```
dSh/dt = mh * (Sh + Lh + Ih + Rh) - bv * Sh * Iv / (Sh + Lh + Ih +
Rh) - mh * Sh,
dLh/dt = bv * Sh * Iv / (Sh + Lh + Ih + Rh) - ah * Lh - mh * Lh ,
dIh/dt = ah * Lh - gh * Ih - mh * Ih,
dRh/dt = gh * Ih - mh * Rh,
dSv/dt = mv * (Sv + Lv + Iv)- bh * Sv * Ih / (Sh + Lh + Ih + Rh) -
mv * Sv,
dLv/dt = bh * Sv * Ih / (Sh + Lh + Ih + Rh) - av * Lv - mv * Lv,
dIv/dt = av * Lv - mv * Iv,
dah/dt = 0,
dgh/dt = 0,
dav/dt = 0,
y1 = ah * Lh,
y2 = ah,
y3 = gh,
y4 = av,
```

[Determine] [Clear Log] [Save Output]

```
Running SIAN:
-------------
        => Step 0. Extracting states, inputs, outputs, and
parameters from the system
        => Step 1.  Constructing the maximal polynomial system
        => Step 2. Truncating the polynomial system based on the
Jacobian condition
        => Step 3. Assessing local identifiability
        => Step 4. Randomizing the truncated system
        => Step 5. Assessing global identifiability
```

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▼**Outputs:**

Identifiability of Inidividual Parameters:

Globally Identifiable Parameters

Running

Locally Identifiable Paramters

$$\left[bh, mh, mv, Sh\left(0\right), Lh\left(0\right), Ih\left(0\right), Rh\left(0\right), ah\left(0\right), gh\left(0\right), av\left(0\right) \right]$$

Not Identifiable Parameters

$$\left[Iv\left(0\right), Lv\left(0\right), Sv\left(0\right), bv \right]$$

Identifiable Combinations:

Bound on the number of experiments:

Multi-Experient identifiable functions are generated by:

Single-Experiment identifiable functions are generated by:

CPU runtime of SIAN (sec)

CPU runtime of Multi-Experiment Identifiability (sec)

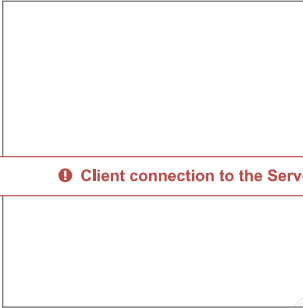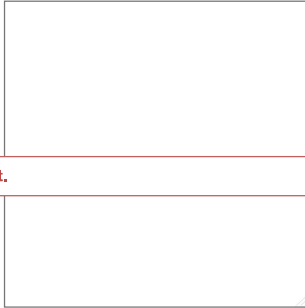CPU runtime of Single-Experiment Identifiability (sec)

Execution Log:

SIAN log:

```
Using text-based input format:

[diff(Sh(t),t) = mh*
(Sh(t)+Lh(t)+Ih(t)+Rh(t))-
bv*Sh(t)*Iv(t)/(Sh(t)+Lh(t)+Ih(t)+Rh(t
))-mh*Sh(t), diff(Lh(t),t) =
bv*Sh(t)*Iv(t)/(Sh(t)+Lh(t)+Ih(t)+Rh(t
))-ah(t)*Lh(t)-mh*Lh(t), diff(Ih(t),t)
= -gh(t)*Ih(t)-mh*Ih(t)+ah(t)*Lh(t),
diff(Rh(t),t) = gh(t)*Ih(t)-mh*Rh(t),
diff(Sv(t),t) = mv*
(Sv(t)+Lv(t)+Iv(t))-
bh*Sv(t)*Ih(t)/(Sh(t)+Lh(t)+Ih(t)+Rh(t
))-mv*Sv(t), diff(Lv(t),t) =
bh*Sv(t)*Ih(t)/(Sh(t)+Lh(t)+Ih(t)+Rh(t
))-av(t)*Lv(t)-mv*Lv(t), diff(Iv(t),t)
= -mv*Iv(t)+av(t)*Lv(t), diff(ah(t),t)
= 0, diff(gh(t),t) = 0, diff(av(t),t)
= 0, y1(t) = ah(t)*Lh(t), y2(t) =
ah(t), y3(t) = gh(t), y4(t) = av(t)]
```

Multi-Experiment Identifiability Log

Single-Experiment Identifiability Log

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