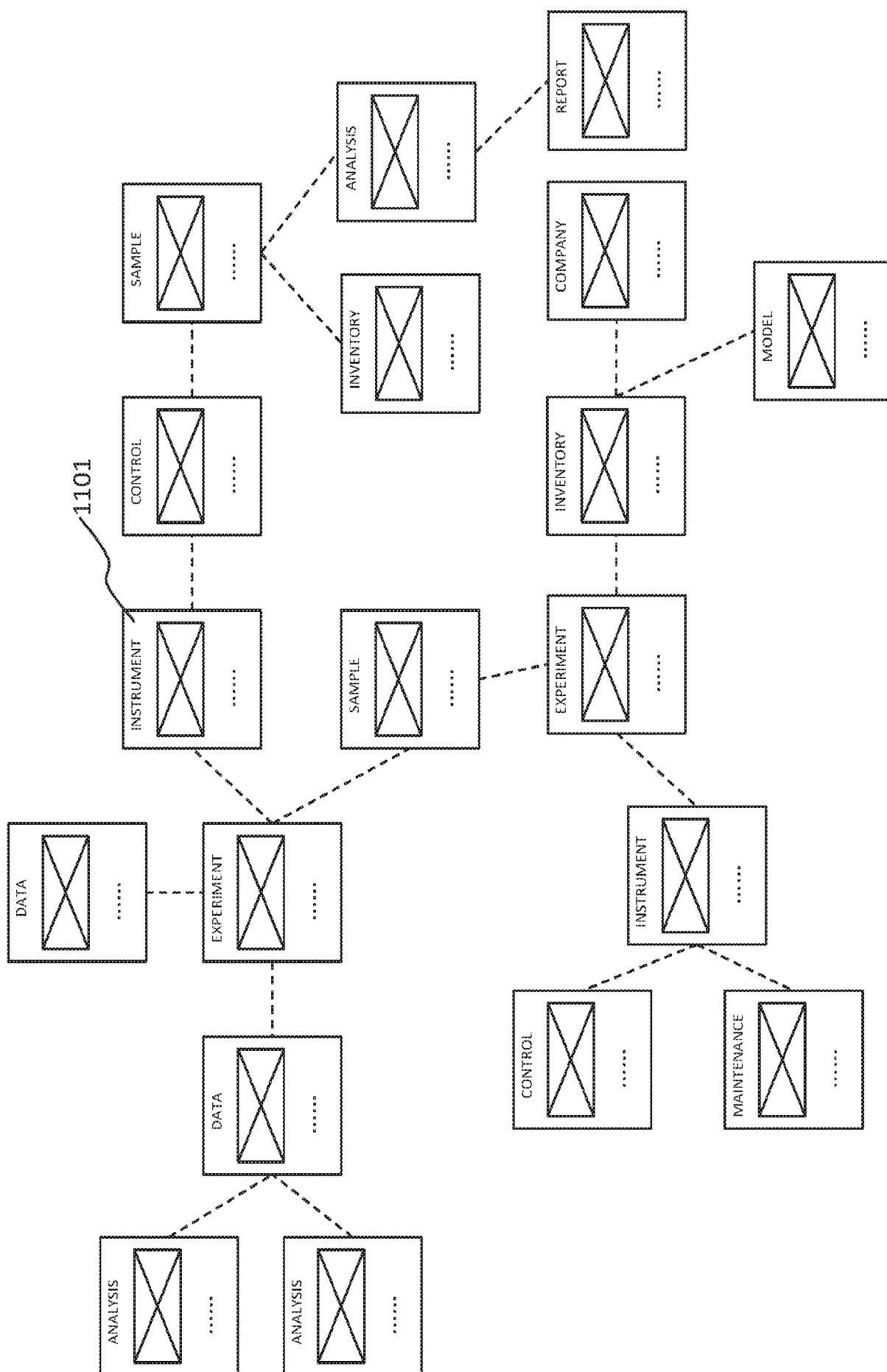


FIG. 11

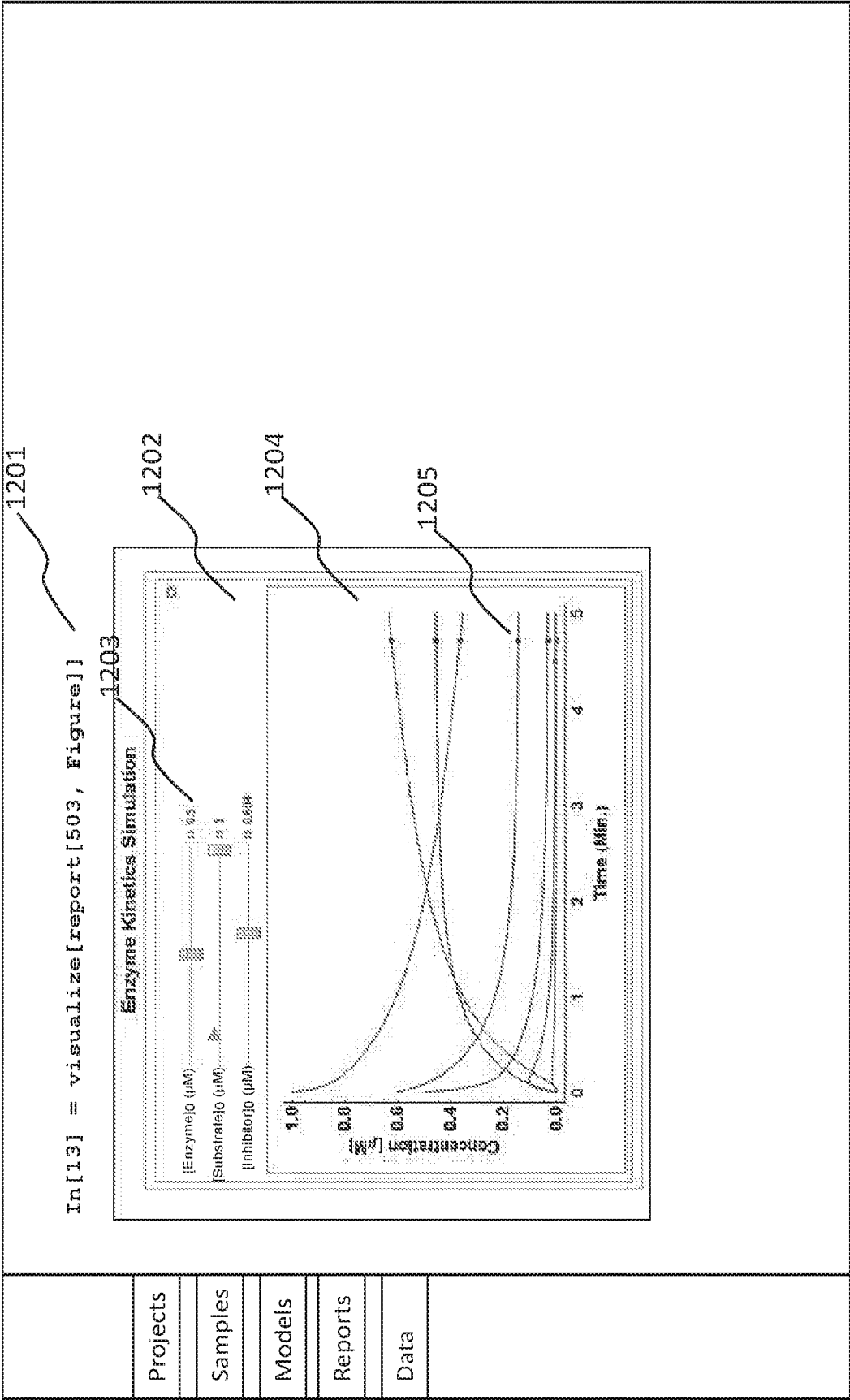


FIG. 12A

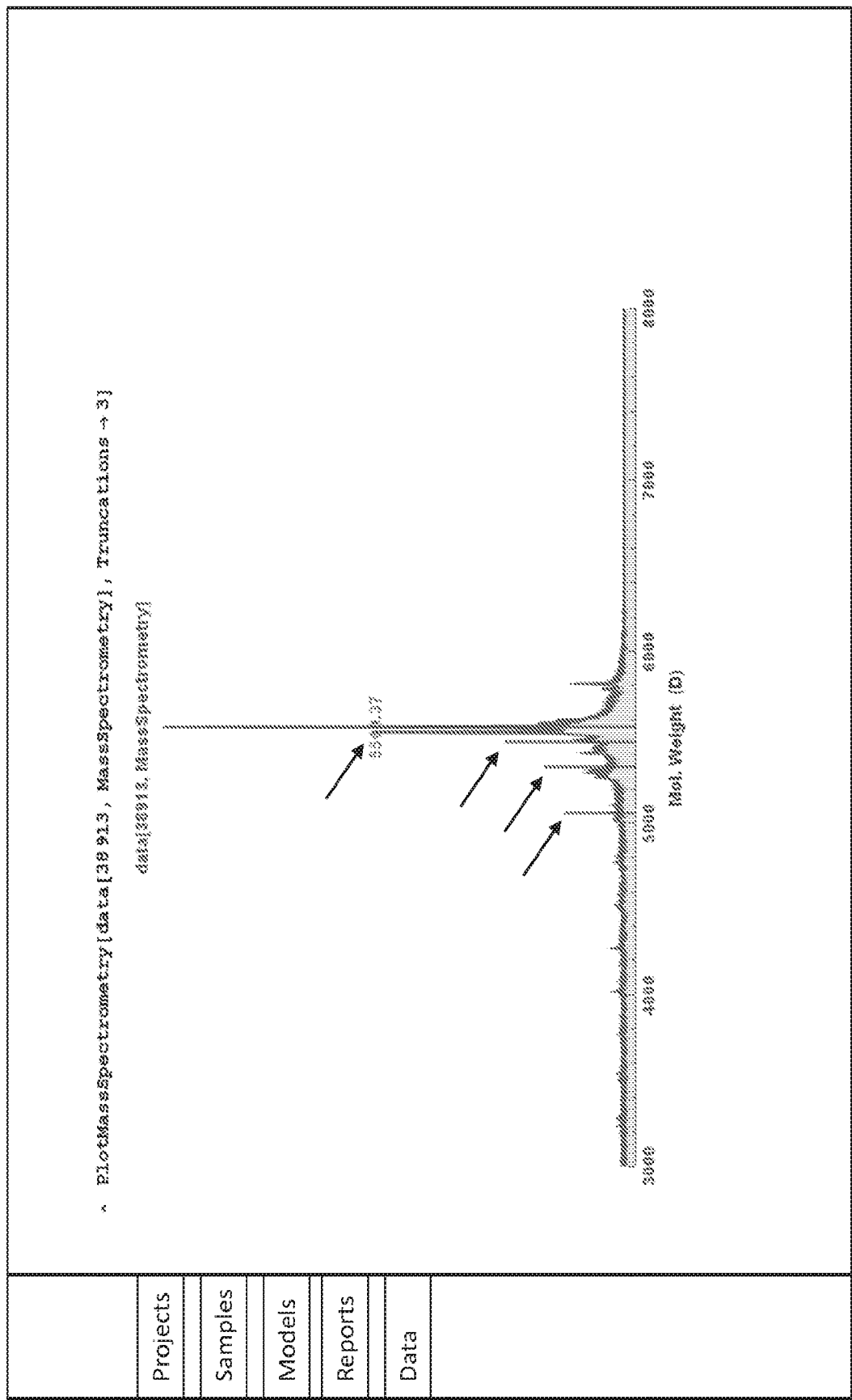


FIG. 12B

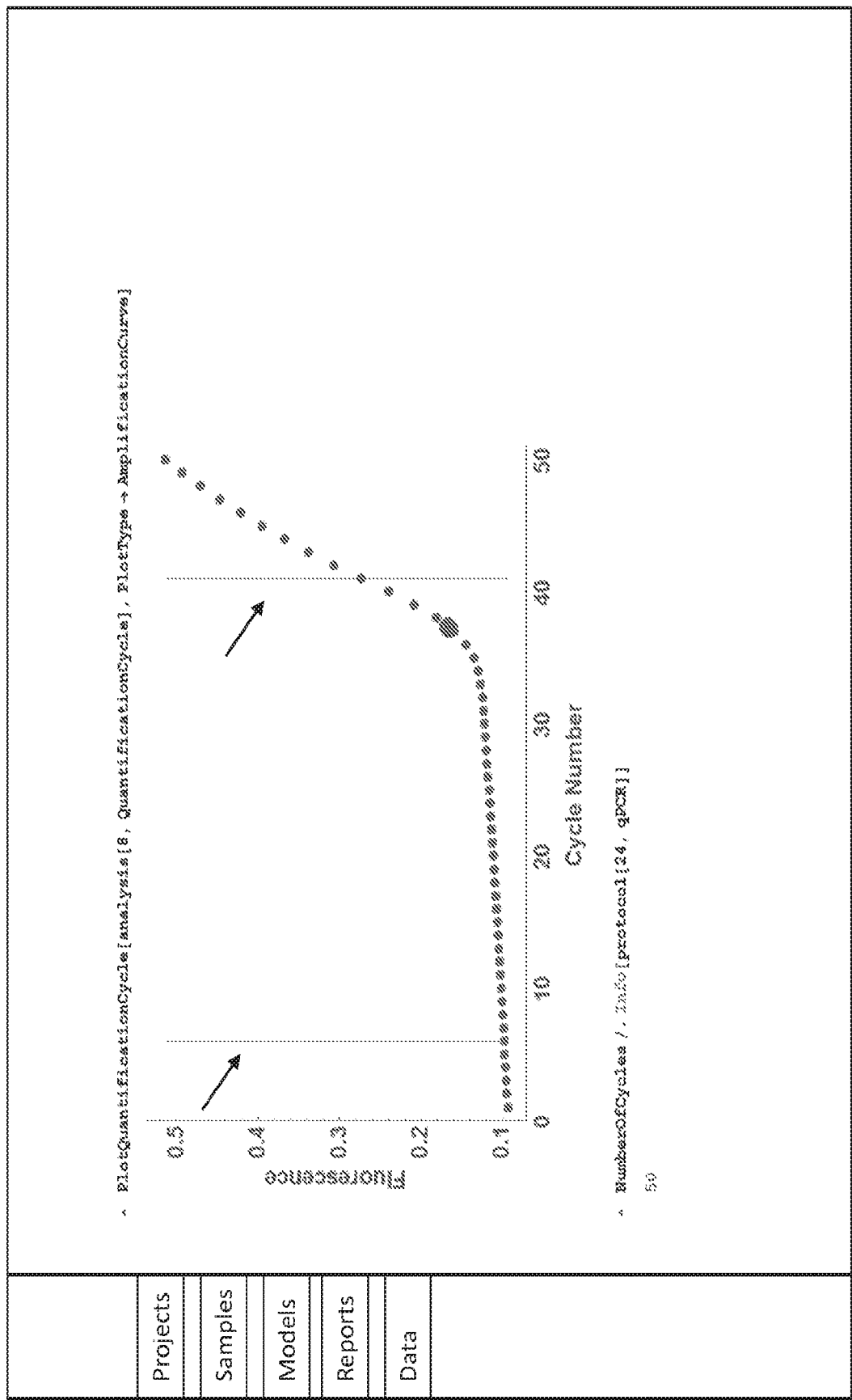


FIG. 12C

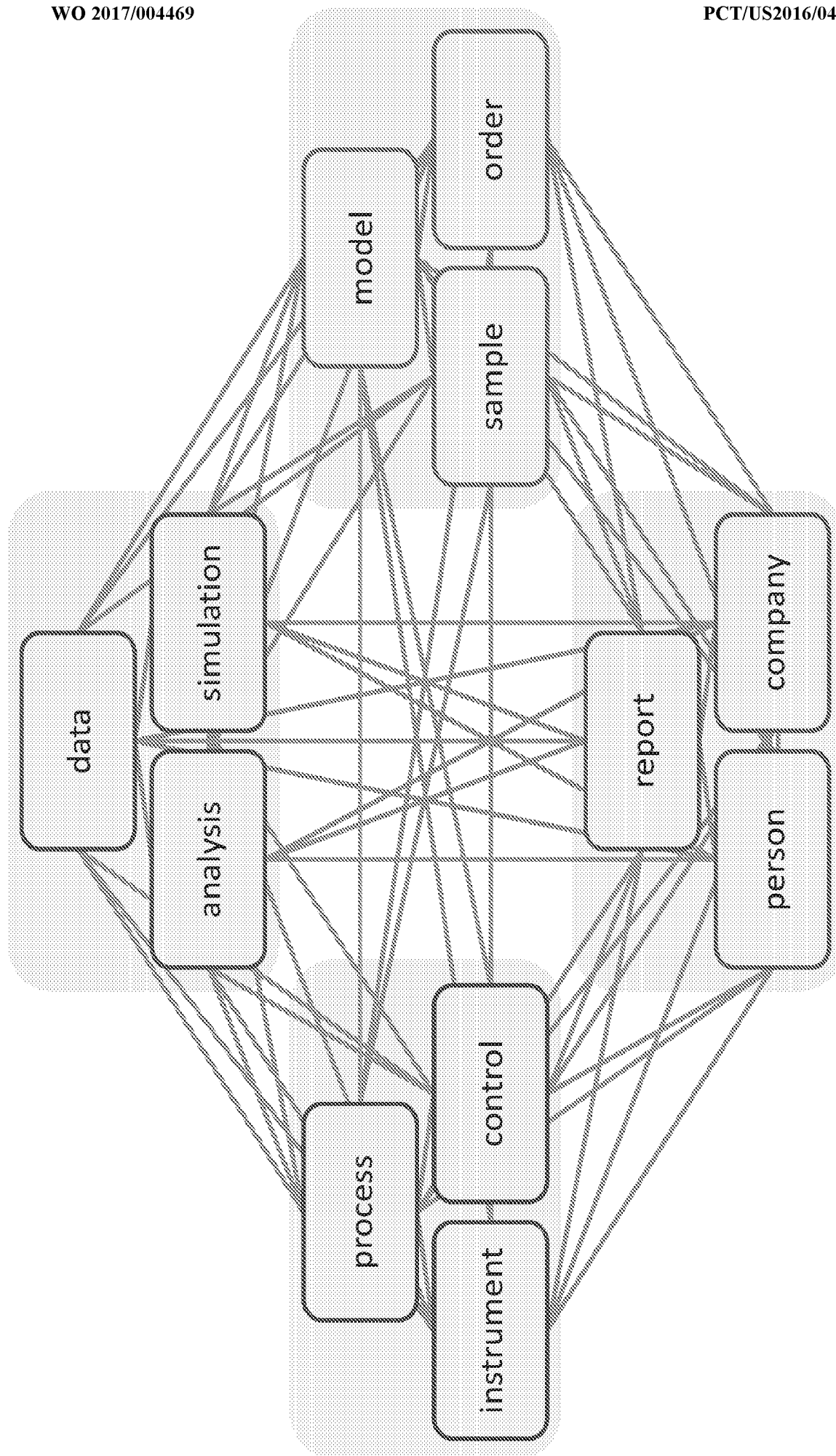


FIG. 13

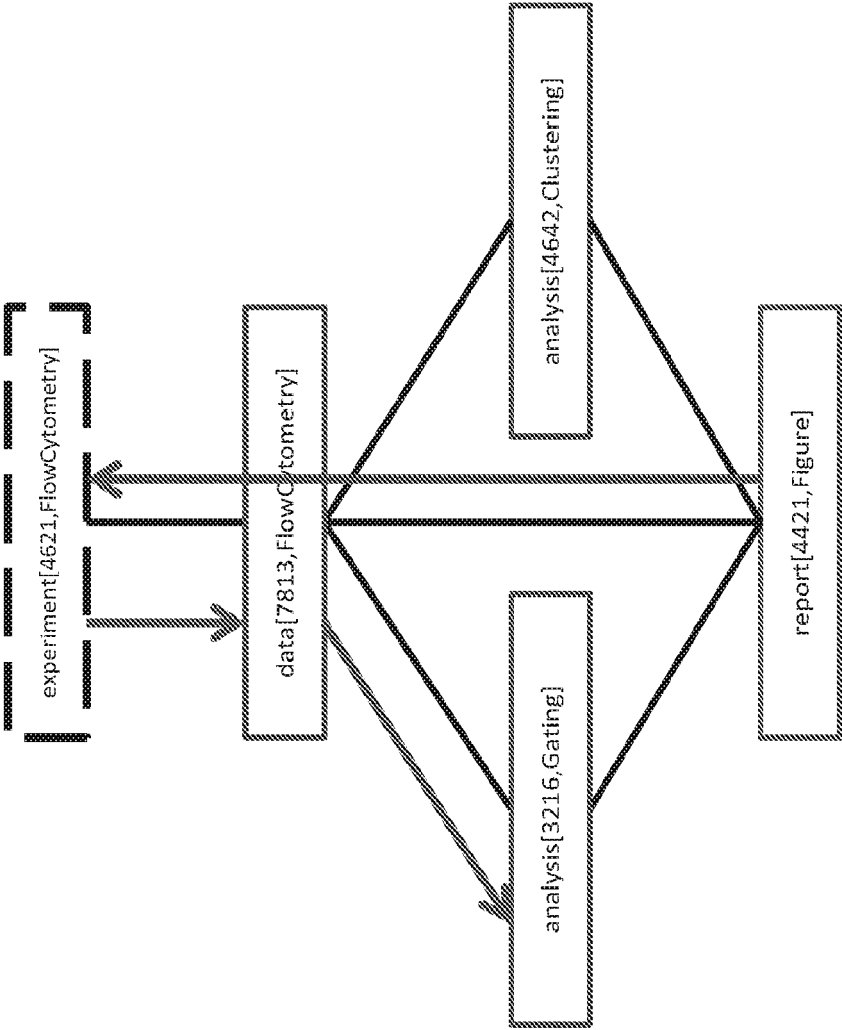


FIG. 14

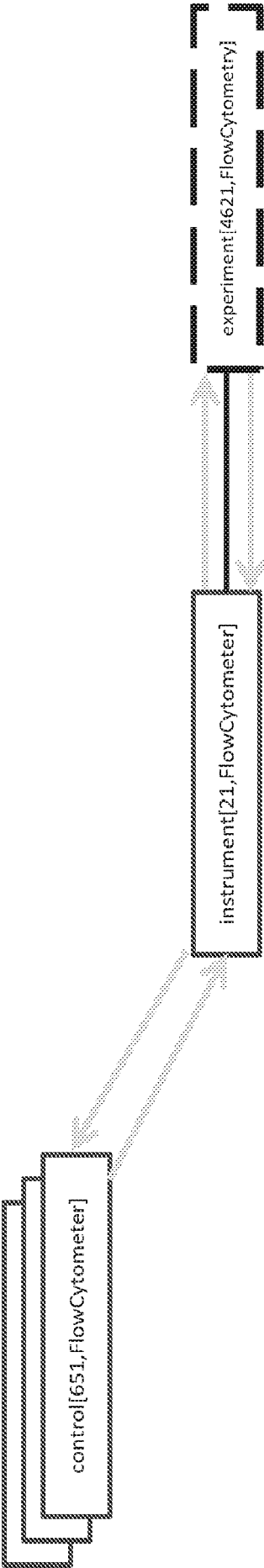


FIG. 15

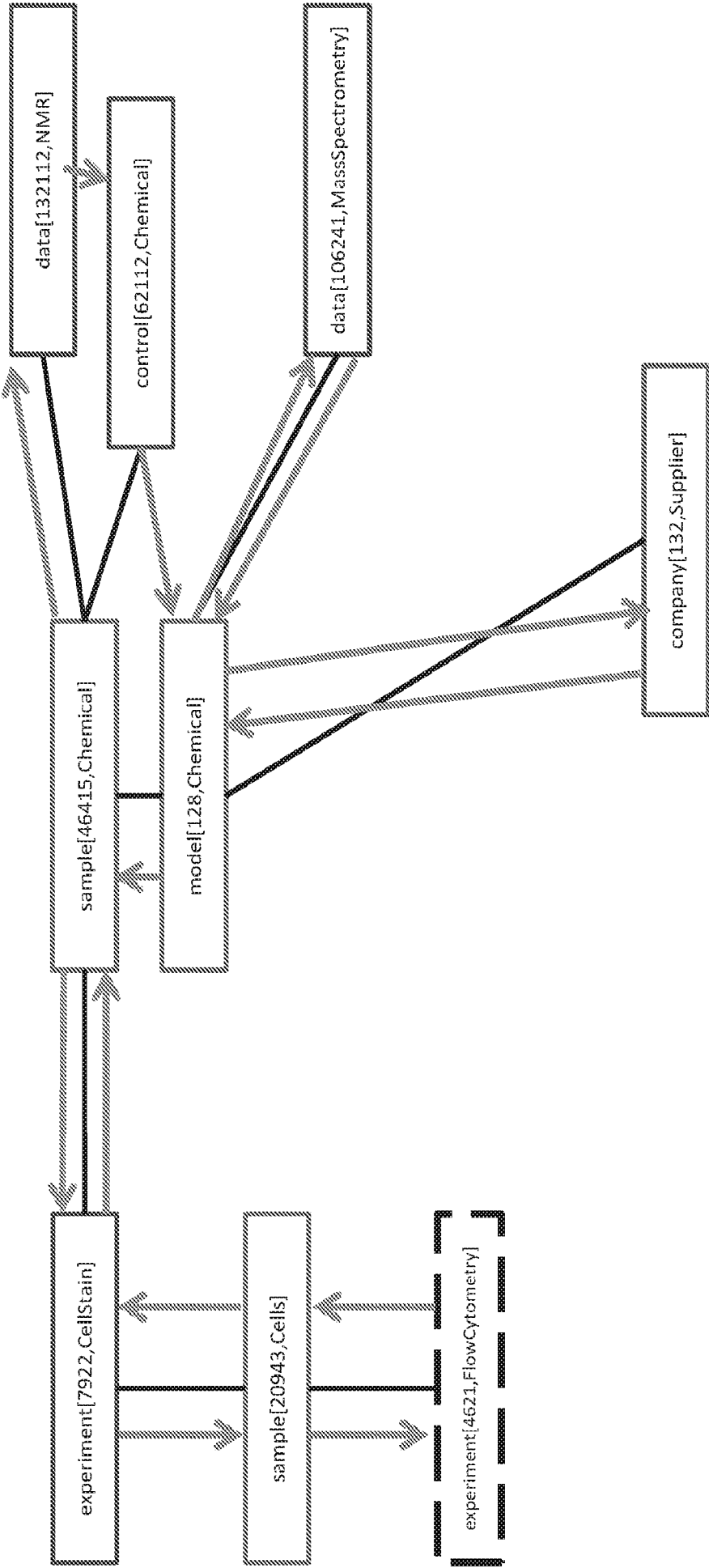
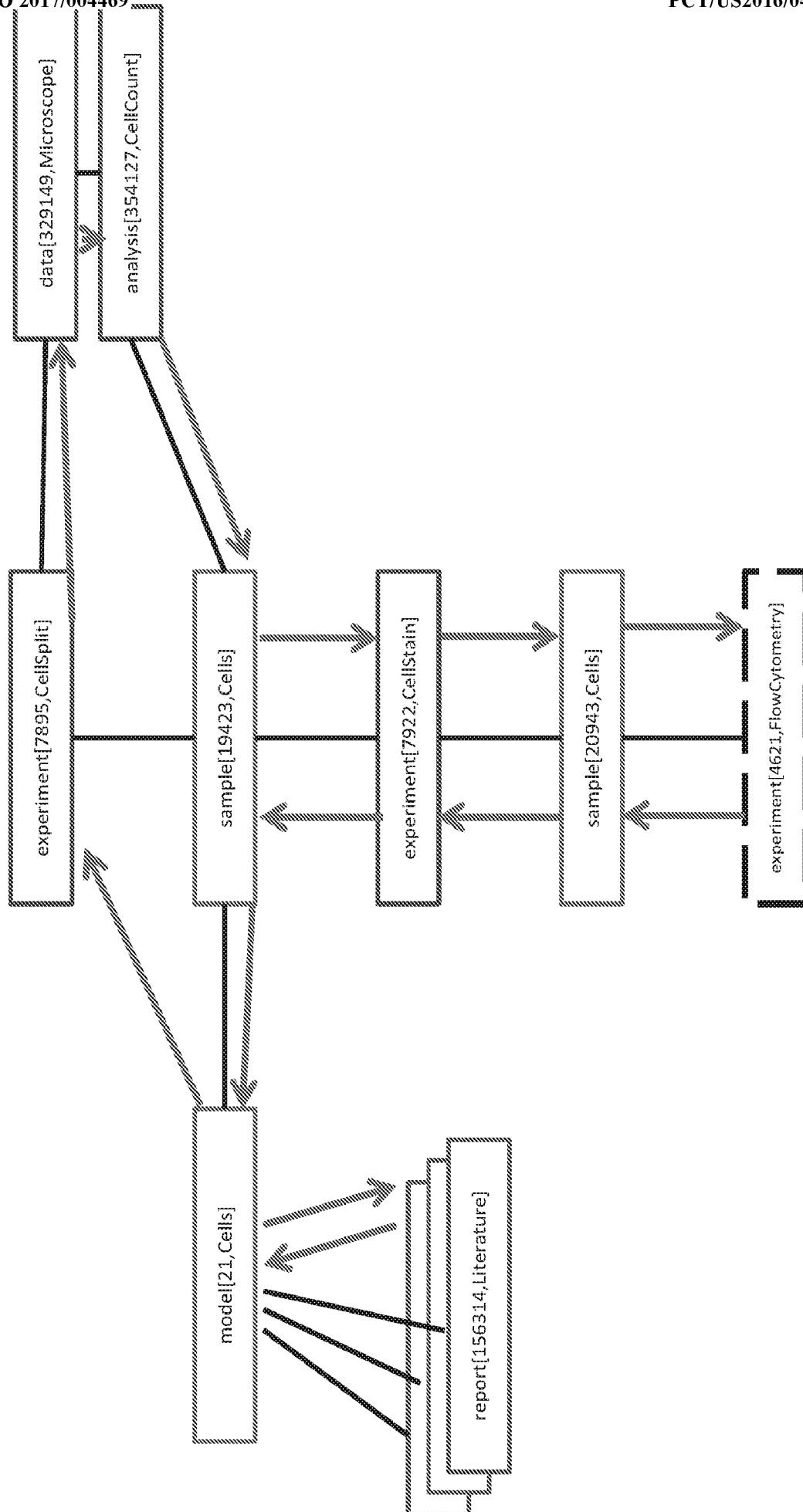


FIG. 16



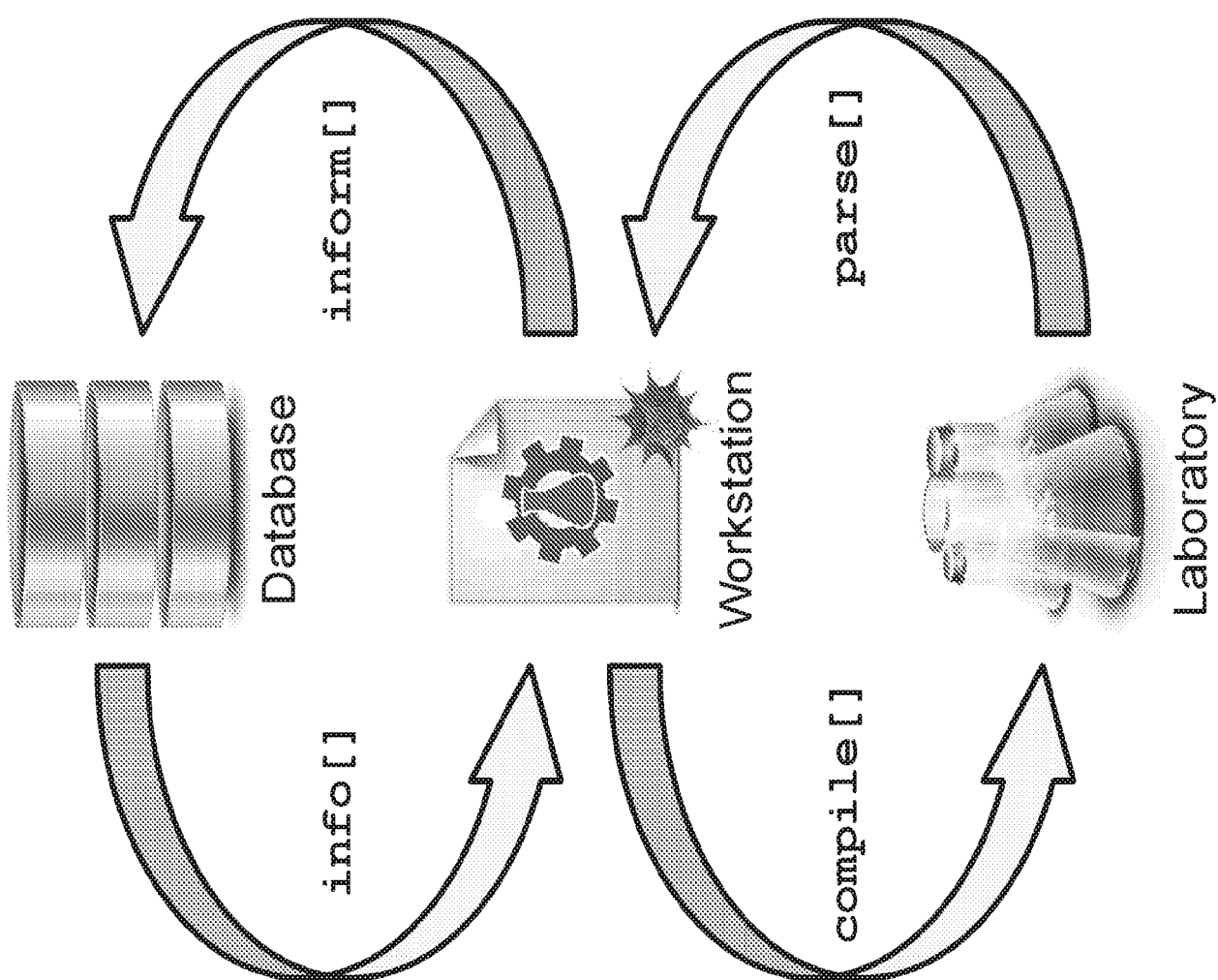


FIG. 18

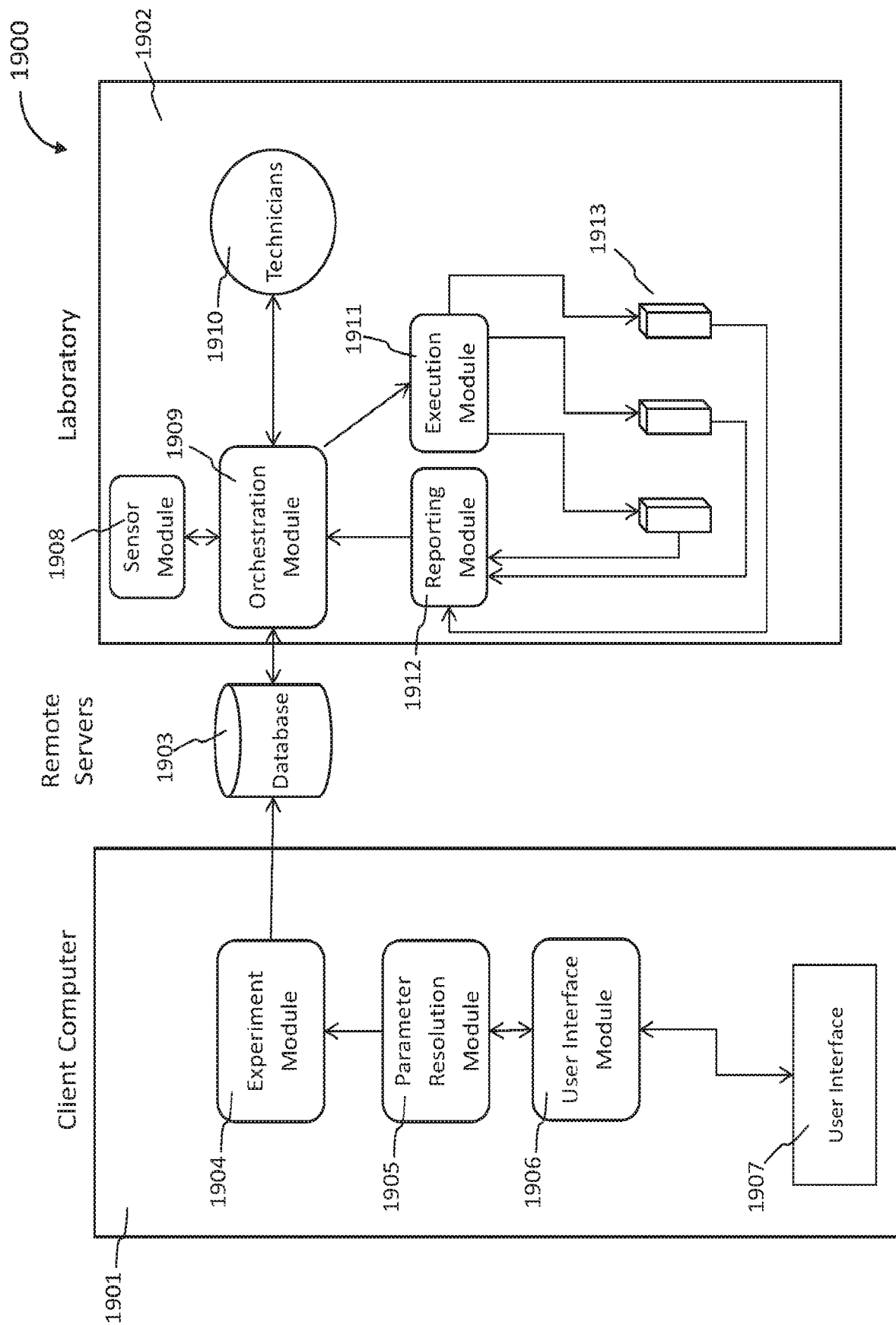


FIG. 19

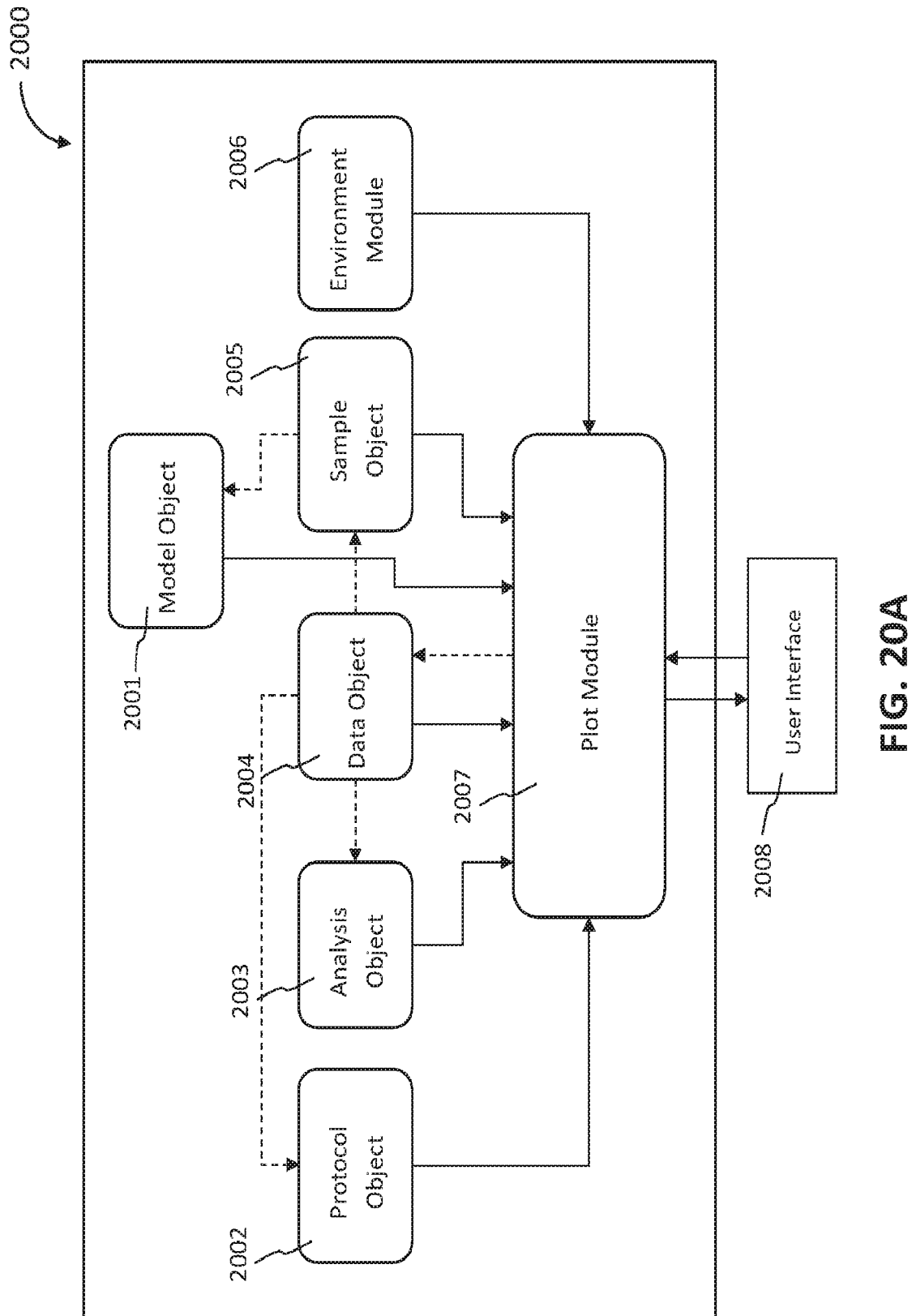
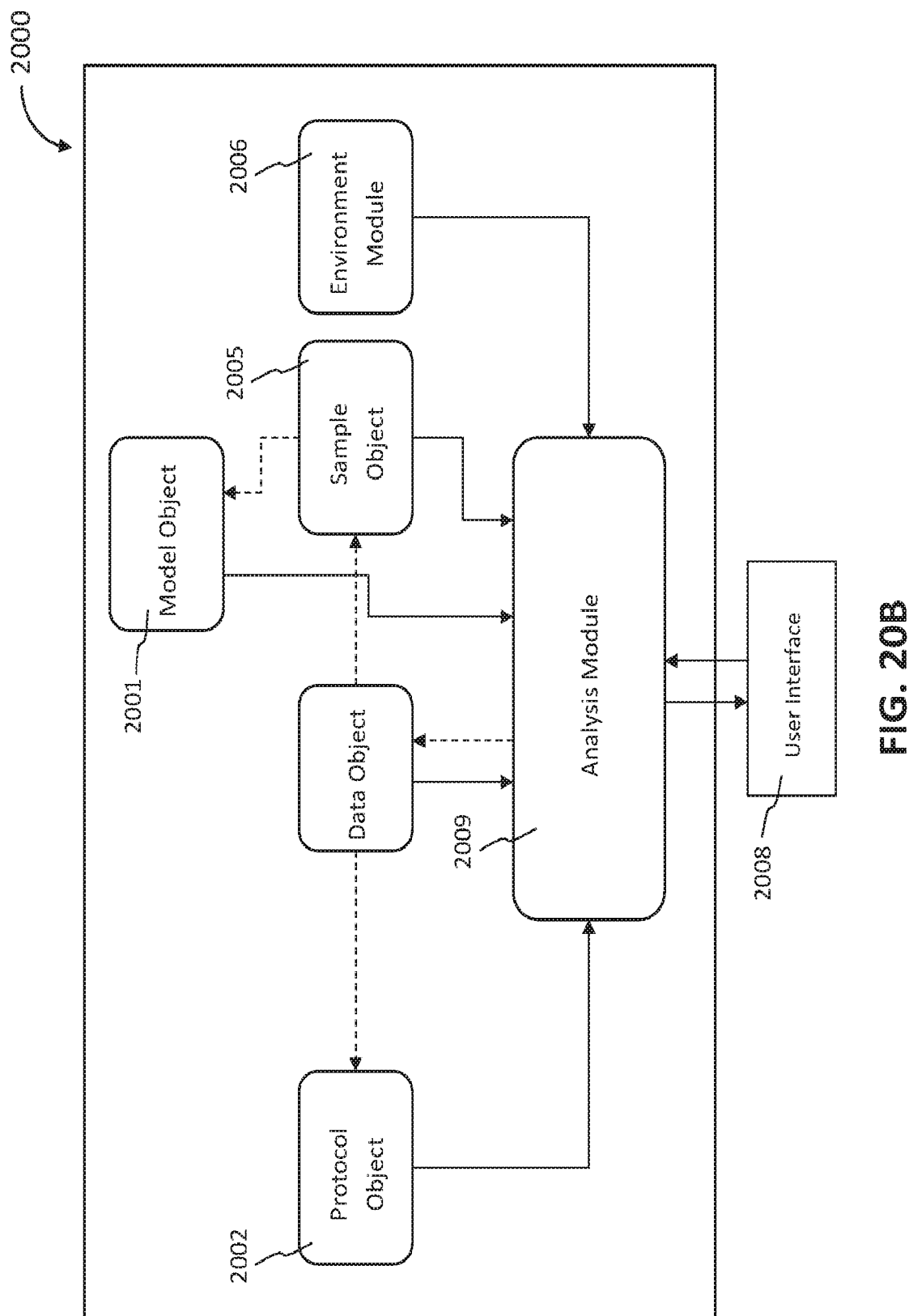
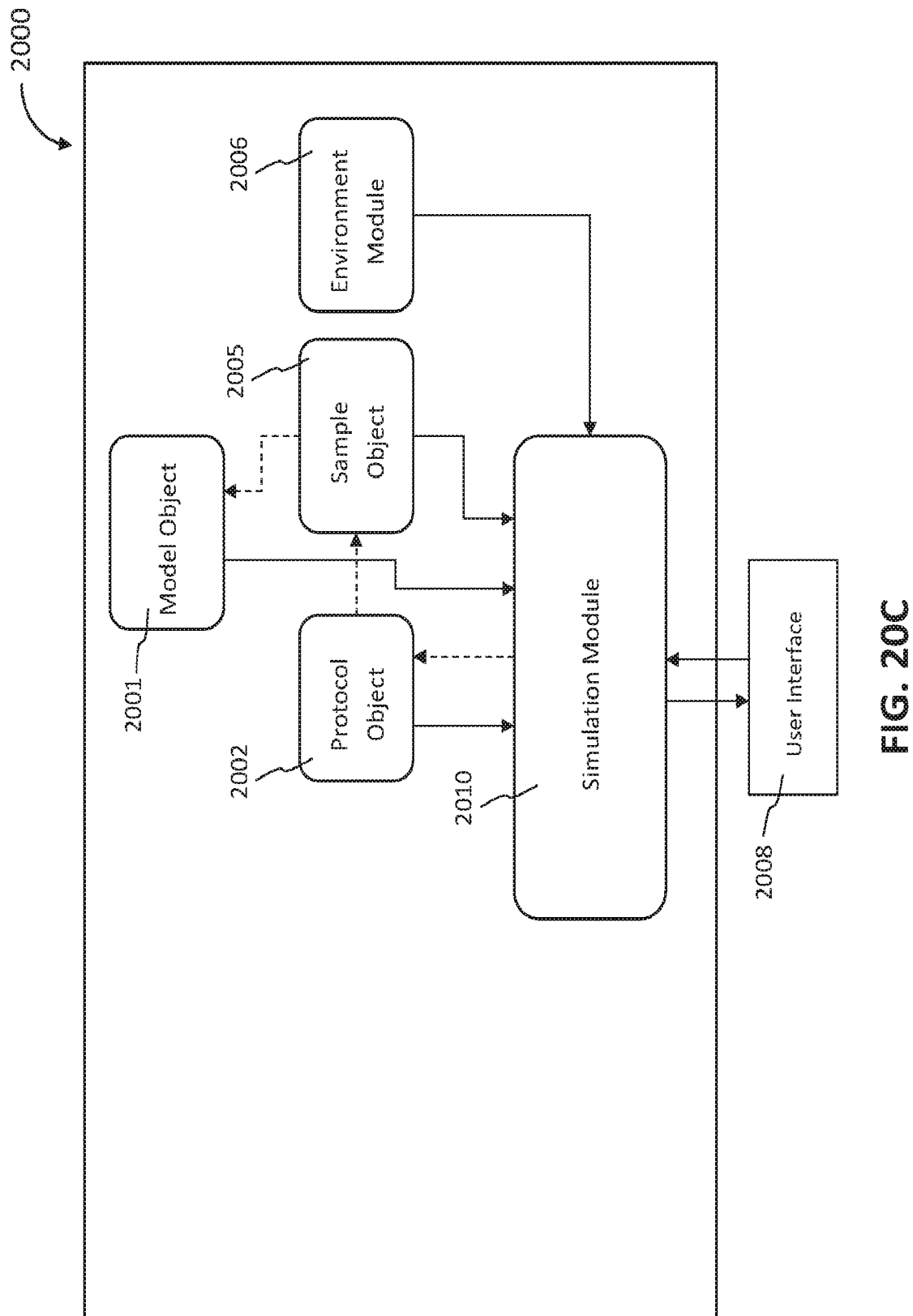


FIG. 20A





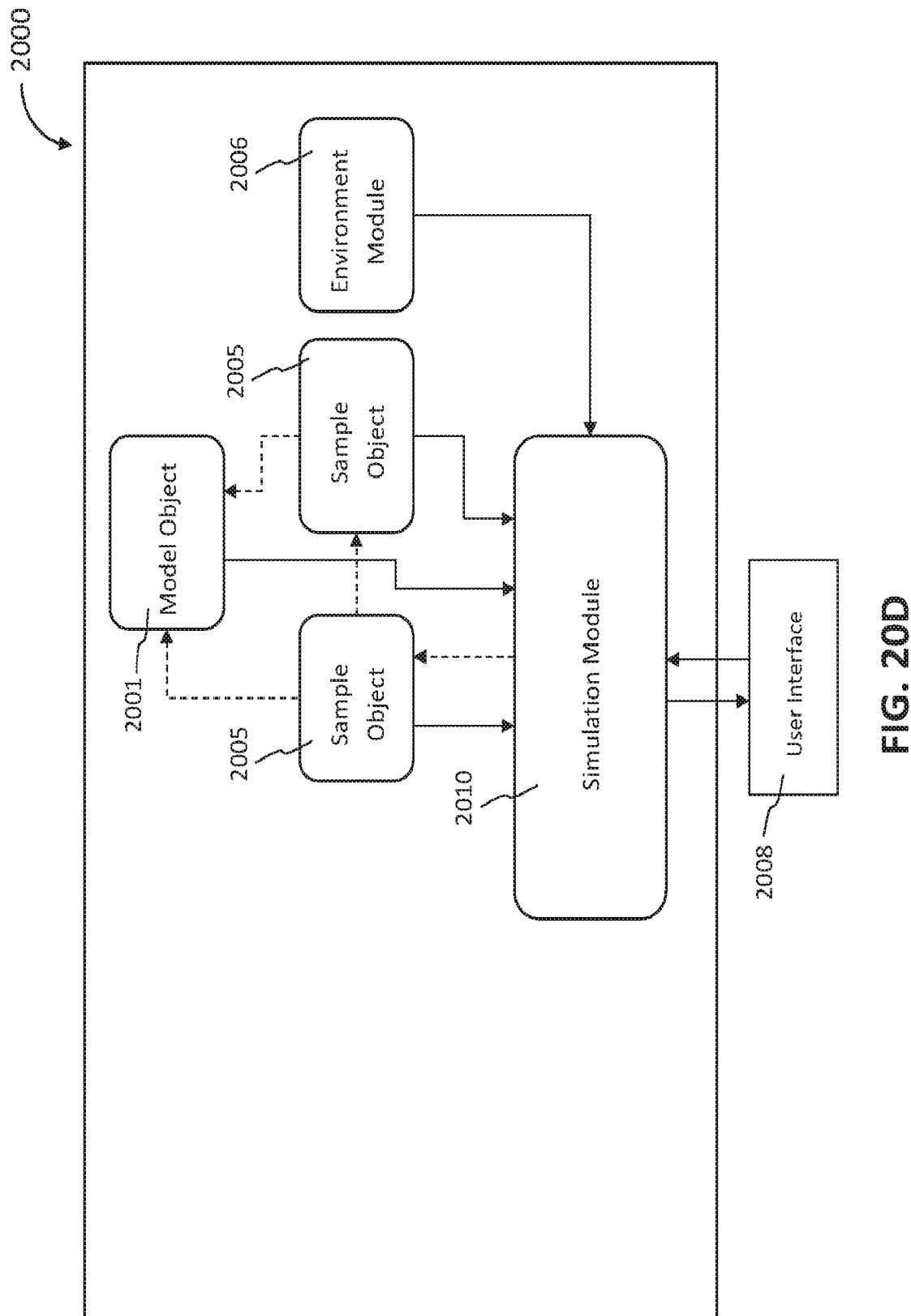


FIG. 20D

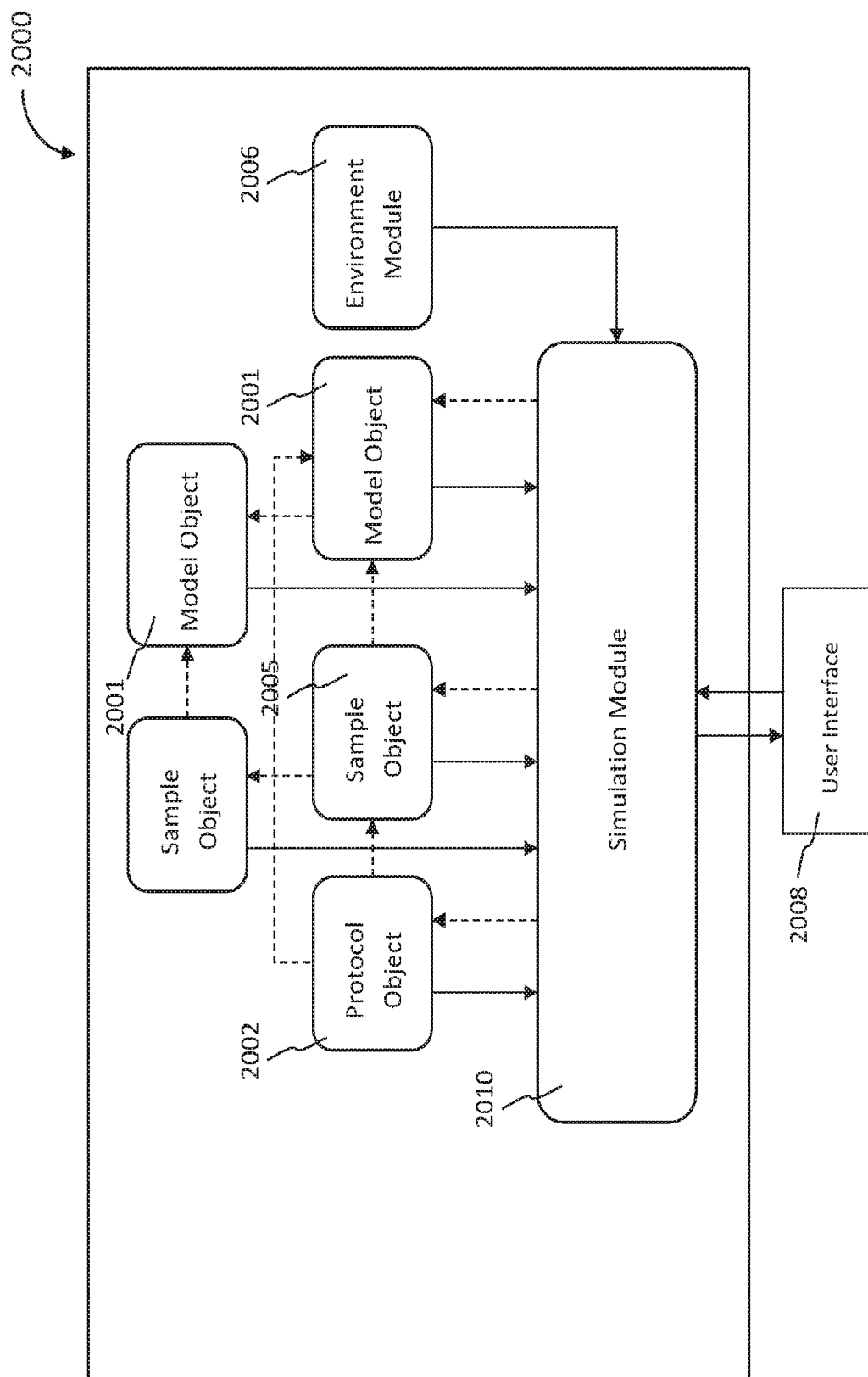


FIG. 20E

