

Pensieve header: Verifying the genus conjecture.

Loading the genus data obtained from <https://knotinfo.org/>:

```
In[*]:= SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\Theta"];
```

```
<< Theta.m
```

Loading KnotTheory` version of October 29, 2024, 10:29:52.1301.

Read more at <http://katlas.org/wiki/KnotTheory>.

Syntax::sntx: Invalid syntax in or before "\(*SubscriptBox[\(F\), \((2\)]\) [X[\(k1\)\(\)]\], X[\(k2\)\(\)]\)
(line 157 of "Theta.m")

```
In[*]:= GenusData = Cases [
  Import["C:\\drorbn\\AcademicPensieve\\Projects\\Theta\\GenusInfoFromKnotInfo.org.csv"] [
    2 ;;],
  {K_, g_} :> (KnotGenus[Evaluate[Knot@K]] = ToExpression@g),
  ∞];
KnotGenus[Knot[8, 17]]
```

```
Out[*]=
```

```
3
```

```
In[*]:= Monitor [
  verified = True;
  Union@Table [
    verified = verified ∧ (Exponent[Θ[K][[2]], T1] ≤ 2 KnotGenus[K]),
    {K, AllKnots[{3, 13}]}
  ], {K, verified}]
```

 KnotTheory: Loading precomputed data in KnotTheory/12N.dts.

 KnotTheory: Loading precomputed data in KnotTheory/13A.dts.

 KnotTheory: Loading precomputed data in KnotTheory/13N.dts.

 General: Further output of KnotTheory::loading will be suppressed during this calculation.

```
Out[*]=
```

```
{True, 8 ≤ 2 Null'}
```

```
In[*]:= Select[AllKnots[{3, 13}], ! NumberQ[KnotGenus[#]] &]
```

```
Out[*]=
```

```
{Knot[13, NonAlternating, 4639]}
```

```
In[*]:= Select[AllKnots[{3, 13}], (Exponent[Θ[#][[2]], T1] == 2 KnotGenus[#]) &]
```

```
Out[*]=
```

