

Pensieve header: Testing if BabyDoPeGDO separates as ρ_1 and ρ_2 . Time: 8757.94.

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(Alt) In[ ]:= Date []
(Alt) Out[ ]:= {2020, 12, 23, 19, 52, 53.8969249}

(Alt) In[ ]:= SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\BabyDoPeGDO"];
<< Engine.m
<< Objects.m
<< KT.m

(Alt) In[ ]:= BeginProfile[];
PopupWindow[Button["Show Profile Monitor"],
  Dynamic[PrintProfile[], UpdateInterval -> 3, TrackedSymbols -> {}]]

(Alt) Out[ ]:= Show Profile Monitor

(Alt) In[ ]:= $k = 1
(Alt) Out[ ]:= 1

(Alt) In[ ]:= NewBit[K_] := Module[{Alex = Alexander[K][T]},
  T^3  $\frac{\text{Alex}^2}{T - 1}$  Z[K][[3, 2]] // Factor]

(Alt) In[ ]:= NewBit /@ AllKnots[{3, 5}]

(Alt) Out[ ]:= {2 - T + T^2, (1 + T) (1 - 3 T + T^2),  $\frac{4 - 3 T + 5 T^2 - 3 T^3 + 3 T^4 - T^5 + T^6}{T^2}$ , 9 - 11 T + 7 T^2 - T^3}

(Alt) In[ ]:= (*Two knots with equal Alexander, new bit does not agree*)
Alexander[Knot[6, 1]] == Alexander[Knot[9, 46]]
Timing[NewBit[Knot[6, 1]] == NewBit[Knot[9, 46]]]

(Alt) Out[ ]:= True

(Alt) Out[ ]:= {29.3594, 5 - 11 T - T^2 + 3 T^3 == 7 - 21 T + 9 T^2 + T^3}

(Alt) In[ ]:= equiv = {Knot[10, 106], Knot[12, NonAlternating, 369]};
Length@Union[Z /@ equiv]

(Alt) Out[ ]:= 1

(Alt) In[ ]:= equiv =
  {Knot[12, Alternating, 427], Knot[12, Alternating, 435], Knot[12, Alternating, 990]};
Length@Union[Z /@ equiv]

(Alt) Out[ ]:= 1

(Alt) In[ ]:= $k = 2
(Alt) Out[ ]:= 2
```

```
(Alt) In[ ]:= equiv = {Knot[10, 106], Knot[12, NonAlternating, 369]};  
Length@Union[Z /@equiv]
```

```
(Alt) Out[ ]:= 2
```

```
(Alt) In[ ]:= equiv =  
{Knot[12, Alternating, 427], Knot[12, Alternating, 435], Knot[12, Alternating, 990]};  
Length@Union[Z /@equiv]
```

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(Alt) Out[ ]:= 3
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```
(Alt) In[ ]:= PrintProfile[]
```

```
(Alt) Out[ ]:= ProfileRoot is root. Profiled time: 6486.63  
  ( 69) 0.063/ 0.206 above CF  
  ( 1063) 126.093/ 6470.896 above EZip23  
  ( 1063) 6.294/ 15.528 above Zip1  
CF: called 50461 times, time in 3350.63/5930.21  
  ( 31360) 3300.863/ 5617.726 under EZip23  
  ( 69) 0.063/ 0.206 under ProfileRoot  
  ( 3189) 4.701/ 9.234 under Zip1  
  ( 5730) 13.012/ 63.758 under Zip2  
  ( 10113) 31.990/ 239.282 under Zip3  
  ( 132161) 2579.577/ 2579.577 above CCF  
CCF: called 132161 times, time in 2579.58/2579.58  
  ( 132161) 2579.577/ 2579.577 under CF  
Zip3: called 1063 times, time in 420.872/660.154  
  ( 1063) 420.872/ 660.154 under EZip23  
  ( 10113) 31.990/ 239.282 above CF  
EZip23: called 1063 times, time in 126.093/6470.9  
  ( 1063) 126.093/ 6470.896 under ProfileRoot  
  ( 31360) 3300.863/ 5617.726 above CF  
  ( 1063) 3.165/ 66.923 above Zip2  
  ( 1063) 420.872/ 660.154 above Zip3  
Zip1: called 1063 times, time in 6.294/15.528  
  ( 1063) 6.294/ 15.528 under ProfileRoot  
  ( 3189) 4.701/ 9.234 above CF  
Zip2: called 1063 times, time in 3.165/66.923  
  ( 1063) 3.165/ 66.923 under EZip23  
  ( 5730) 13.012/ 63.758 above CF
```

```
(Alt) In[ ]:= Date[]
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```
(Alt) Out[ ]:= {2020, 12, 23, 21, 48, 59.3180146}
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```
(Alt) In[ ]:= equiv = {Knot[12, NonAlternating, 60],  
Knot[12, NonAlternating, 61], Knot[12, NonAlternating, 219]};  
Length@Union[Z /@equiv]
```

```
(Alt) Out[ ]:= 1
```

(Alt) In[]:= **PrintProfile[]**

```
(Alt) Out[ ]:= ProfileRoot is root. Profiled time: 8757.94
( 84) 0.094/ 0.315 above CF
( 1321) 185.143/ 8738.265 above EZip23
( 1321) 8.041/ 19.360 above Zip1
CF: called 66686 times, time in 4386.61/7938.39
( 41378) 4310.867/ 7464.872 under EZip23
( 84) 0.094/ 0.315 under ProfileRoot
( 3963) 5.782/ 11.319 under Zip1
( 7278) 18.857/ 95.094 under Zip2
( 13983) 51.013/ 366.787 under Zip3
( 176544) 3551.774/ 3551.774 above CCF
CCF: called 176544 times, time in 3551.77/3551.77
( 176544) 3551.774/ 3551.774 under CF
Zip3: called 1321 times, time in 622.453/989.24
( 1321) 622.453/ 989.240 under EZip23
( 13983) 51.013/ 366.787 above CF
EZip23: called 1321 times, time in 185.143/8738.26
( 1321) 185.143/ 8738.265 under ProfileRoot
( 41378) 4310.867/ 7464.872 above CF
( 1321) 3.916/ 99.010 above Zip2
( 1321) 622.453/ 989.240 above Zip3
Zip1: called 1321 times, time in 8.041/19.36
( 1321) 8.041/ 19.360 under ProfileRoot
( 3963) 5.782/ 11.319 above CF
Zip2: called 1321 times, time in 3.916/99.01
( 1321) 3.916/ 99.010 under EZip23
( 7278) 18.857/ 95.094 above CF
```

(Alt) In[]:= **Date[]**

```
(Alt) Out[ ]:= {2020, 12, 23, 22, 29, 54.3064034}
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(Alt) In[]:= **8757.94 - 6486.63**

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(Alt) Out[ ]:= 2271.31
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