```
holo = ((RNA0 - holo) * (L0 - holo)) / Kbind
```

```
Solve[((RNA0 - holo) * (L0 - holo)) / Kbind == holo, holo]
```

$$\left\{\left\{\text{holo} \to \frac{1}{2}\left(\text{Kbind} + \text{L0} + \text{RNA0} - \sqrt{(-\text{Kbind} - \text{L0} - \text{RNA0})^2 - 4\,\text{L0}\,\text{RNA0}}\right)\right\},\right.$$
$$\left.\left\{\text{holo} \to \frac{1}{2}\left(\text{Kbind} + \text{L0} + \text{RNA0} + \sqrt{(-\text{Kbind} - \text{L0} - \text{RNA0})^2 - 4\,\text{L0}\,\text{RNA0}}\right)\right\}\right\}$$

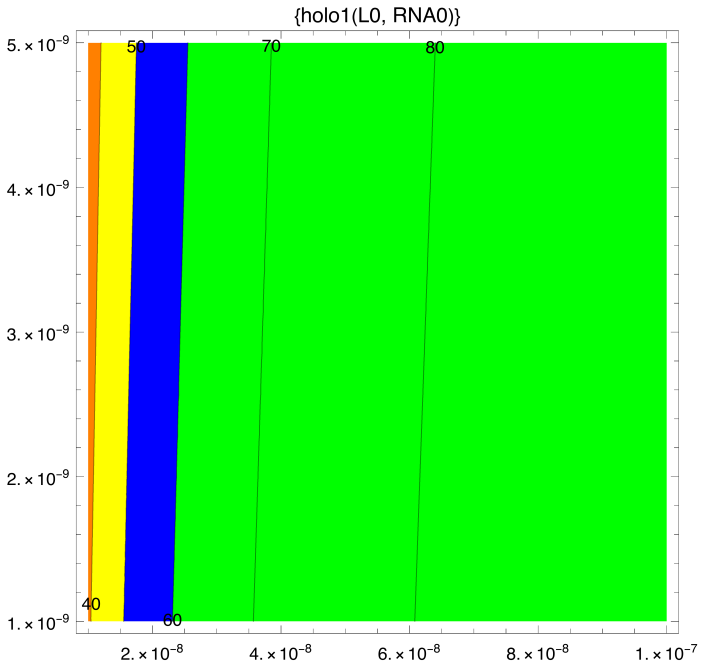
```
holo1[L0_, RNA0_, Kbind_] :=
```

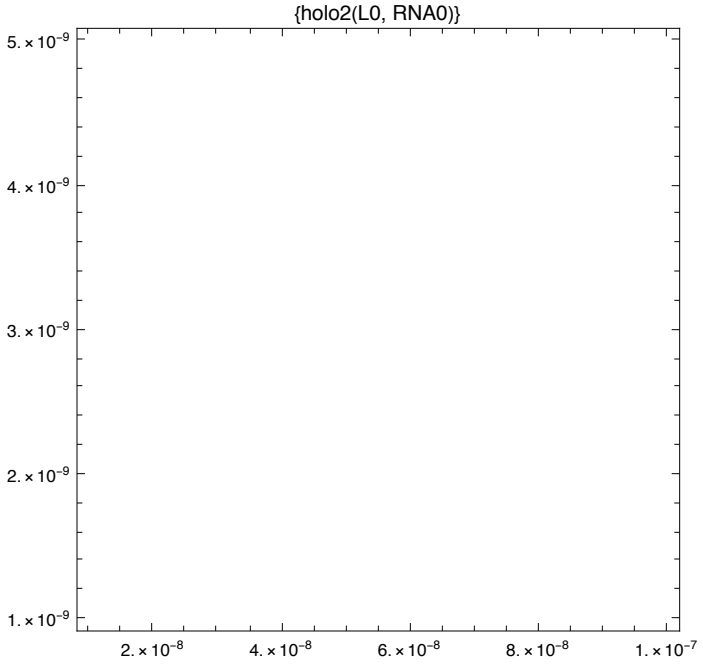
$$\left(\left(\frac{1}{2}\left(\text{Kbind} + \text{L0} + \text{RNA0} - \sqrt{(-\text{Kbind} - \text{L0} - \text{RNA0})^2 - 4\,\text{L0}\,\text{RNA0}}\right)\right) \Big/ \text{RNA0}\right) * 100$$

```
holo2[L0_, RNA0_, Kbind_] :=
```

$$\left(\left(\frac{1}{2}\left(\text{Kbind} + \text{L0} + \text{RNA0} + \sqrt{(-\text{Kbind} - \text{L0} - \text{RNA0})^2 - 4\,\text{L0}\,\text{RNA0}}\right)\right) \Big/ \text{RNA0}\right) * 100$$

```
ContourPlot[holo1[L0, RNA0, 1.5 * 10^-8], {L0, 0.01 * 10^-6, 0.1 * 10^-6},
 {RNA0, 1 * 10^-9, 5 * 10^-9}, Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel → {"holo1(L0, RNA0)"}, PlotRange → {0, 100}]
ContourPlot[holo2[L0, RNA0, 1.5 * 10^-8], {L0, 0.01 * 10^-6, 0.1 * 10^-6},
 {RNA0, 1 * 10^-9, 5 * 10^-9}, Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel → {"holo2(L0, RNA0)"}, PlotRange → {0, 100}]
```





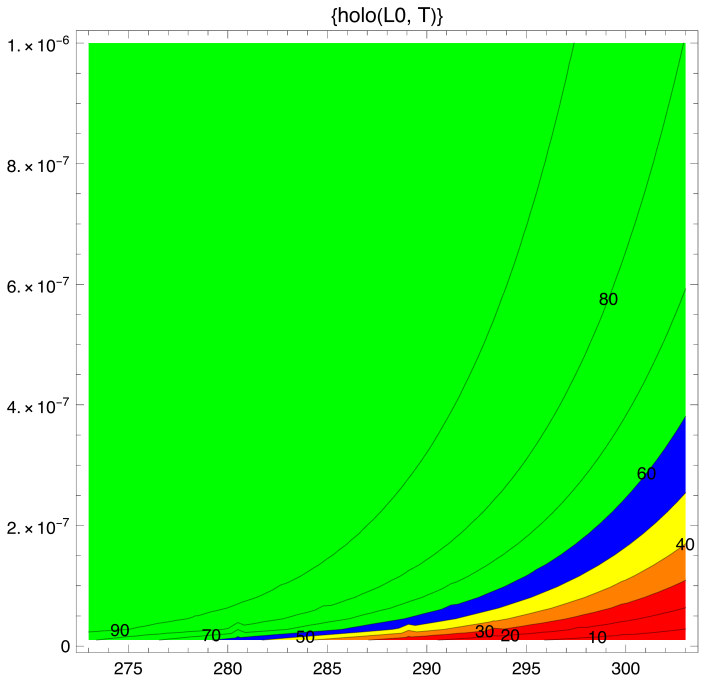
```
R = 8.3144621 (*J/mol*K*)
DeltaHbind = 110470.2357608338`
DeltaSbind = 238.303284932985`
holo[L0_, RNA0_, T_] :=
 (((1/2) (e^-((DeltaHbind-T*DeltaSbind)/(R*T)) + L0 + RNA0 -
      Sqrt[(-e^-((DeltaHbind-T*DeltaSbind)/(R*T)) - L0 - RNA0)^2 - 4 L0 RNA0]))/
    RNA0) * 100
```

8.31446

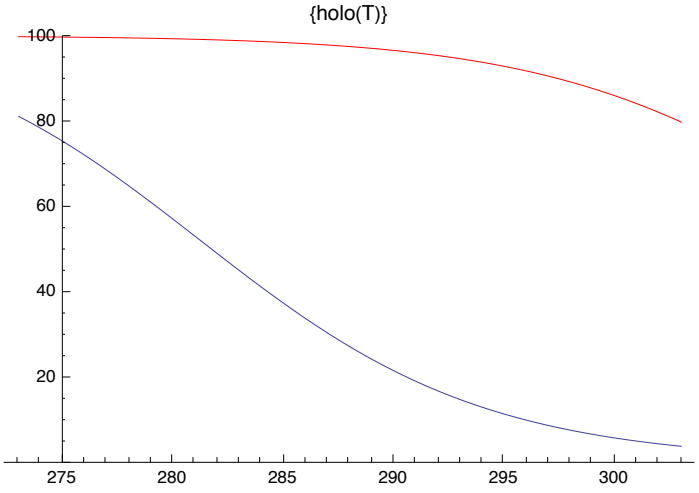
110 470.

238.303

```
ContourPlot[holo[L0, 1.5 * 10^-9, T], {T, 273, 303},
 {L0, 0.01 * 10^-6, 1 * 10^-6}, Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel → {"holo(L0, T)"}, PlotRange → {0, 100}]
p1 = Plot[holo[1 * 10^-6, 1.5 * 10^-9, T], {T, 273, 303},
   PlotLabel → {"holo(T)"}, PlotRange → {0, 100}, PlotStyle → Red];
p2 = Plot[holo[0.01 * 10^-6, 1.5 * 10^-9, T], {T, 273, 303},
   PlotLabel → {"holo(T)"}, PlotRange → {0, 100}.PlotStyle → Blue];
Show[p1, p2]
```

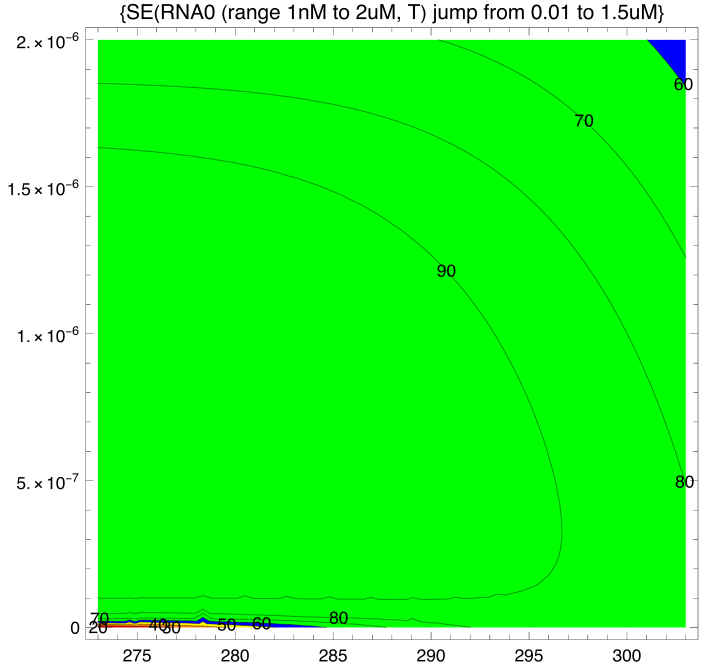


Plot::prng : Value of option PlotRange –> {0, 100}.PlotStyle → RGBColor[0, 0, 1] is not All, Full, Automatic, a positive machine number, or an appropriate list of range specifications. ≫

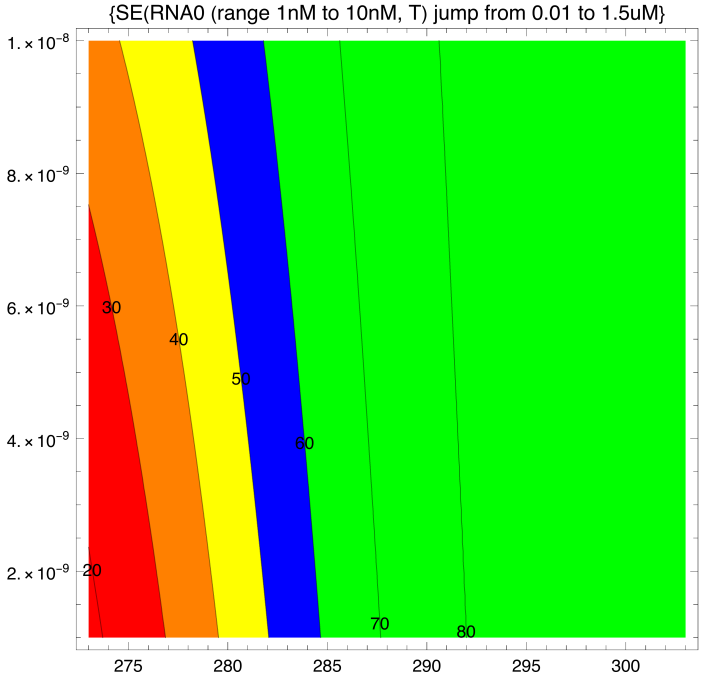


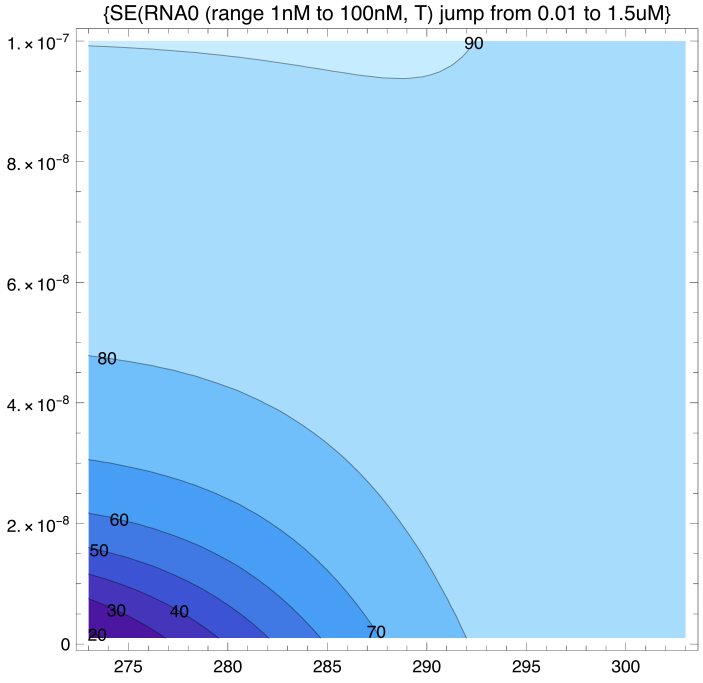
```
ContourPlot[holo[1.5 * 10^-6, RNA0, T] - holo[0.01 * 10^-6, RNA0, T], {T, 273, 303},
 {RNA0, 1 * 10^-9, 2 * 10^-6}, Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel →
  {"SE(RNA0 (range 1nM to 2uM, T) jump from 0.01 to 1.5uM"}, PlotRange → {0, 100}]
ContourPlot[holo[1.5 * 10^-6, RNA0, T] - holo[0.01 * 10^-6, RNA0, T], {T, 273, 303},
 {RNA0, 1 * 10^-9, 1 * 10^-8}, Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel →
  {"SE(RNA0 (range 1nM to 10nM, T) jump from 0.01 to 1.5uM"}, PlotRange → {0, 100}]
ContourPlot[holo[1.5 * 10^-6, RNA0, T] - holo[0.01 * 10^-6, RNA0, T],
 {T, 273, 303}, {RNA0, 1 * 10^-9, 1 * 10^-7},
 Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ColorFunction → ColorData["DeepSeaColors"], ContourLabels → True,
 PlotLabel → {"SE(RNA0 (range 1nM to 100nM, T) jump from 0.01 to 1.5uM"},
 PlotRange → {0, 100}]
```

{SE(RNA0 (range 1nM to 2uM, T) jump from 0.01 to 1.5uM}



{SE(RNA0 (range 1nM to 10nM, T) jump from 0.01 to 1.5uM}



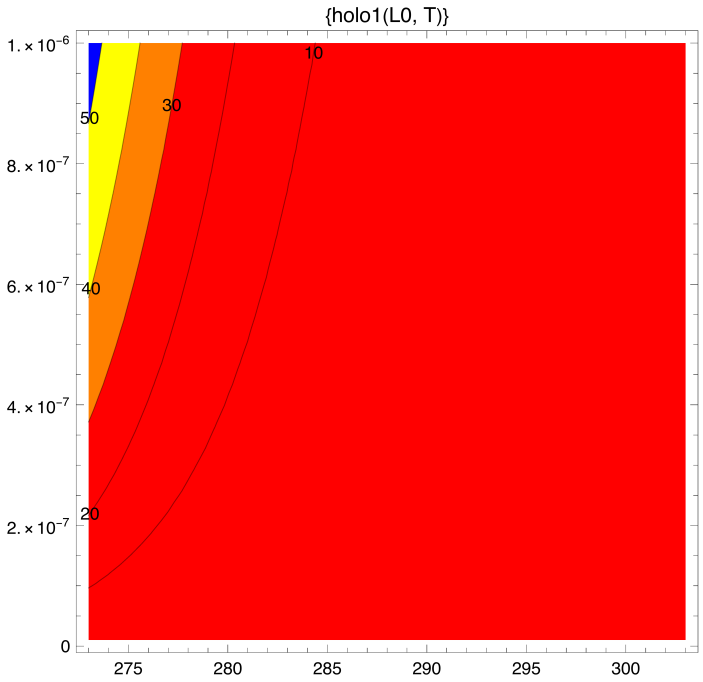

{SE(RNA0 (range 1nM to 100nM, T) jump from 0.01 to 1.5uM}
1. × 10^-7
8. × 10^-8
6. × 10^-8
4. × 10^-8
2. × 10^-8
0
275
280
285
290
295
300
90
80
70
60
50
40
30
20

```
(*Werte für die NMR Magnesium Bedingungen*)
R = 8.3144621 (*J/mol*K*)
DeltaHbind = 132703.18846113922`
DeltaSbind = 370.02936714423925`
holo[L0_, RNA0_, T_] :=
 (((1/2) (e^-((DeltaHbind-T*DeltaSbind)/(R*T)) + L0 + RNA0 -
      Sqrt[(-e^-((DeltaHbind-T*DeltaSbind)/(R*T)) - L0 - RNA0)^2 - 4 L0 RNA0])) /
    RNA0) * 100
ContourPlot[holo1[L0, 1.5 * 10^-9, T], {T, 273, 303}, {L0, 0.01 * 10^-6, 1 * 10^-6},
 Contours → {10, 20, 30, 40, 50, 60, 70, 80, 90, 100},
 ContourShading → {Red, Red, Red, Orange, Yellow, Blue, Green, Green, Green, Green},
 ContourLabels → True, PlotLabel → {"holo1(L0, T)"}, PlotRange → {0, 100}]
p1 = Plot[holo1[1 * 10^-6, 1.5 * 10^-9, T], {T, 273, 303},
   PlotLabel → {"holo1(T)"}, PlotRange → {0, 100}, PlotStyle → Red];
p2 = Plot[holo1[0.01 * 10^-6, 1.5 * 10^-9, T], {T, 273, 303},
   PlotLabel → {"holo1(T)"}, PlotRange → {0, 100}.PlotStyle → Blue];
Show[
 p1,
 p2]
```

8.31446

132 703.

370.029



Plot::prng : Value of option PlotRange –> {0, 100}.PlotStyle → RGBColor[0, 0, 1] is not All, Full, Automatic, a positive machine number, or an appropriate list of range specifications. ≫