

photobiologyFilters Version 0.4.2

Catalogue of filters

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1 Introduction

```
library(ggplot2)
library(photobiologyFilters)
library(photobiologygg)
```

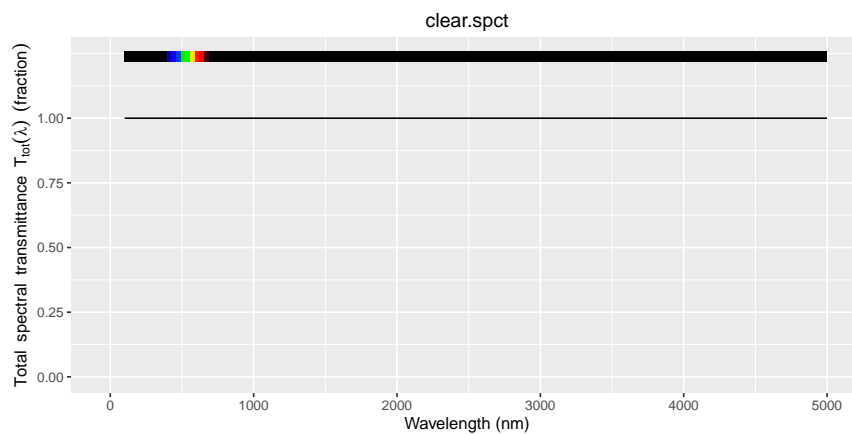
```
options(photobiology.plot.annotations = c("boxes", "labels", "colour_guide", "title"))
```

2 Dummy filters

2.1 Flat transmittance filters

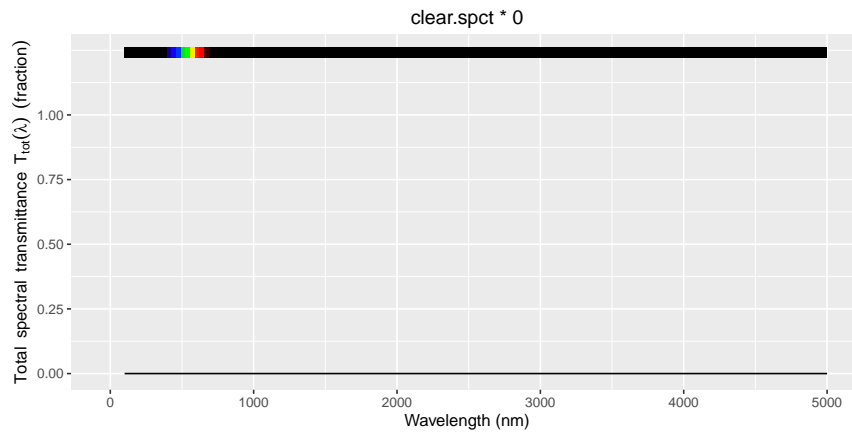
Perfectly clear filter.

```
plot(clear.spct,  
     annotations = c("colourguide", "title"))
```



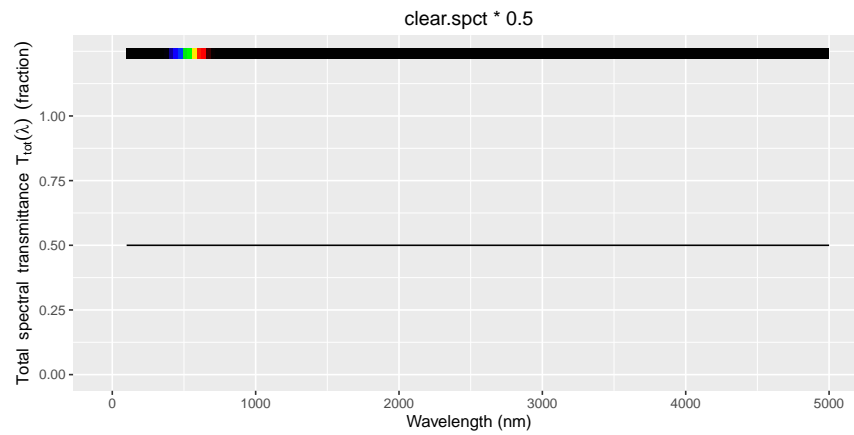
Perfectly opaque filter.

```
plot(clear.spct * 0,  
     annotations = c("colourguide", "title"))
```



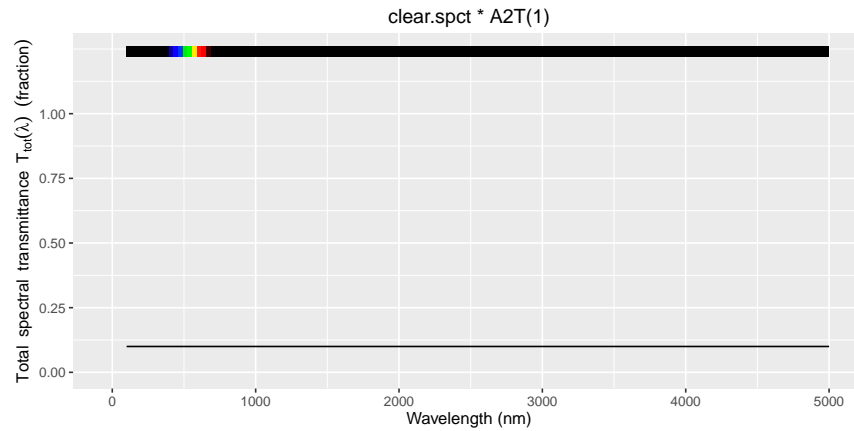
Flat neutral filters as fractional transmittance.

```
plot(clear.spct * 0.5,  
     annotations = c("colourguide", "title"))
```



As absorbance.

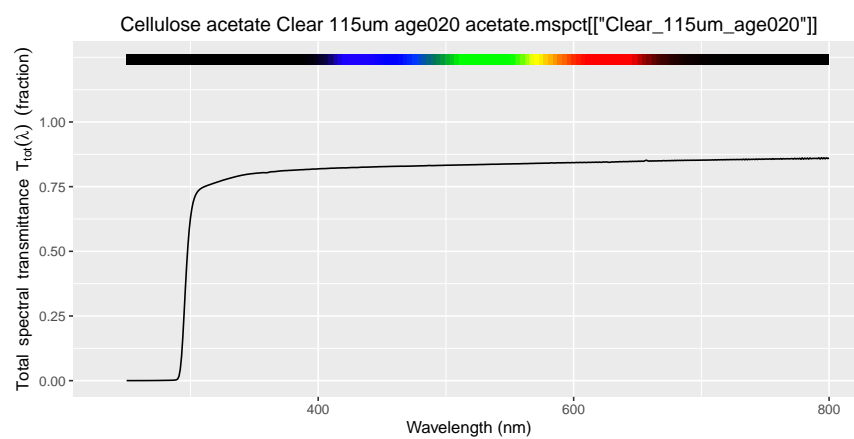
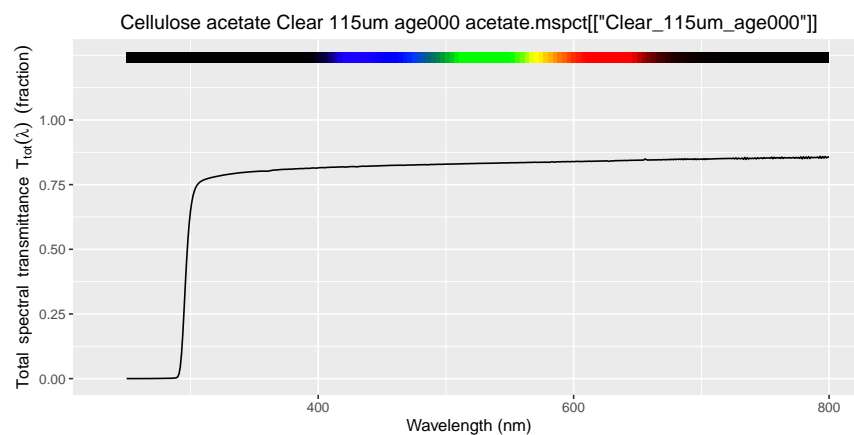
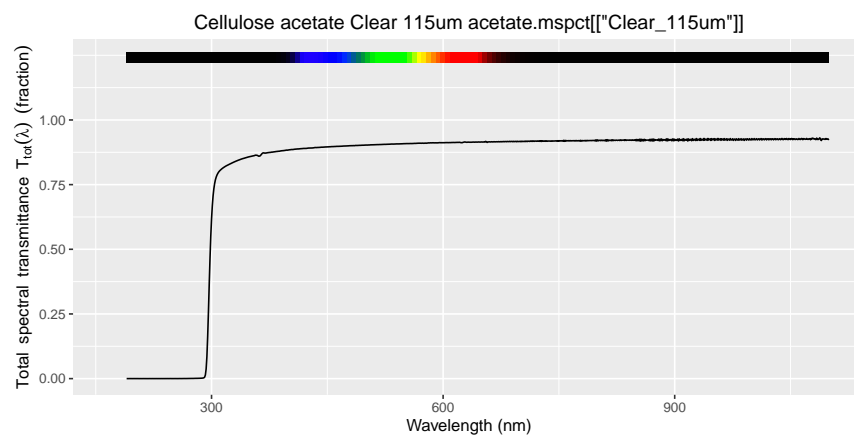
```
plot(clear.spct * A2T(1),
     annotations = c("colourguide", "title"))
```

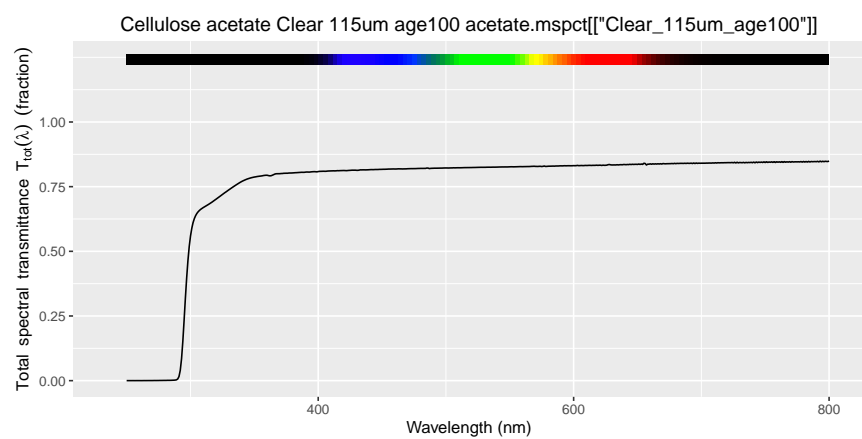
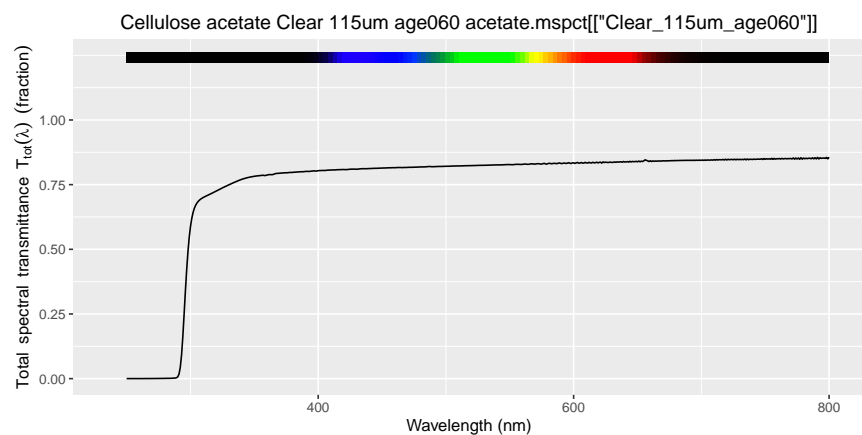
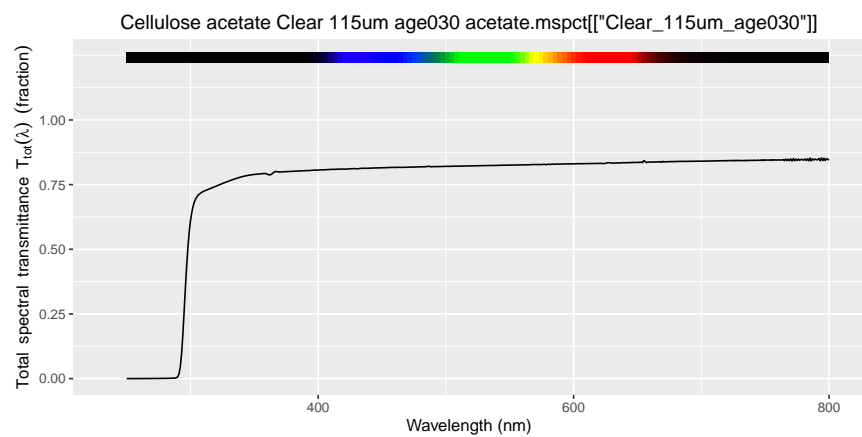


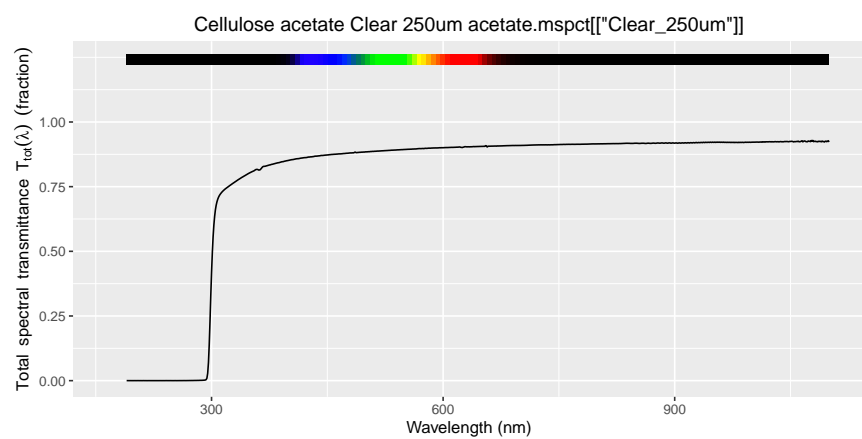
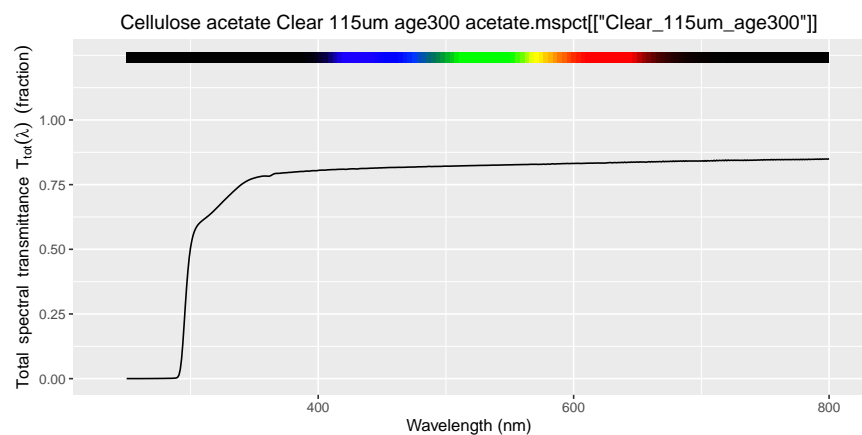
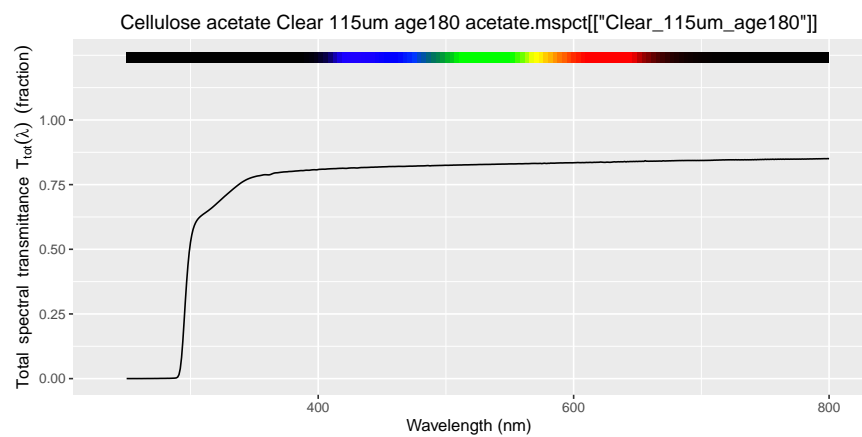
3 Plastic films

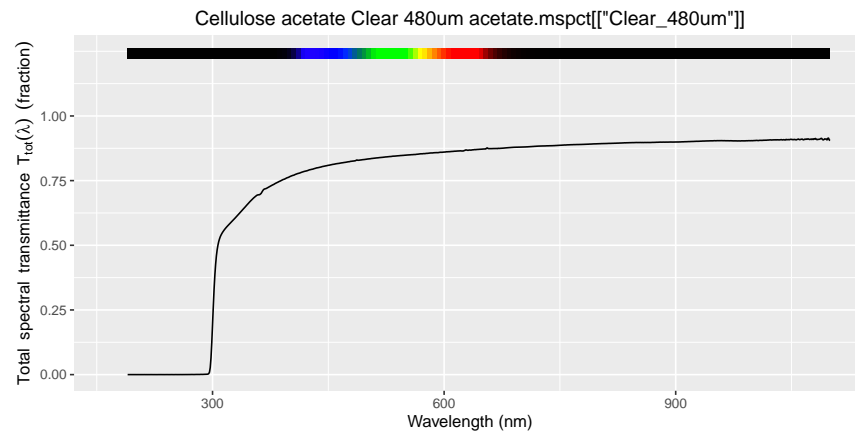
3.1 Cellulose diacetate

```
for (s in names(acetate.mspct)) {
  print(plot(acetate.mspct[[s]], annotations = "colourguide") +
        labs(title = paste("Cellulose acetate ",
                          gsub("_", " ", s, fixed = TRUE),
                          ' acetate.mspct[["', s, '"]]',
                          sep = "")))
}
```



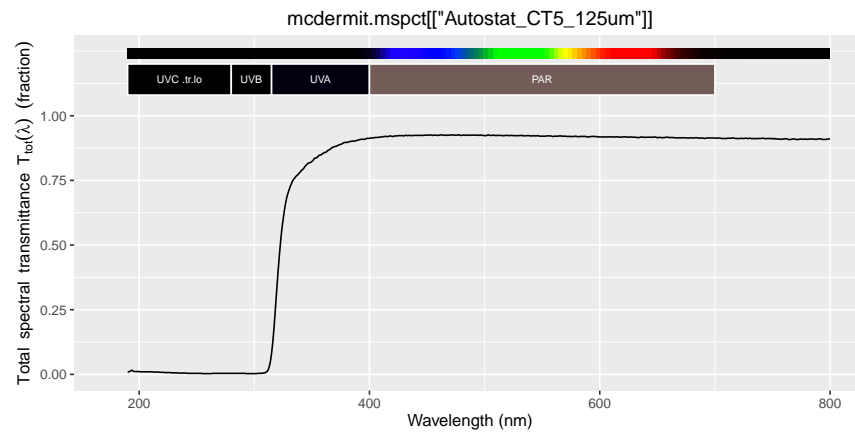






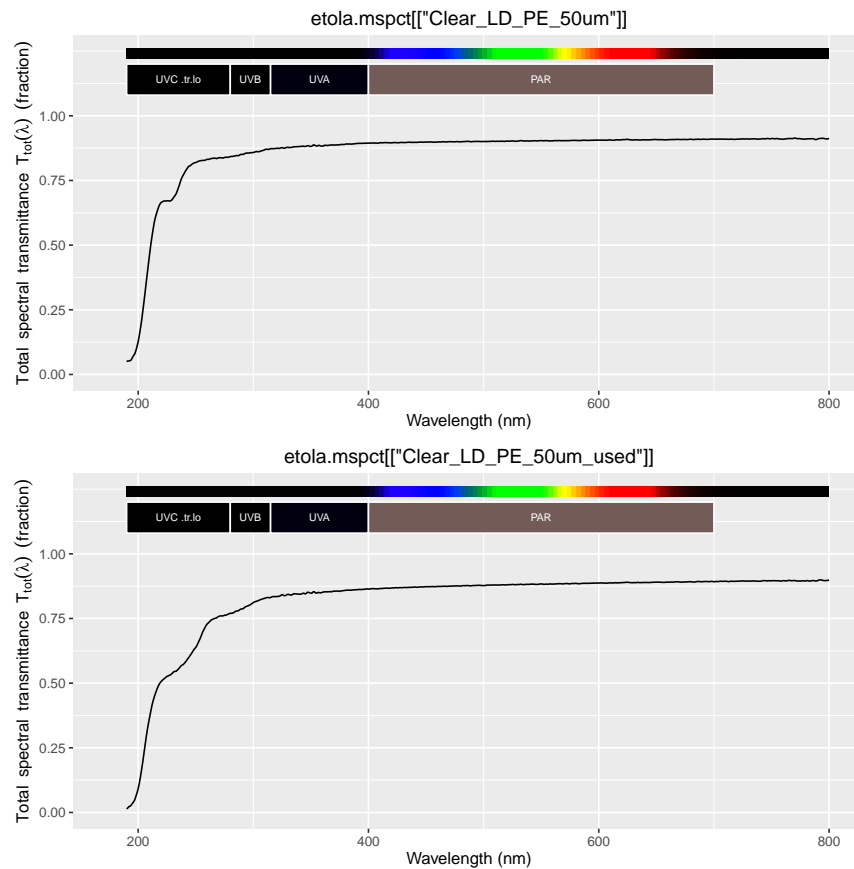
3.2 Polyester

```
plot(mcdernit.mspct[["Autostat_CT5_125um"]])
```



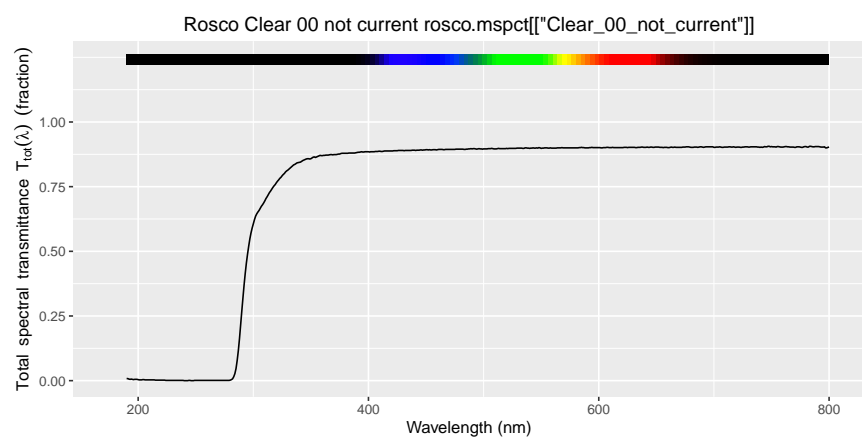
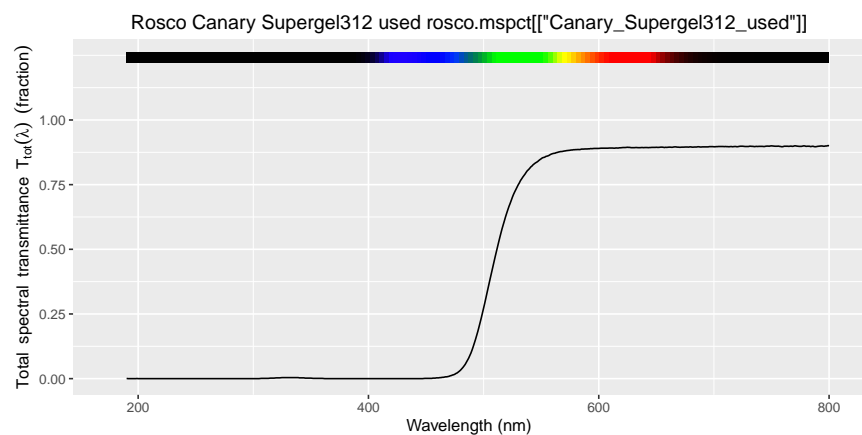
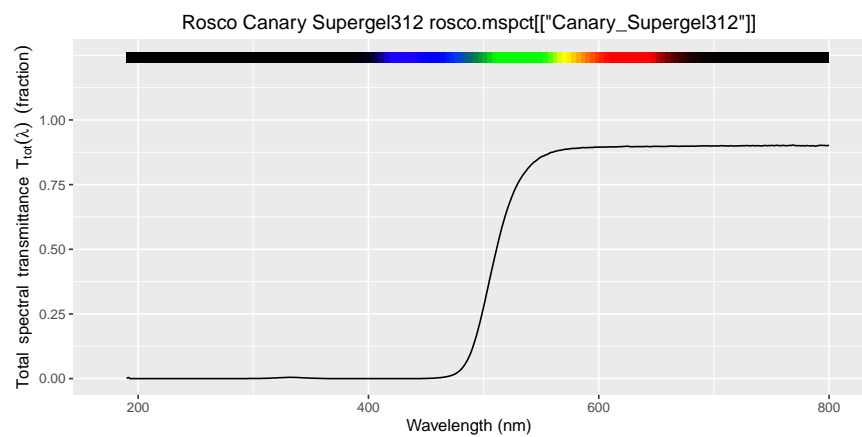
3.3 Polythene

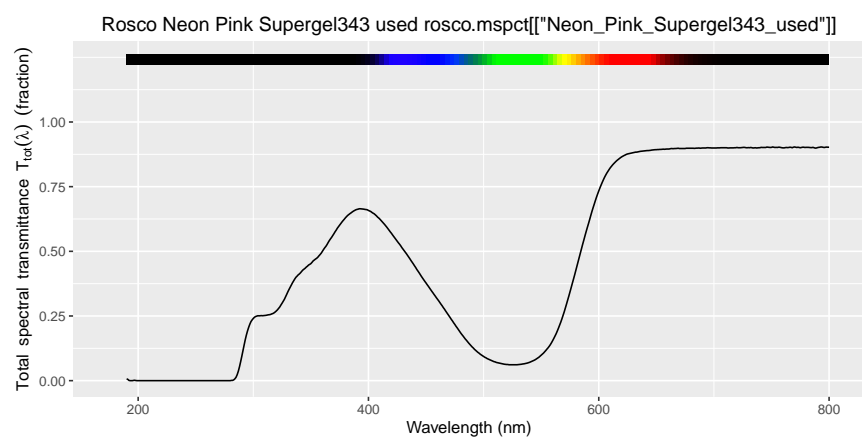
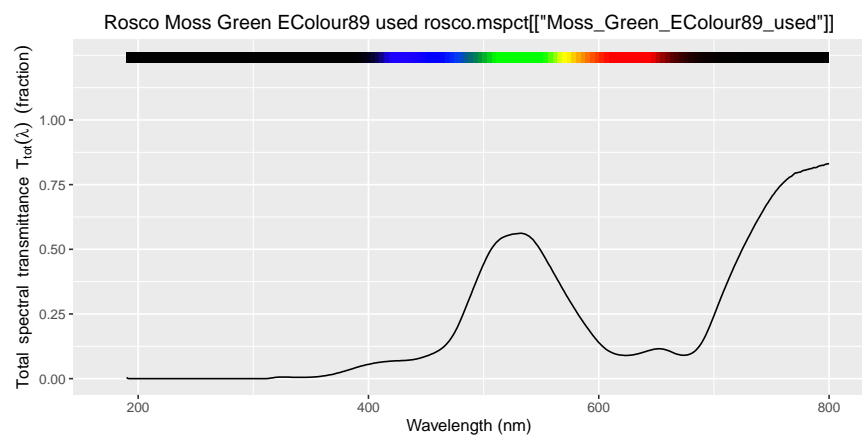
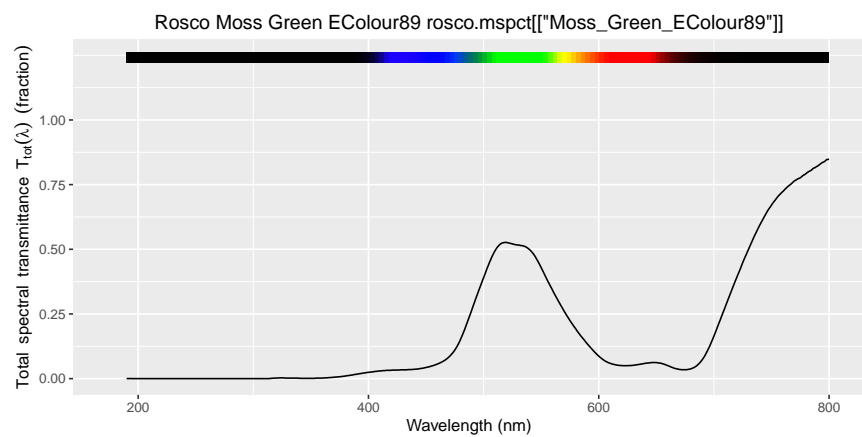
```
plot(etola.mspct[["Clear_LD_PE_50um"]])  
plot(etola.mspct[["Clear_LD_PE_50um_used"]])
```

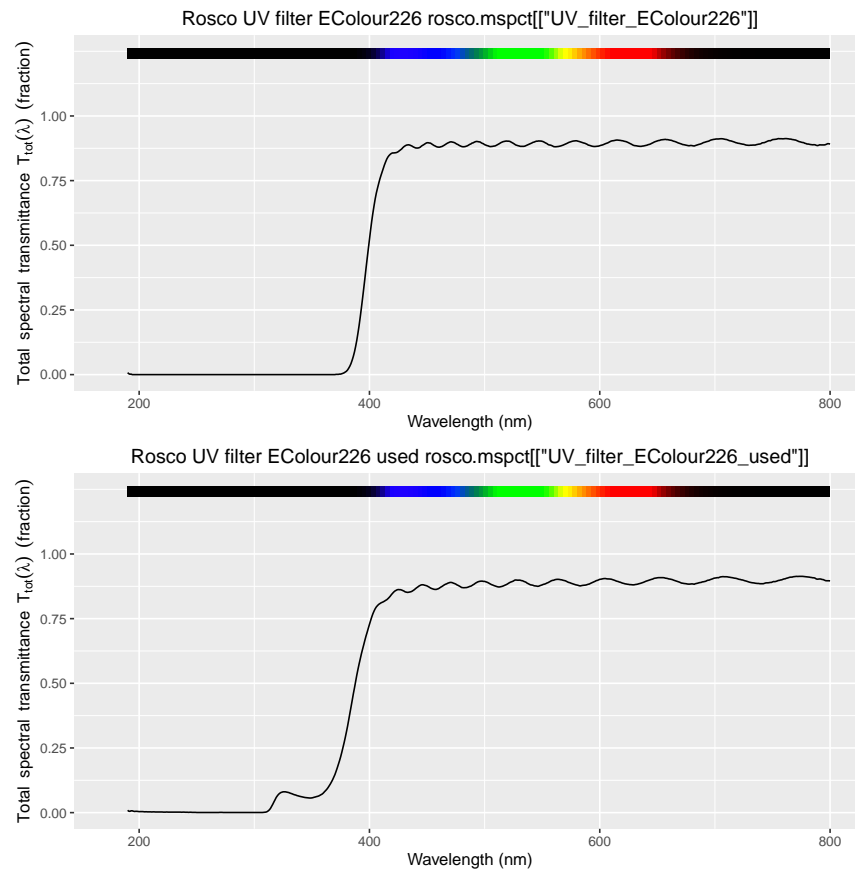


3.4 Rosco theatrical filters

```
for (s in names(rosco.mspct)) {  
  print(plot(rosco.mspct[[s]], annotations = "colour.guide") +  
    labs(title = paste("Rosco ", gsub("_", " ", s, fixed = TRUE),  
      ' rosco.mspct[["', s, '"]]',  
      sep = "")))  
}
```

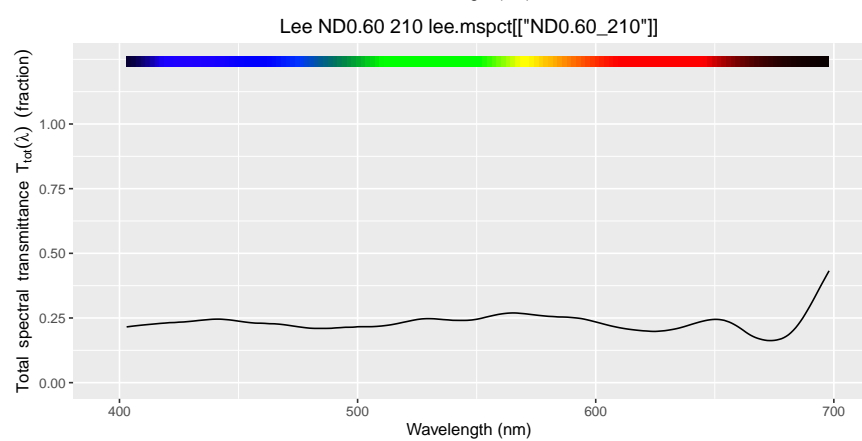
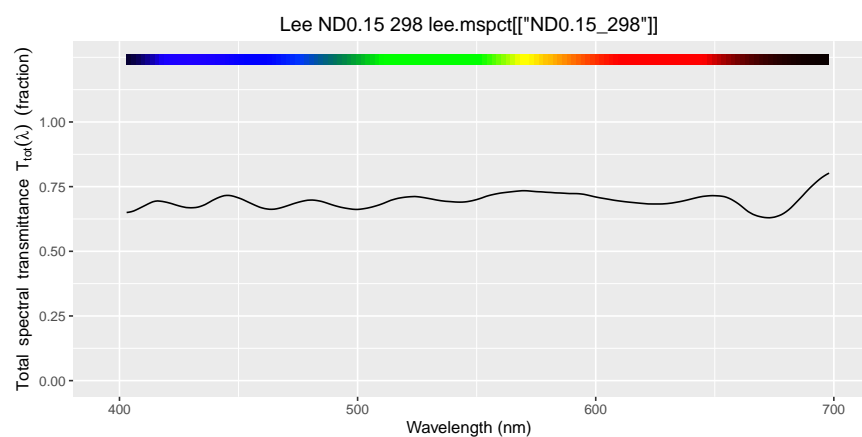
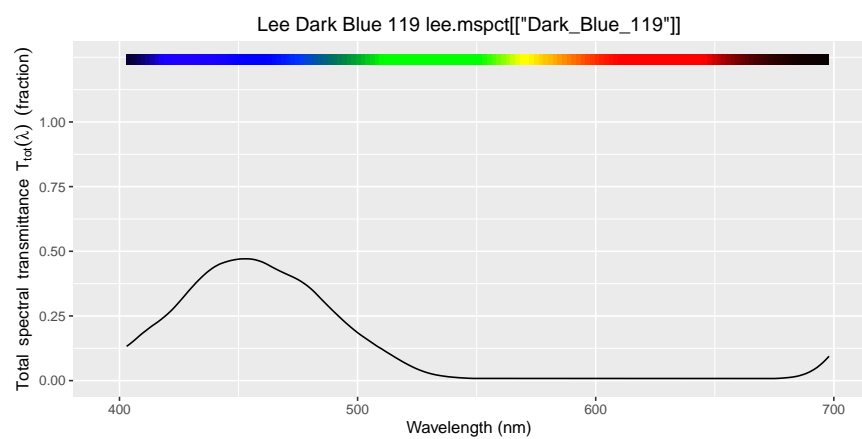


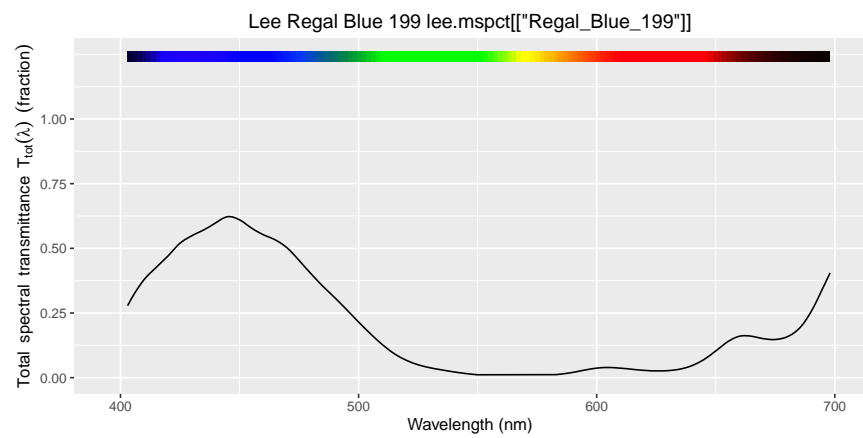
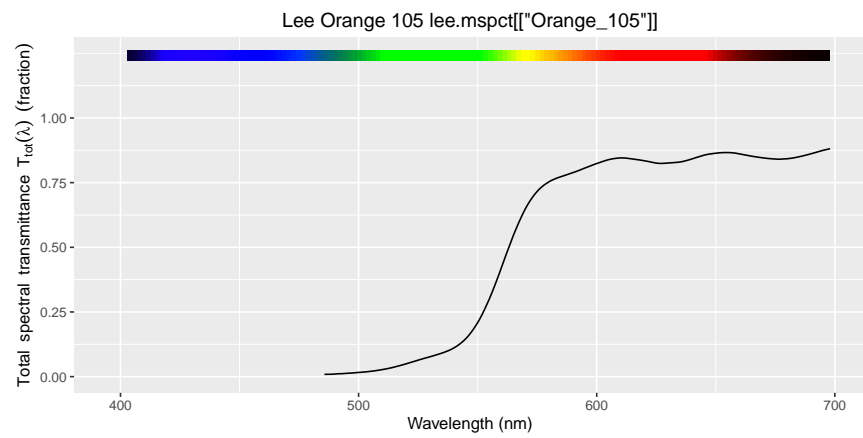
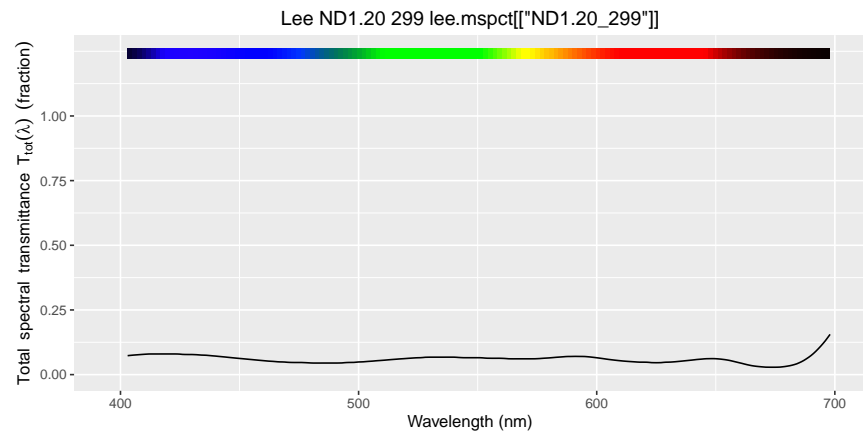


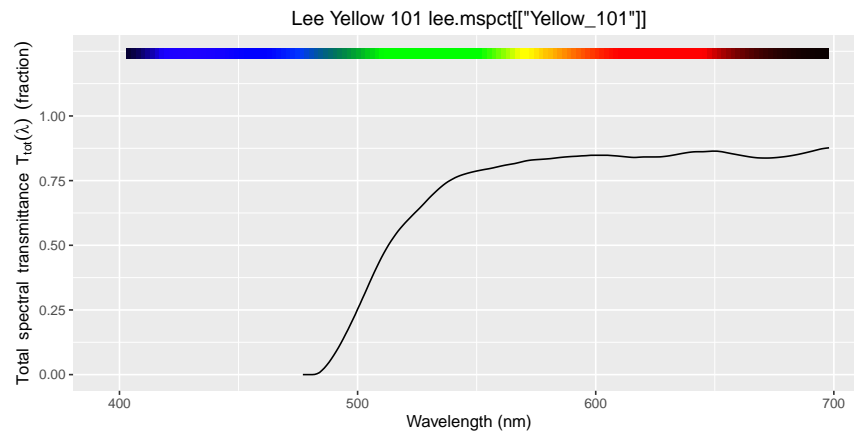


3.5 Lee theatrical filters

```
for (s in names(lee.mspct)) {
  print(plot(lee.mspct[[s]], annotations = "colour.guide") +
    labs(title = paste("Lee ", gsub("_", " ", s, fixed = TRUE),
      ' lee.mspct[["', s, '"']',
      sep = "")))
}
```

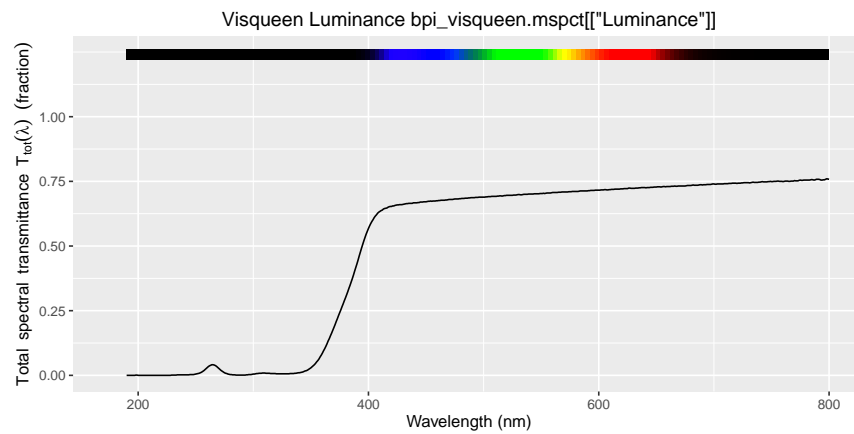


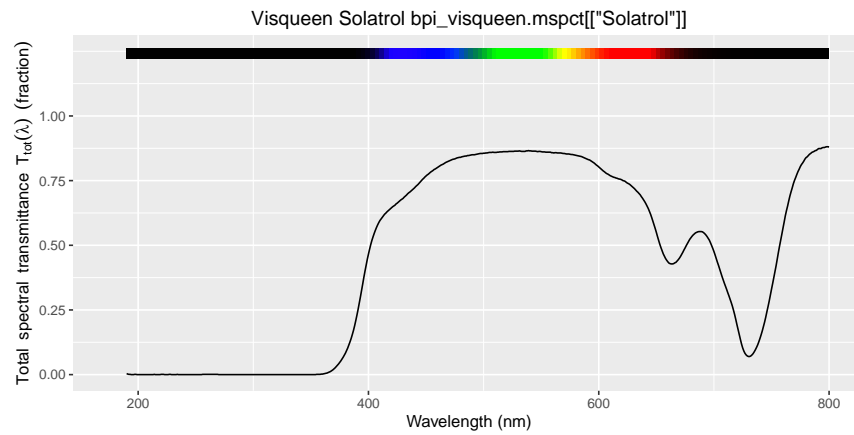




3.6 Commercial greenhouse films from BPI Agri Visqueen

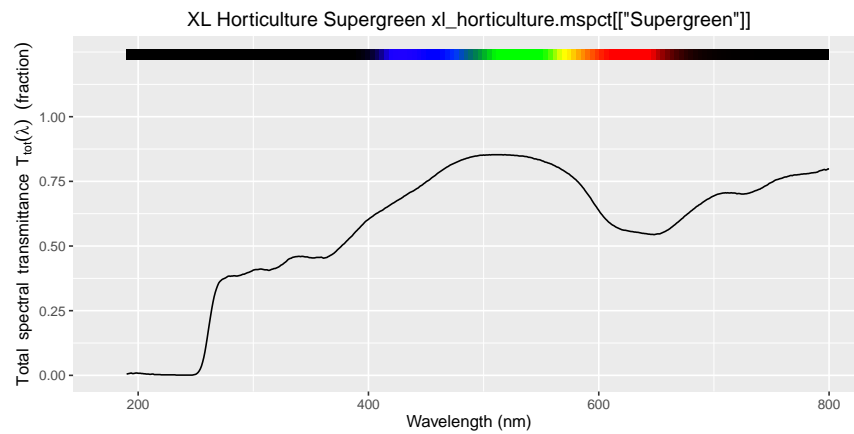
```
for (s in names(bpi_visqueen.mspect)) {
  print(plot(bpi_visqueen.mspect[[s]], annotations = "colour_guide") +
    labs(title = paste("Visqueen ", gsub("_", " ", s, fixed = TRUE),
      ' bpi_visqueen.mspect[["', s, '"]]',
      sep = "")))
}
```

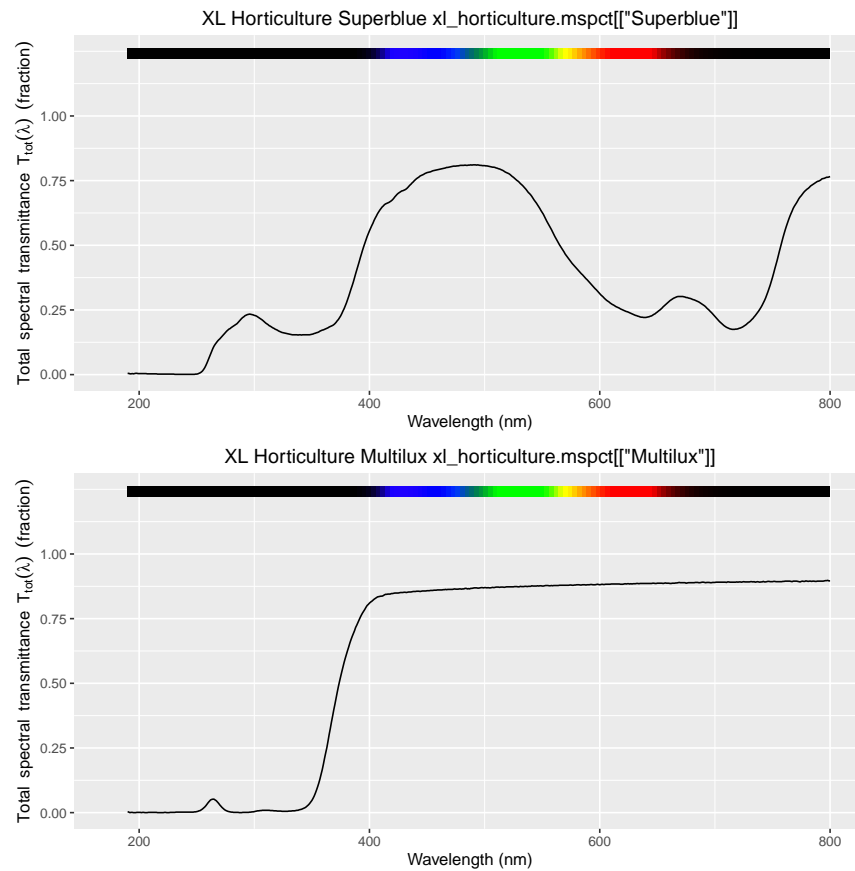




3.7 Commercial greenhouse films from XL Agriculture

```
for (s in names(xl_horticulture.mspct)) {
  print(plot(xl_horticulture.mspct[[s]], annotations = "colour_guide") +
    labs(title = paste("XL Horticulture ", gsub("_", " ", s, fixed = TRUE),
      ' xl_horticulture.mspct[["', s, '"]]',
      sep = "")))
}
```

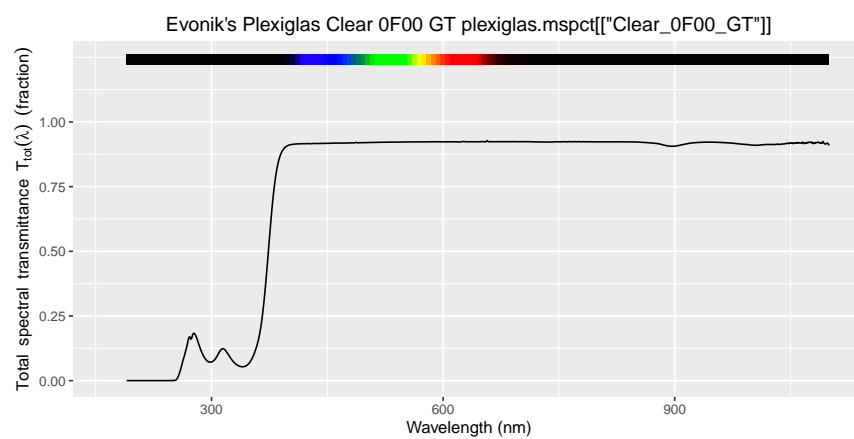
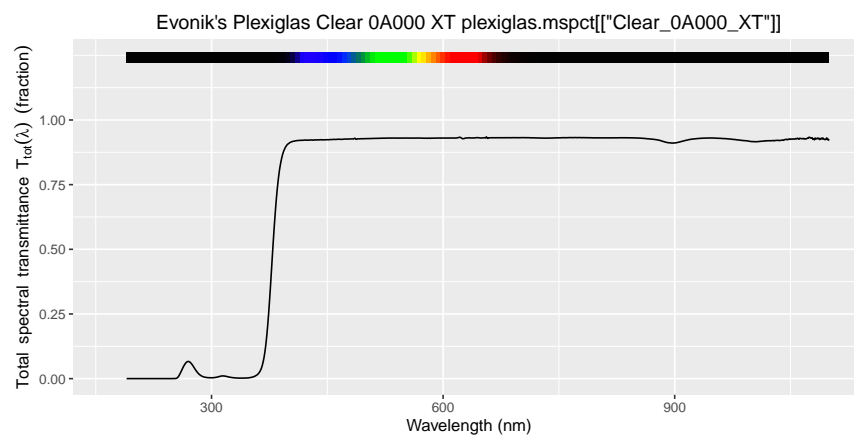
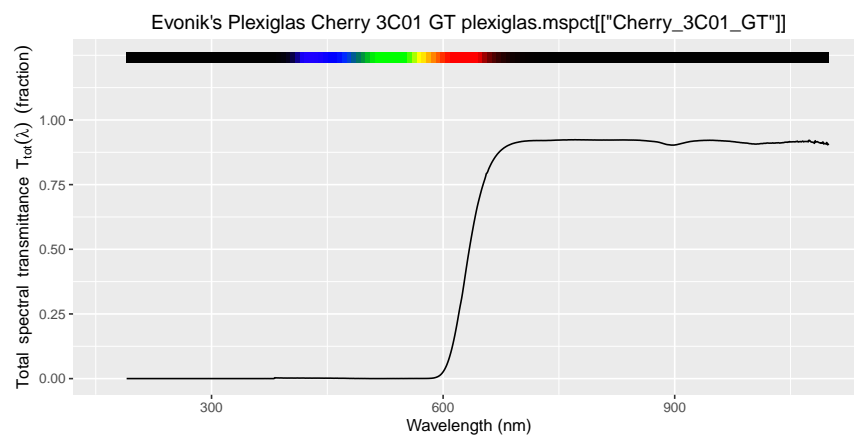


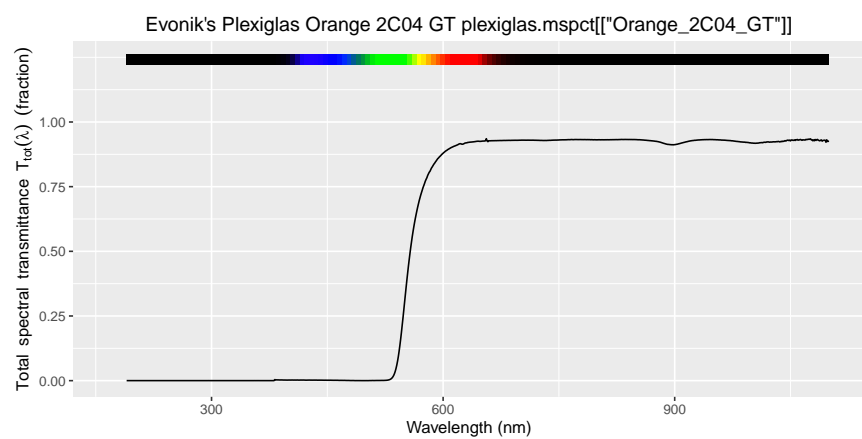
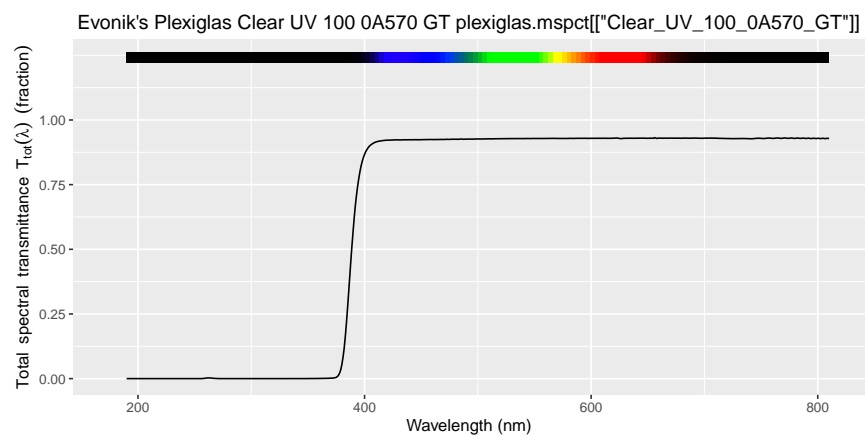
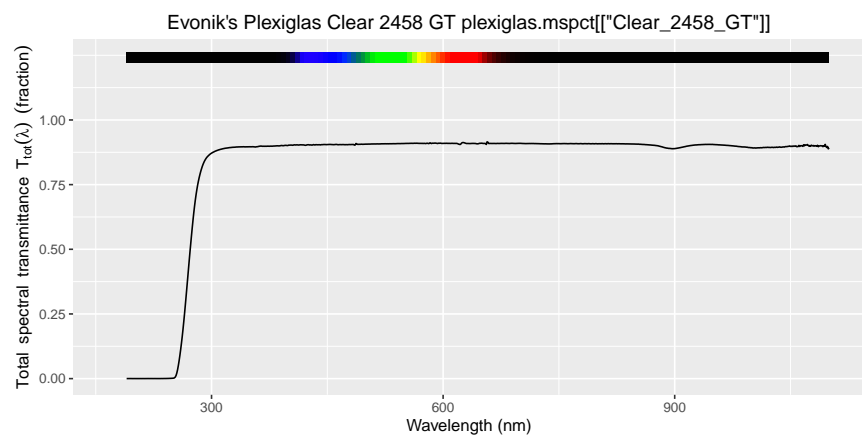


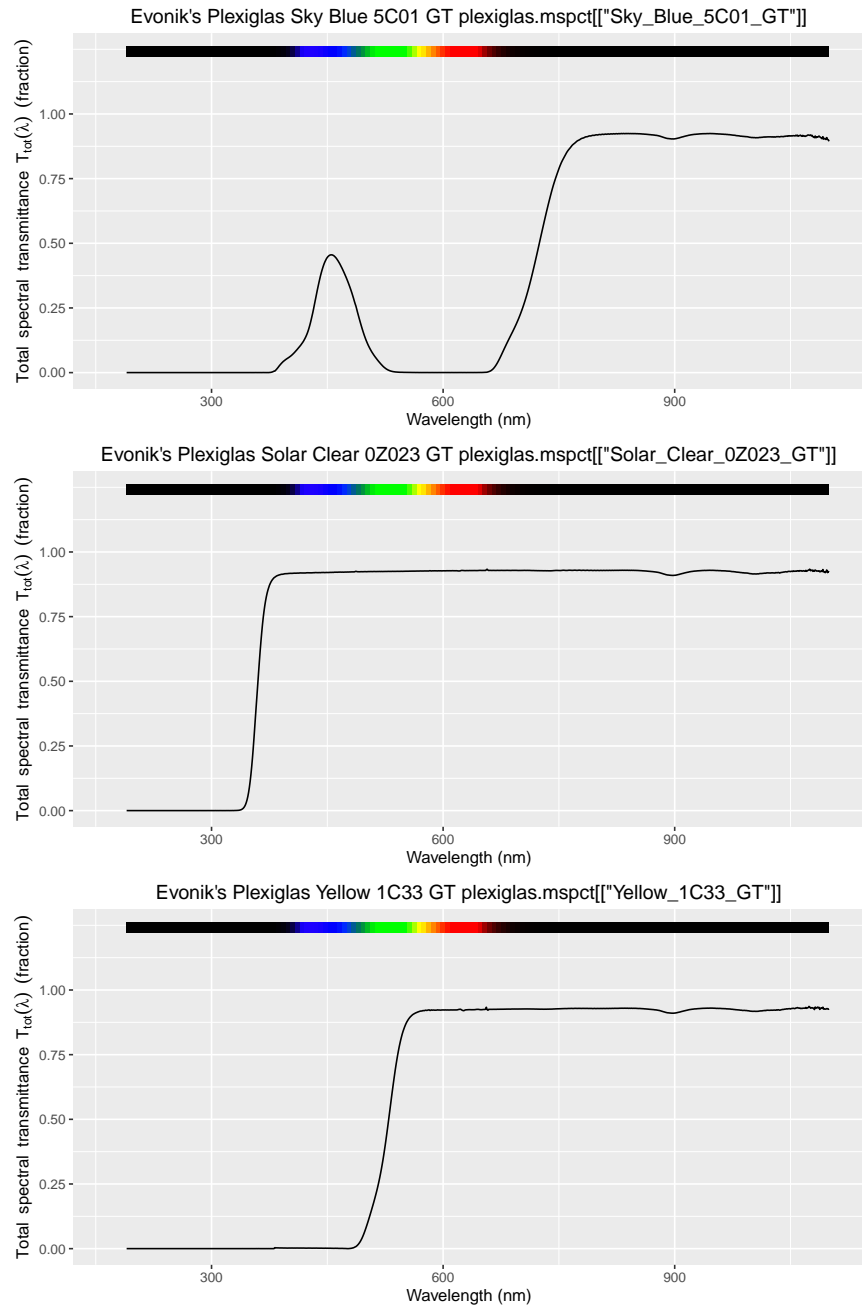
4 Plastic sheets

4.1 Plexiglas

```
for (s in names(plexiglas.mspct)) {
  print(plot(plexiglas.mspct[[s]], annotations = "colour_guide") +
    labs(title = paste("Evonik's Plexiglas ", gsub("_", " ", s, fixed = TRUE),
      ' plexiglas.mspct[["', s, '"]]',
      sep = " ")))
}
```





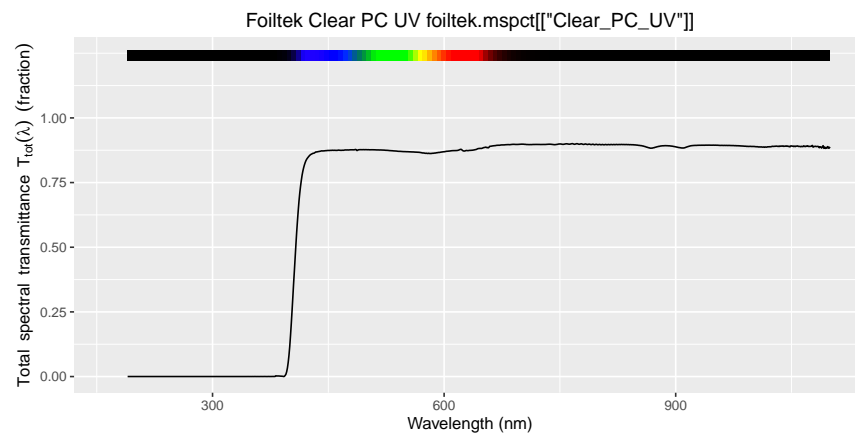
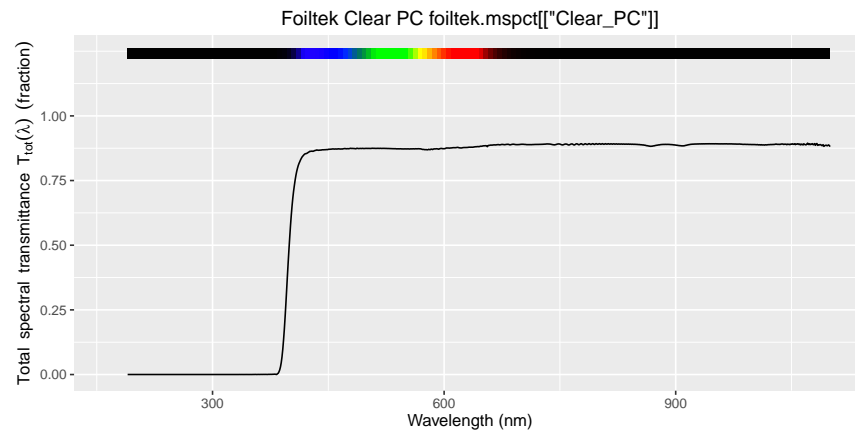


4.2 Polycarbonate

```

for (s in c("Clear_PC", "Clear_PC_UV")) {
  print(plot(foiltek.mspct[[s]], annotations = "colour_guide" +
    labs(title = paste("Foiltek ", gsub("_", " ", s, fixed = TRUE),
      ' foiltek.mspct[["', s, '"]]',
      sep = "")))
}

```

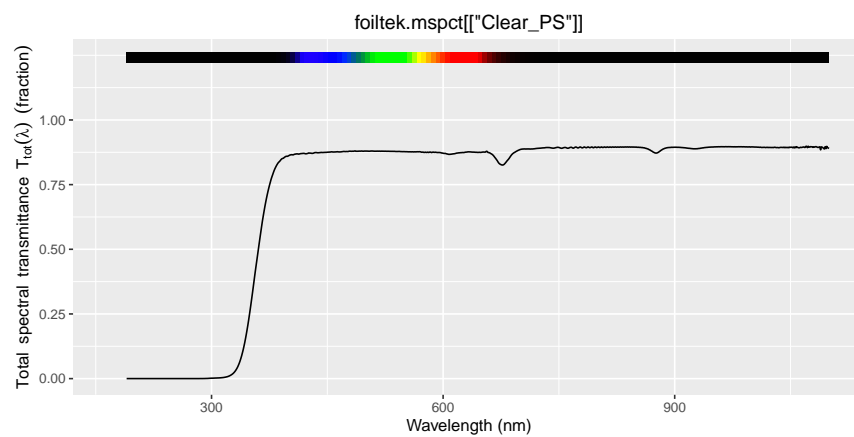


4.3 Polystyrene

```

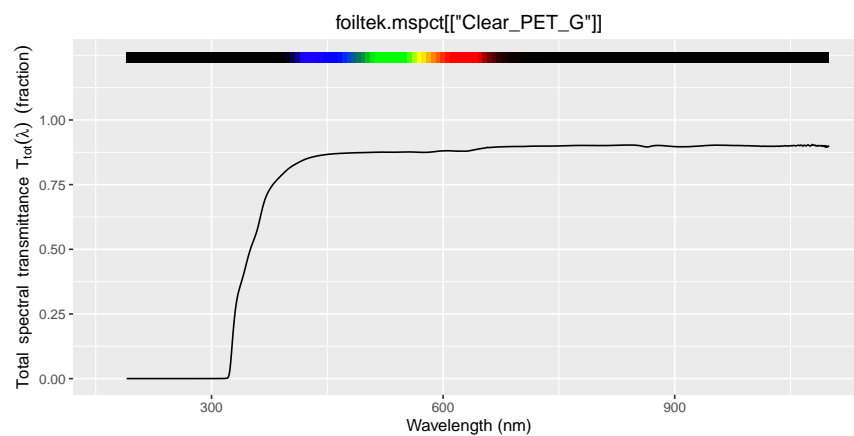
plot(foiltek.mspct[["Clear_PS"]],
  annotations = c("colour_guide", "title"))

```



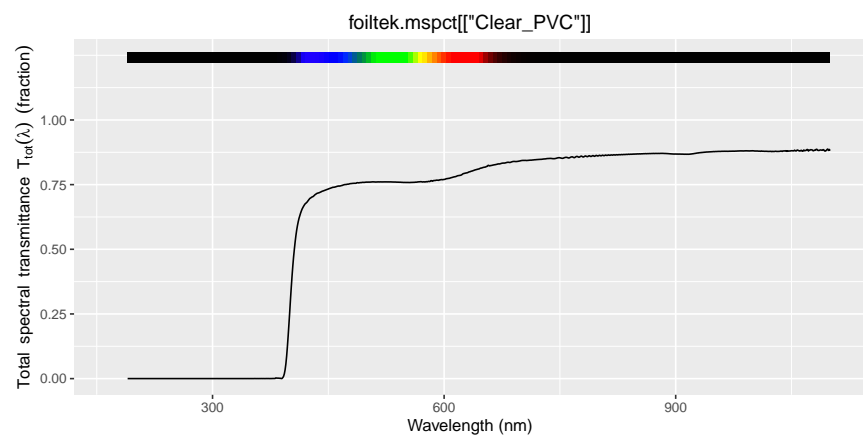
4.4 Polyester

```
plot(foiltek.mspect[["Clear_PET_G"]],
     annotations = c("colourguide", "title"))
```



4.5 Polyvinilchloride

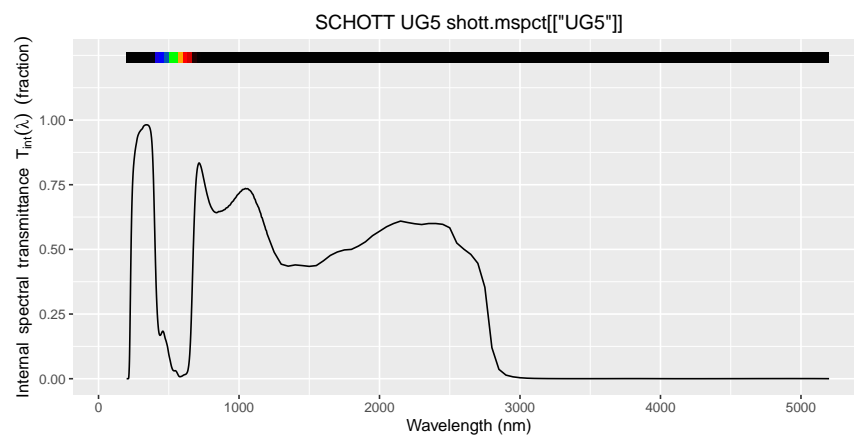
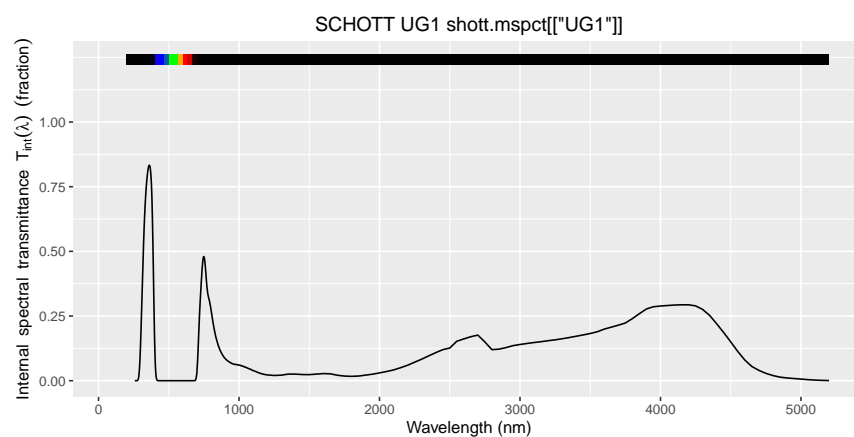
```
plot(foiltek.mspect[["Clear_PVC"]],
     annotations = c("colourguide", "title"))
```

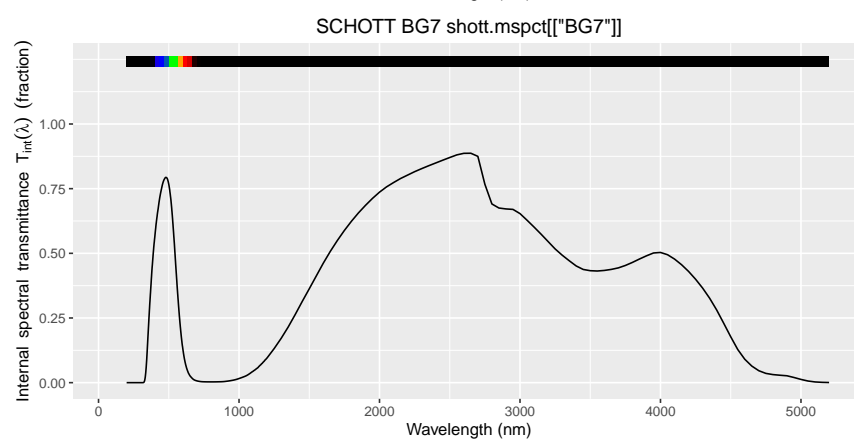
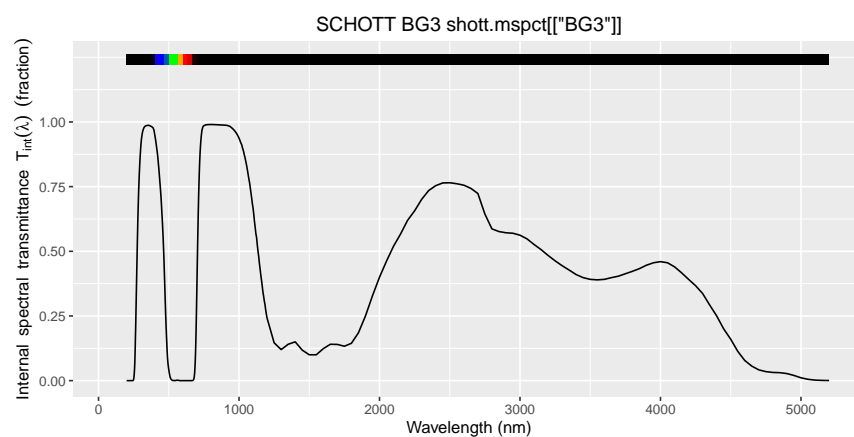
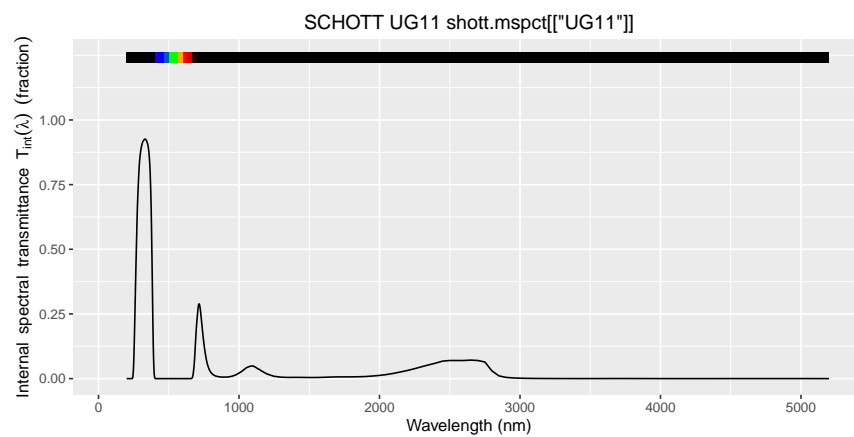


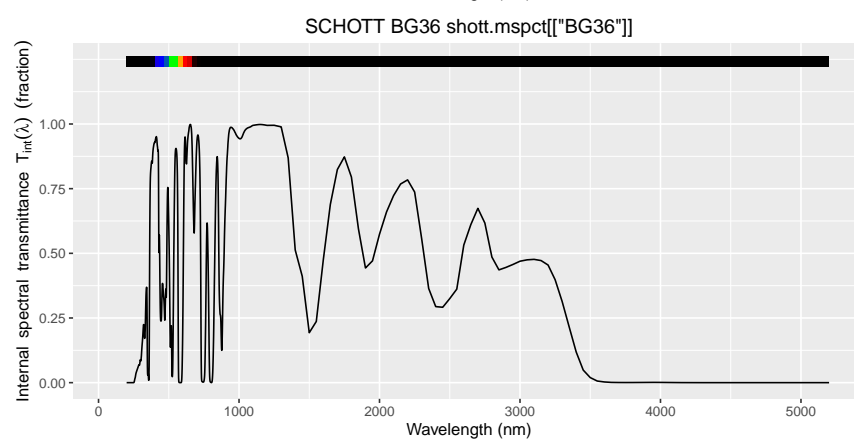
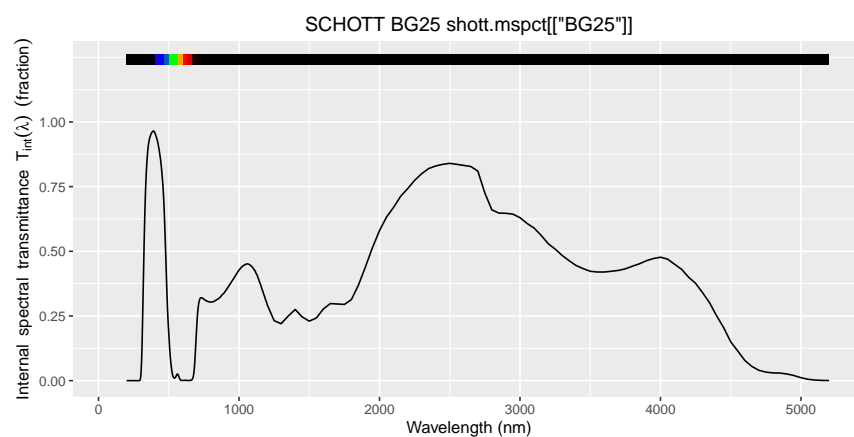
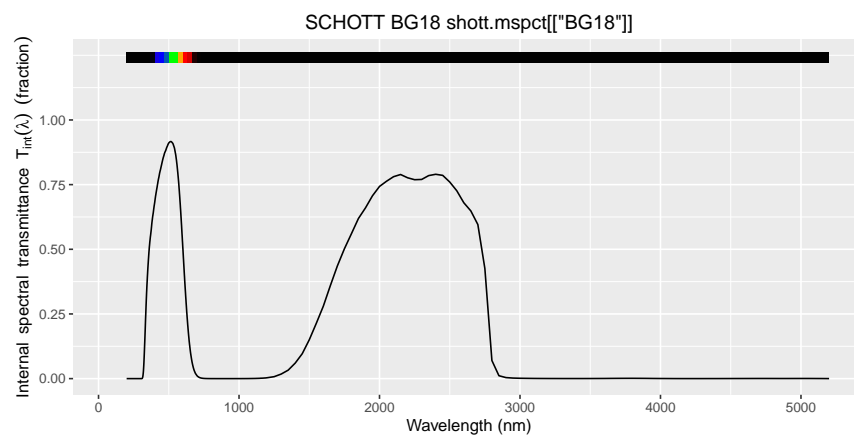
5 Optical glass filters

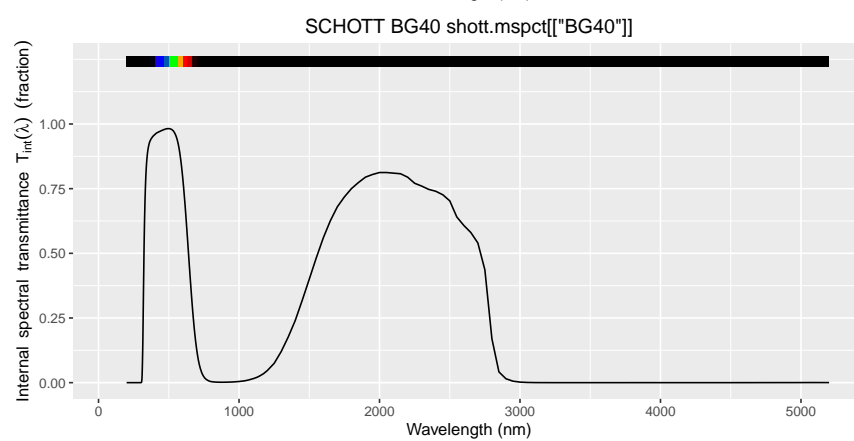
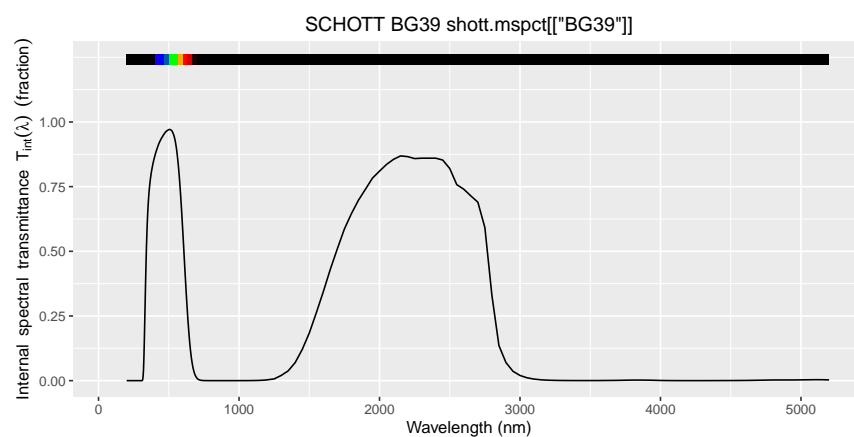
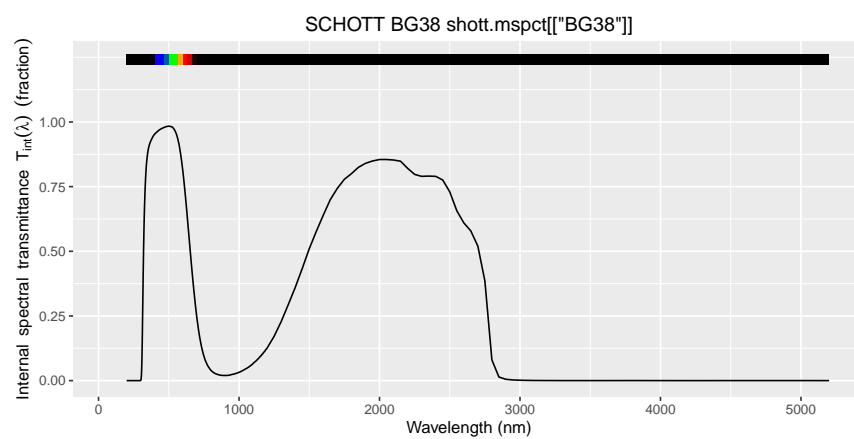
5.1 Schott long-pass filters

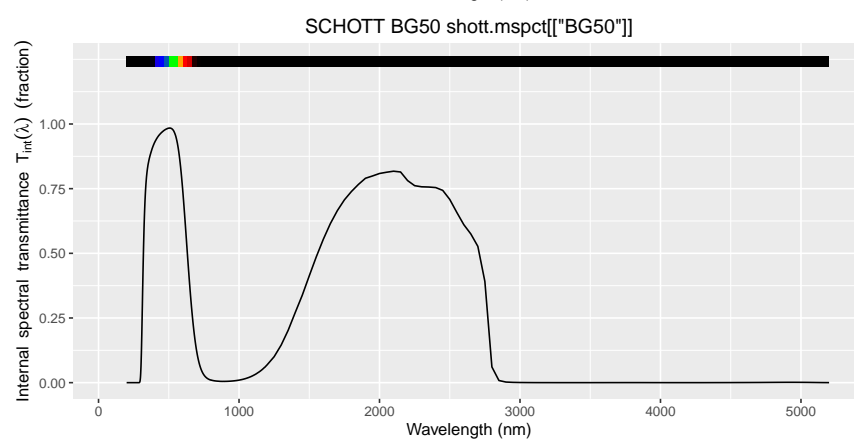
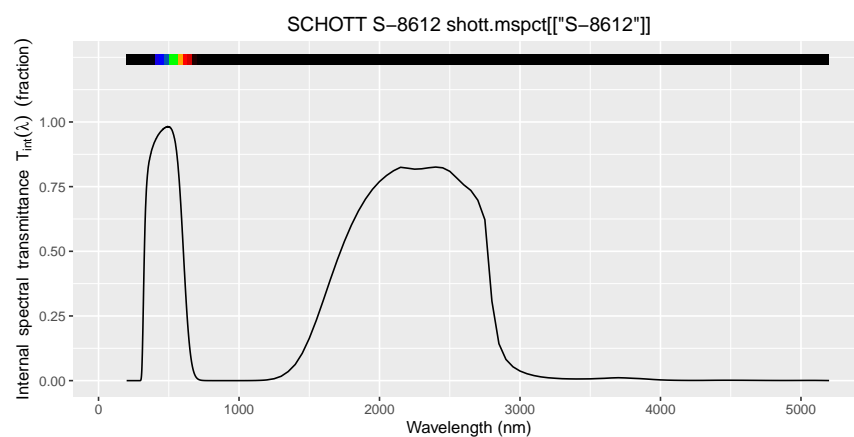
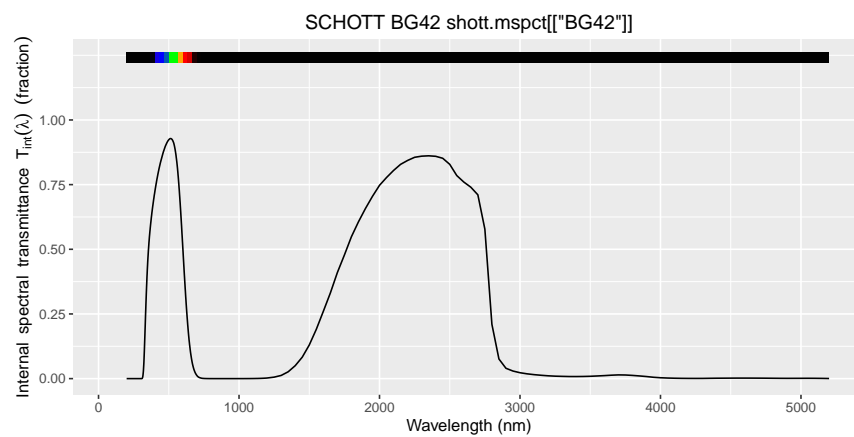
```
for (s in names(schott.mspect)) {  
  print(plot(schott.mspect[[s]], annotations = "colour_guide") +  
    labs(title = paste("SCHOTT ", s,  
      ' schott.mspect[["', s, '"]]',  
      sep = " ")))  
}
```

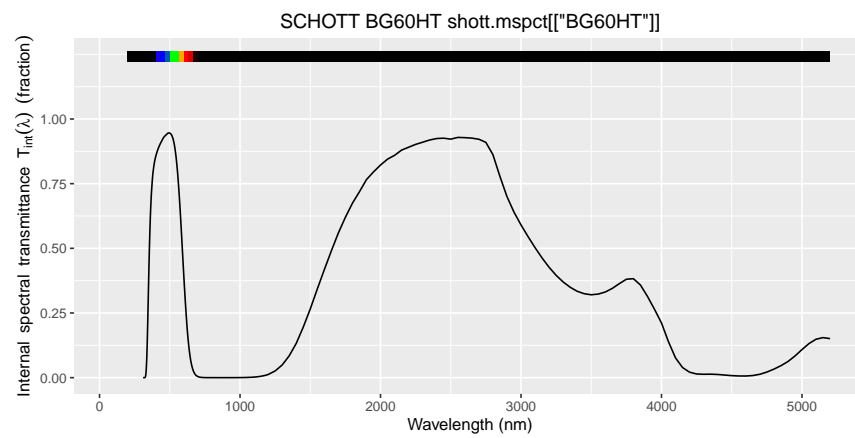
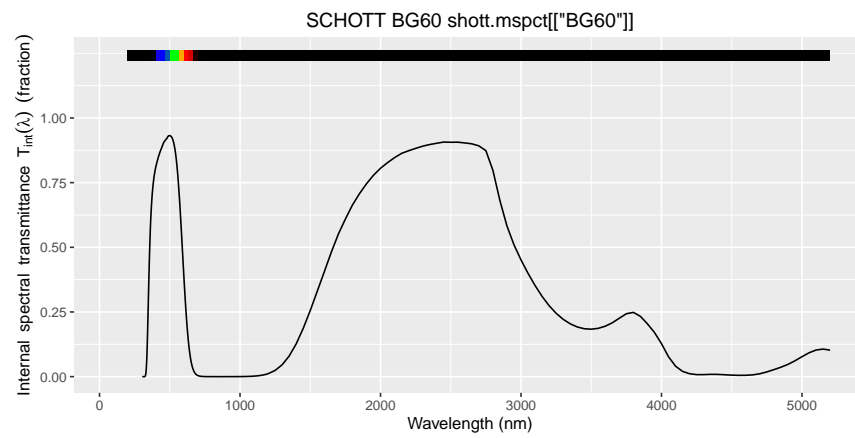
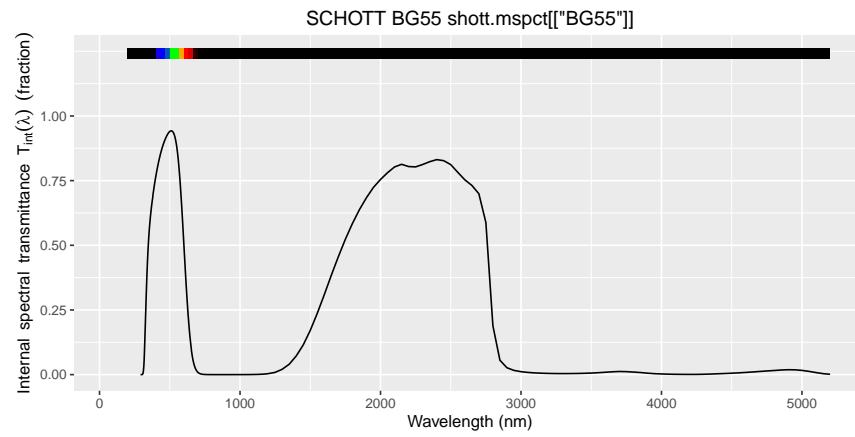


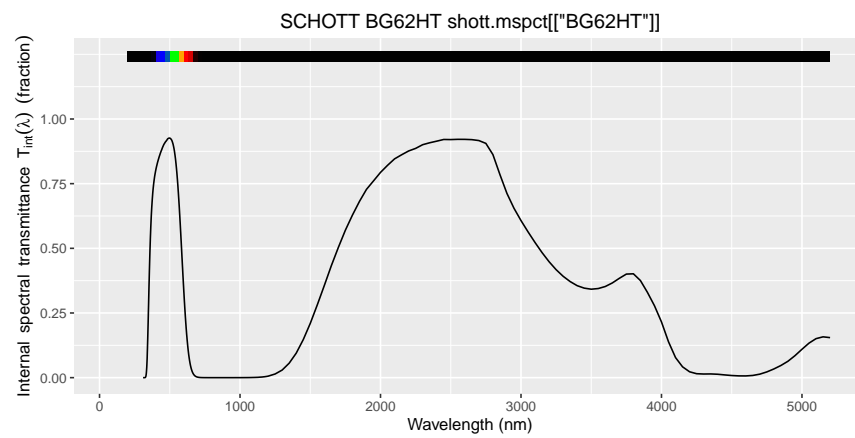
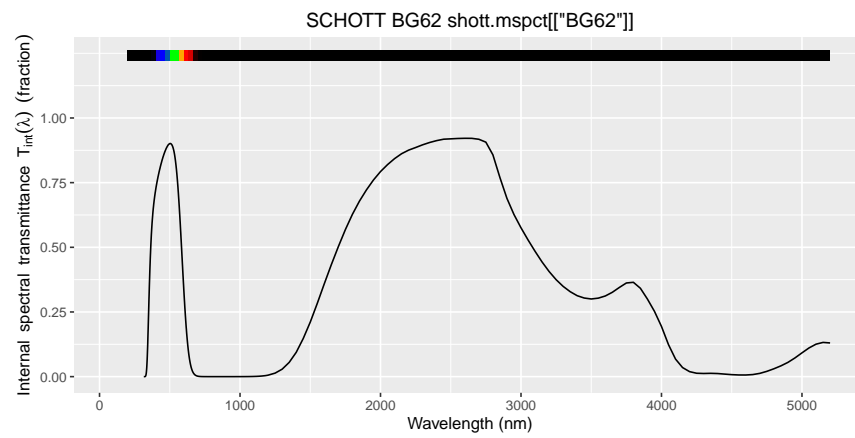
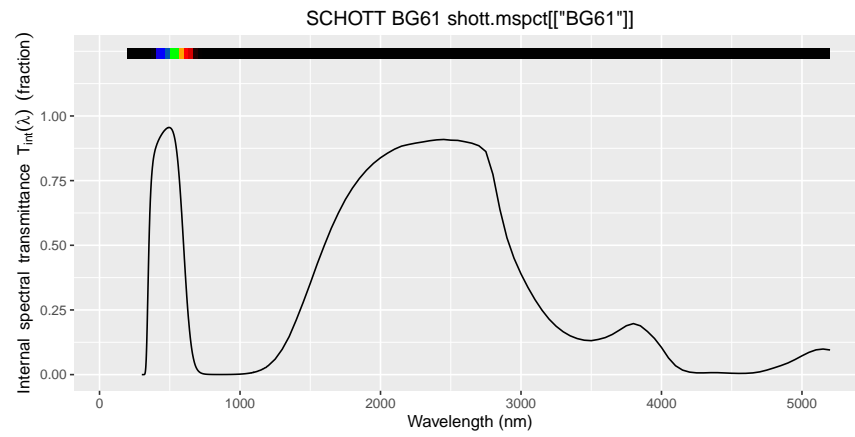


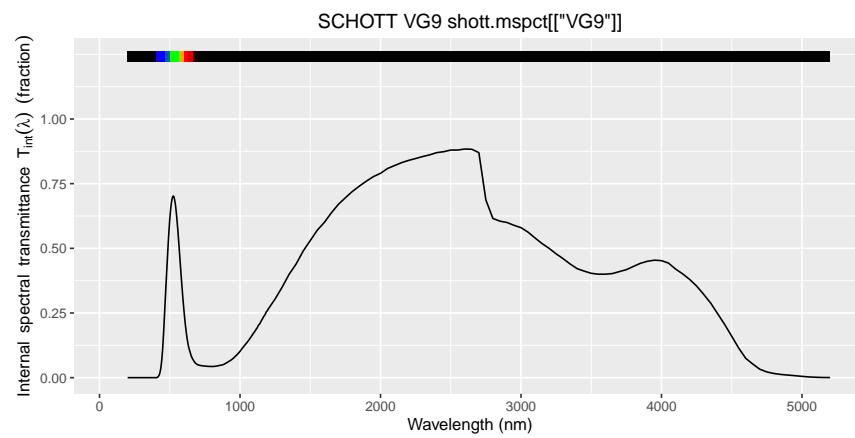
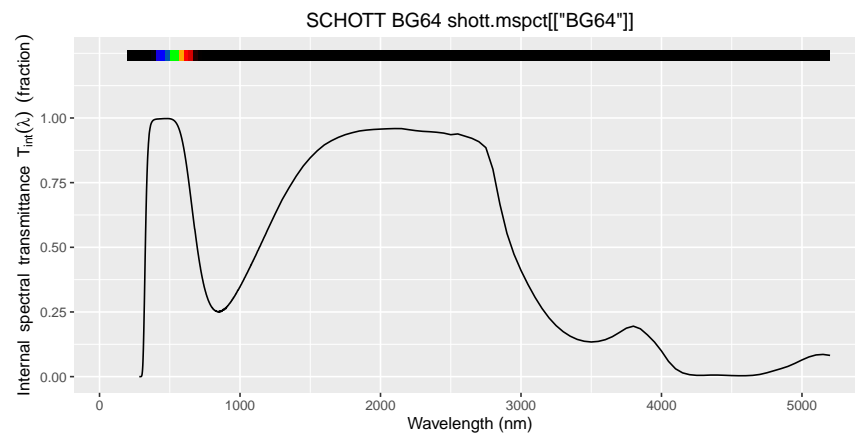
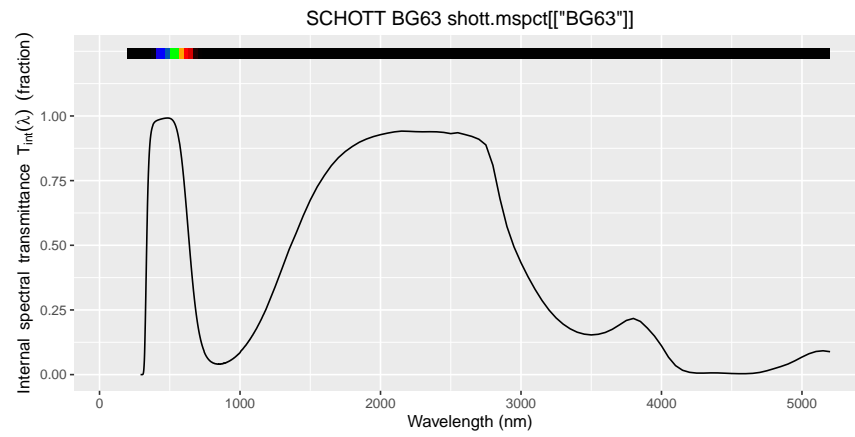


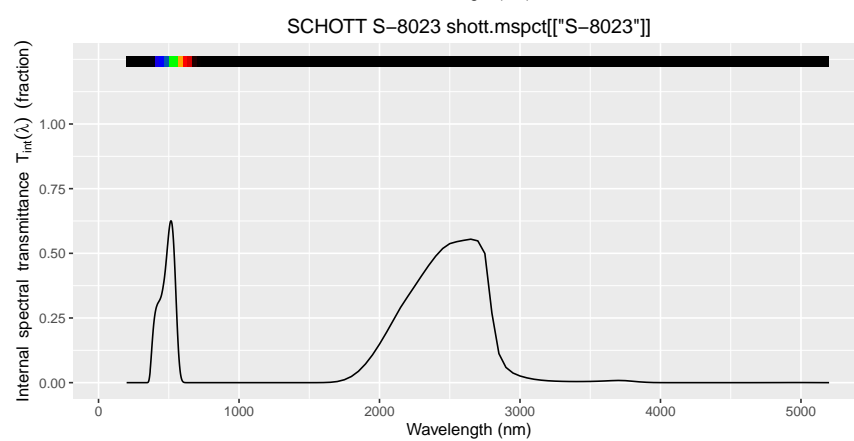
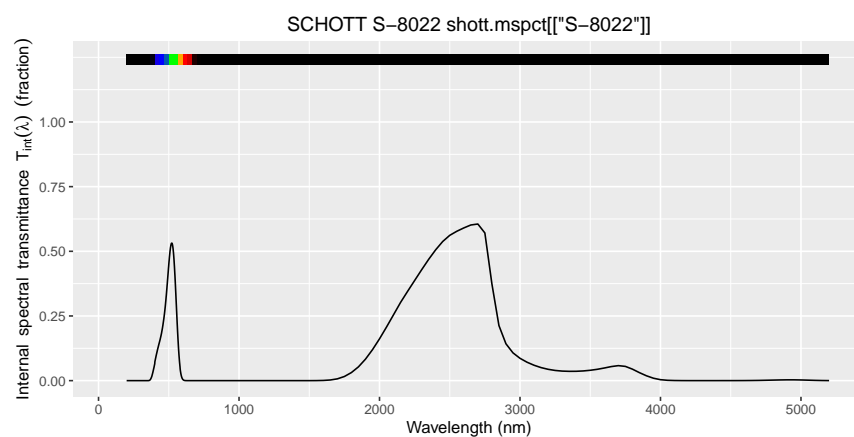
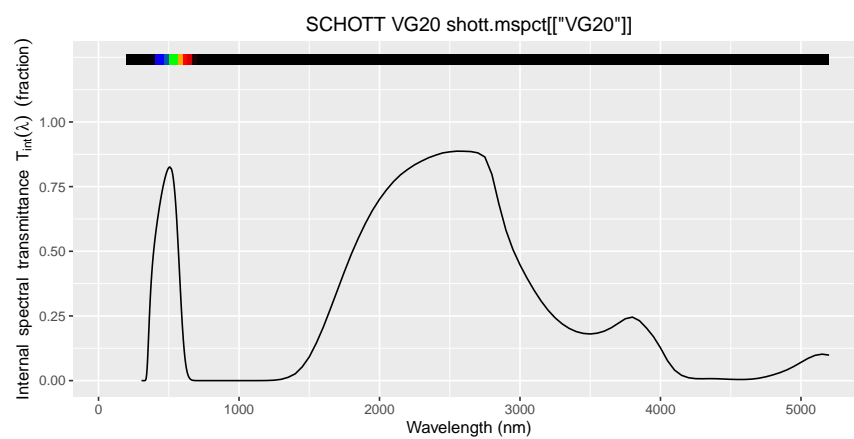


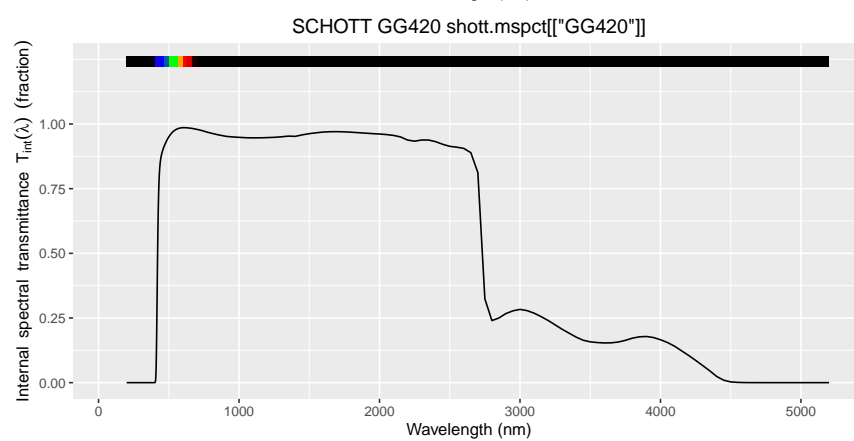
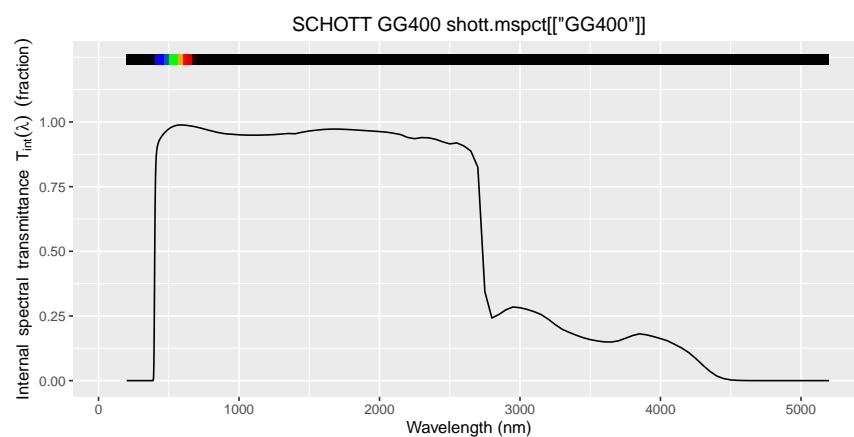
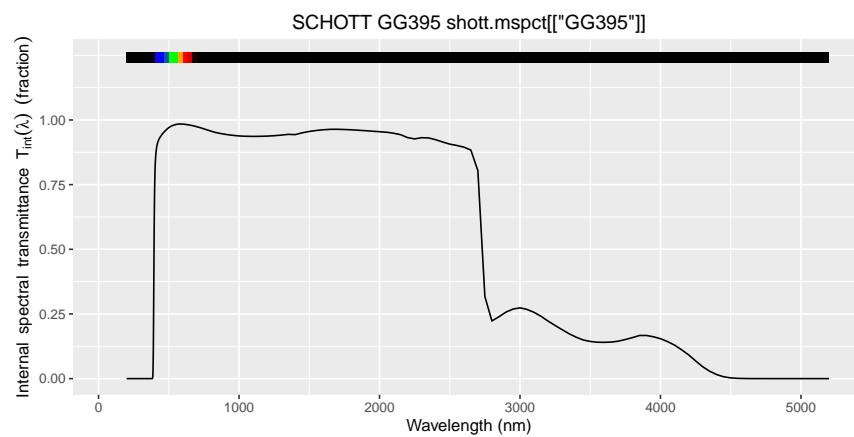


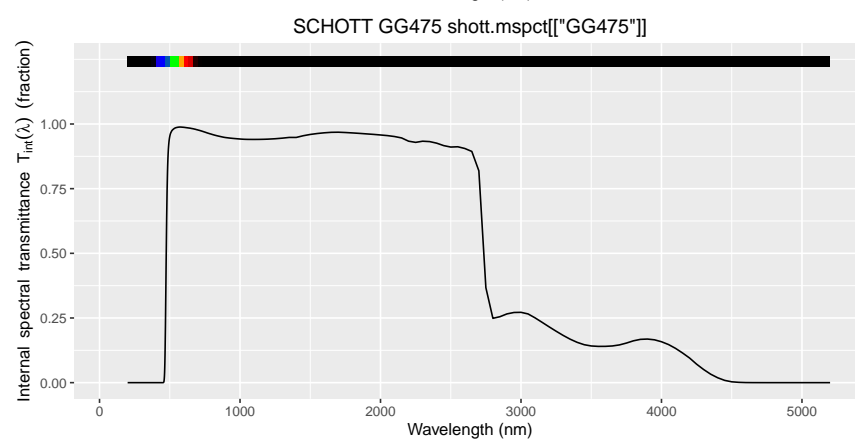
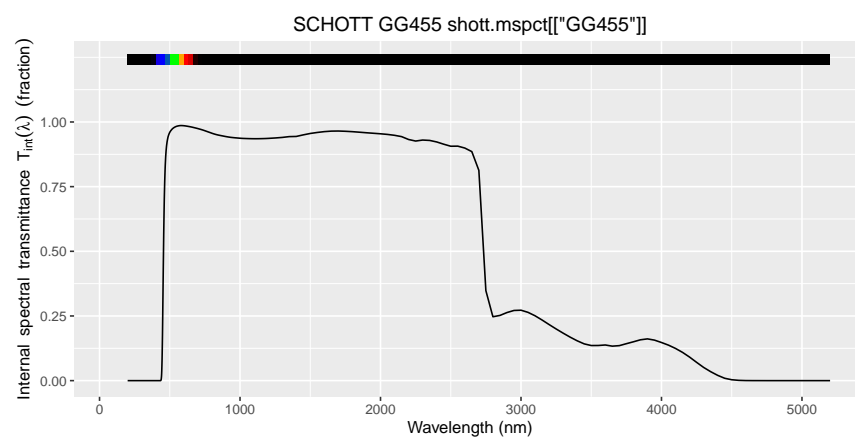
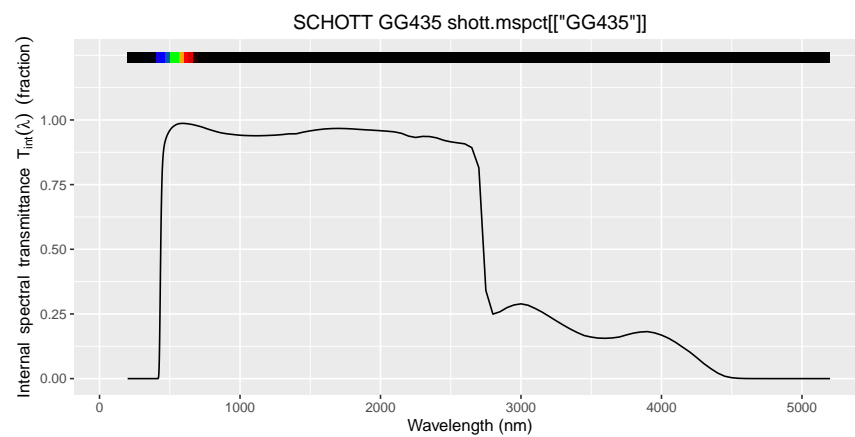


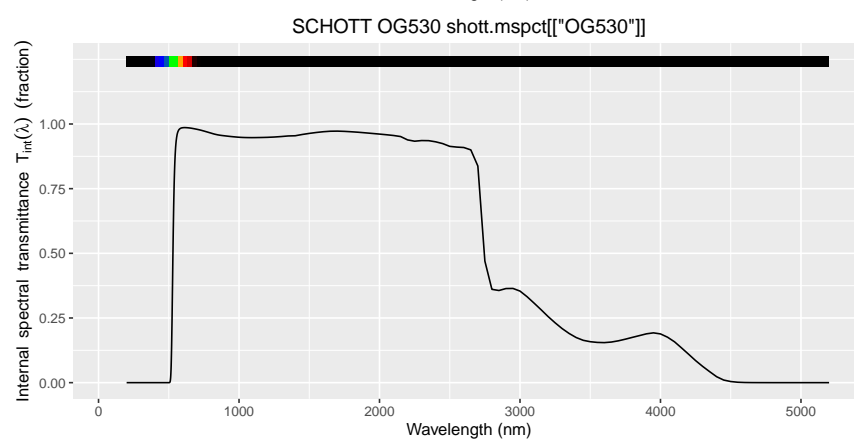
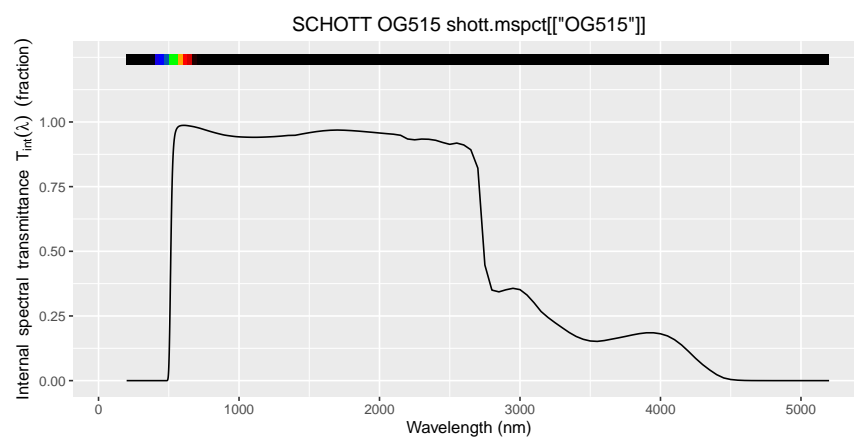
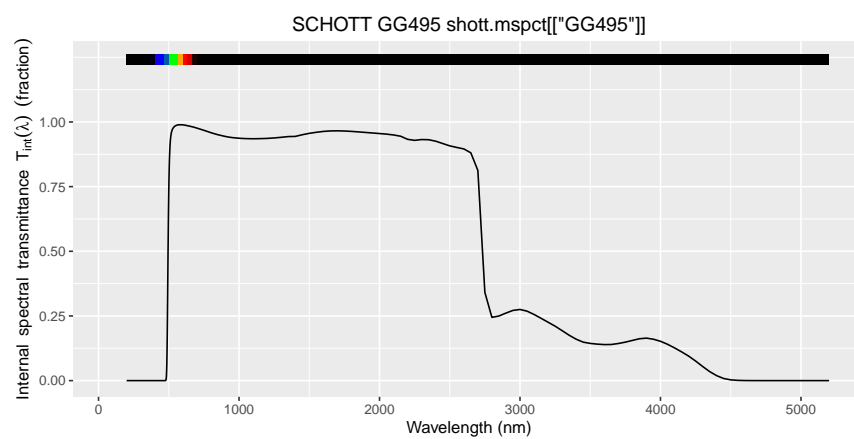


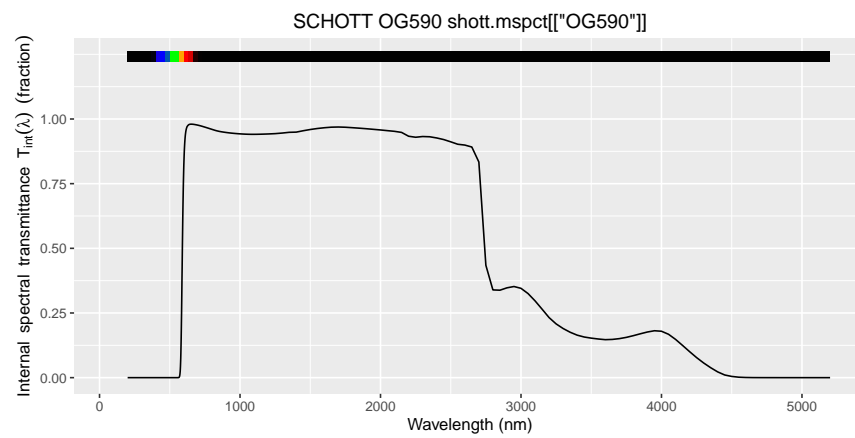
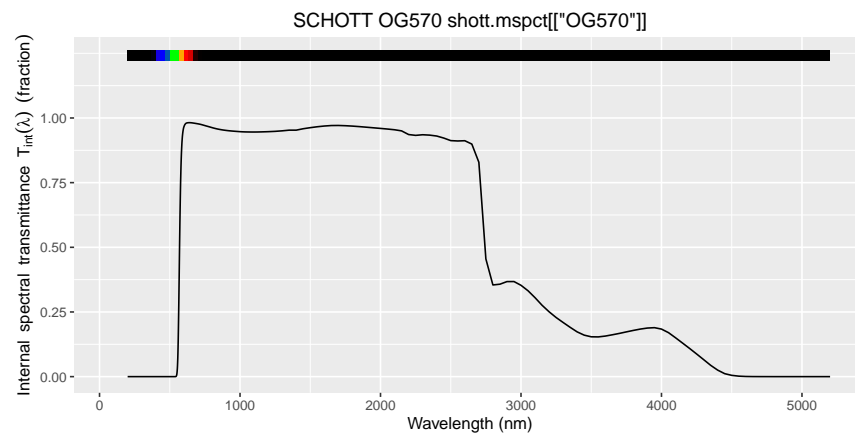
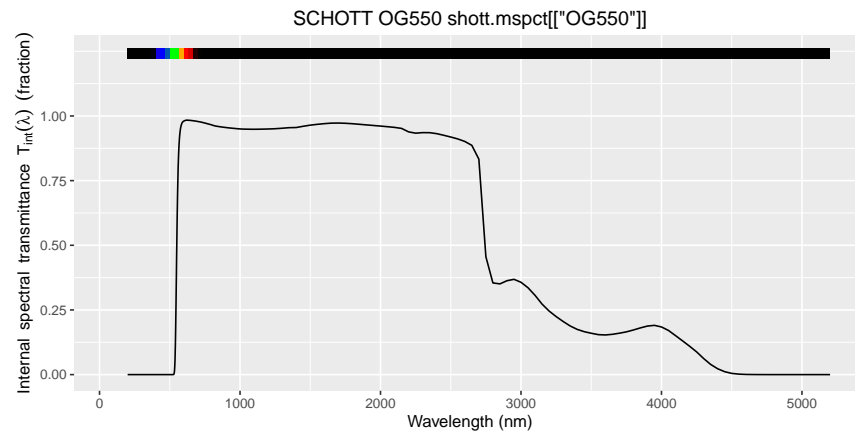


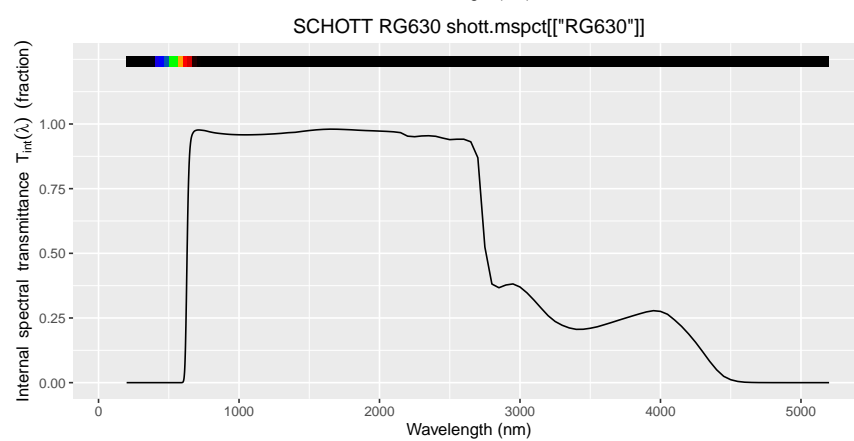
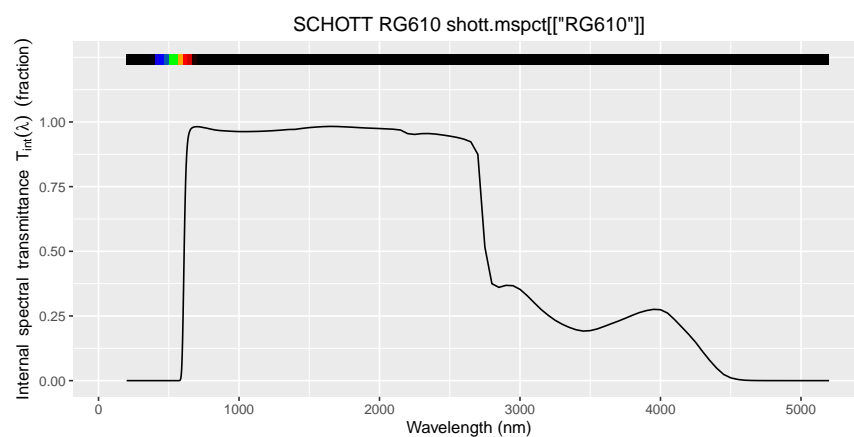
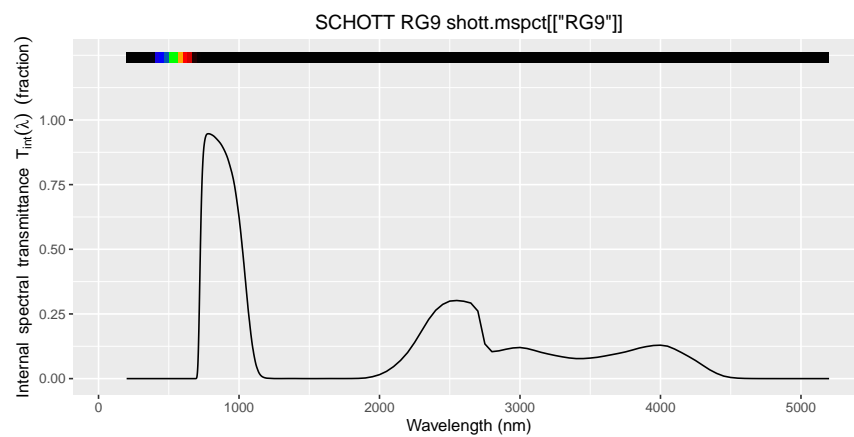


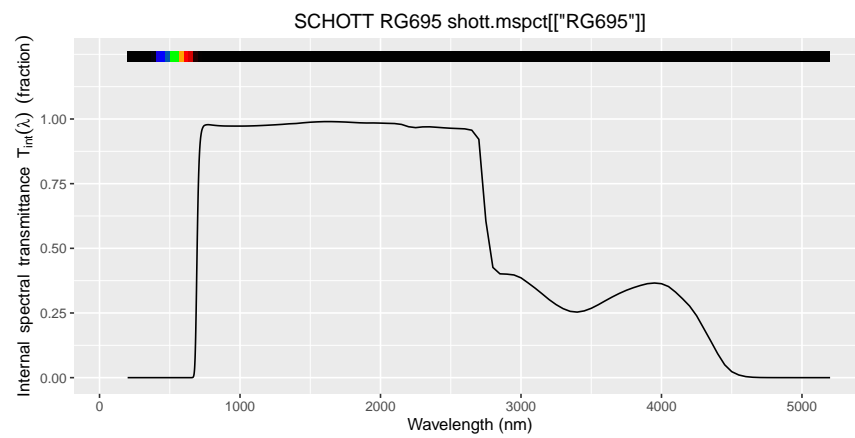
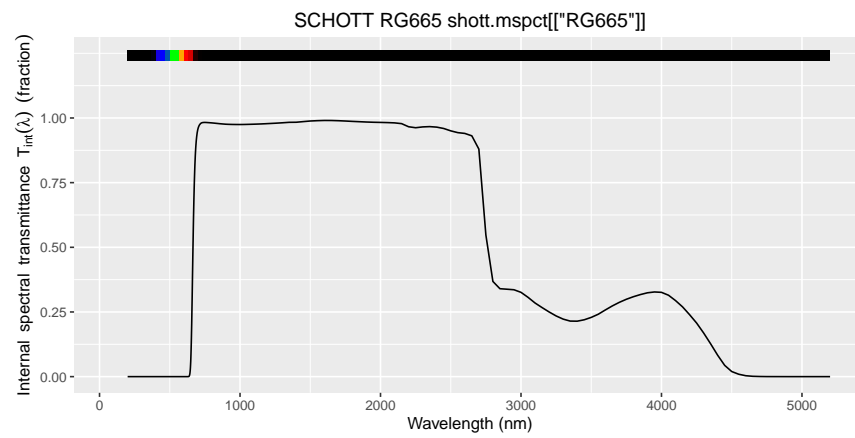
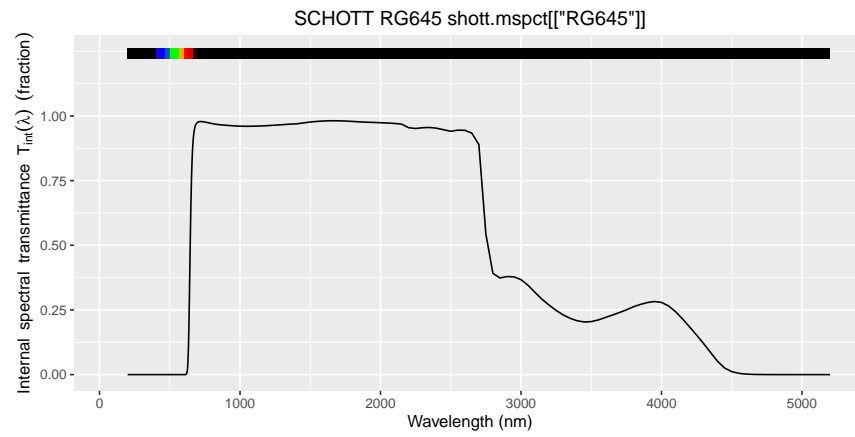


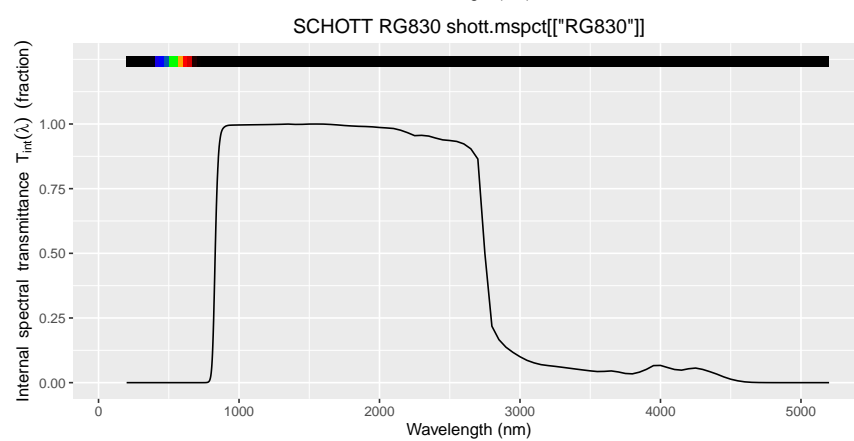
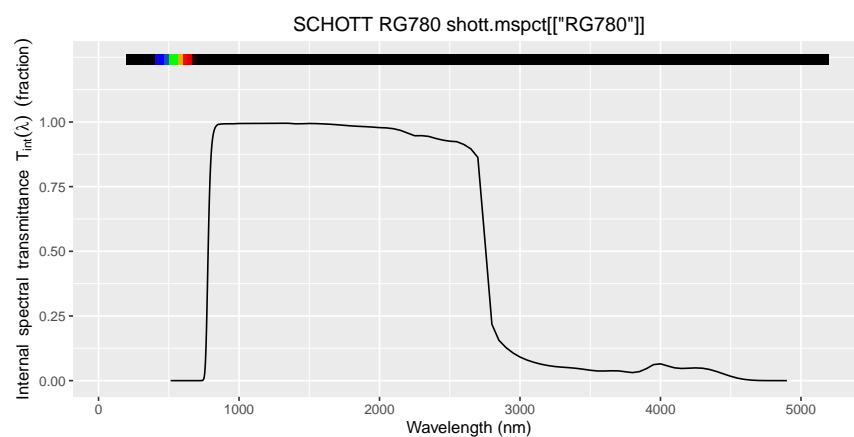
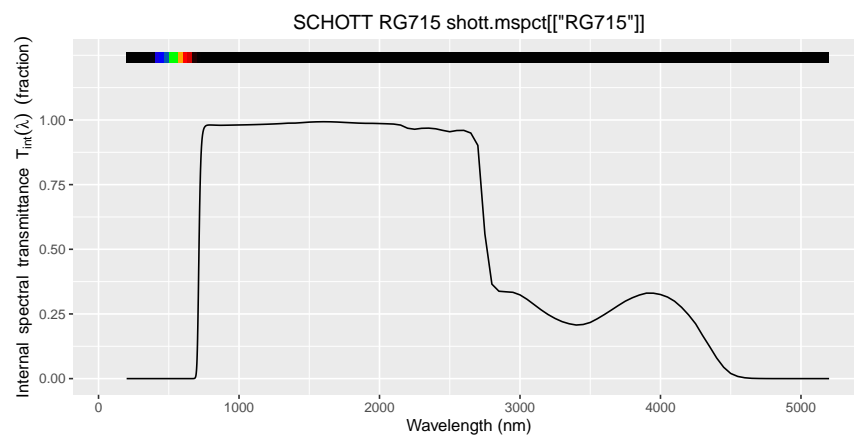


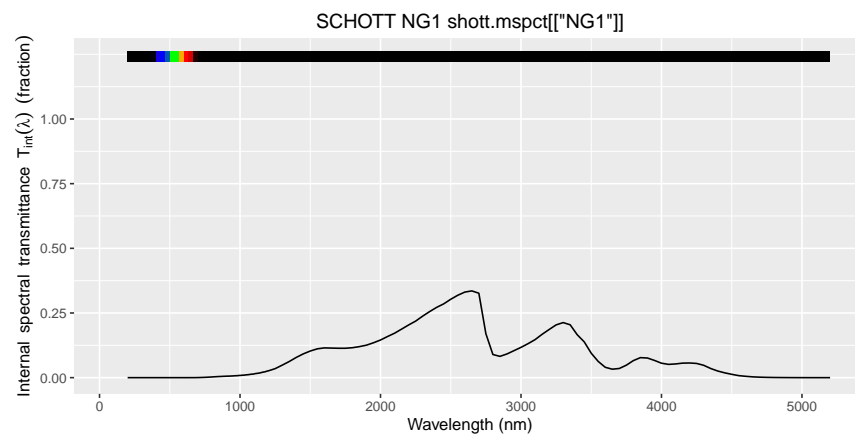
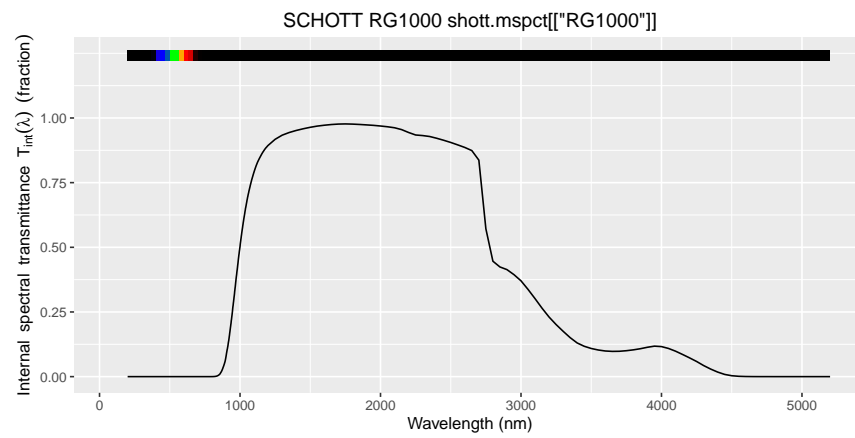
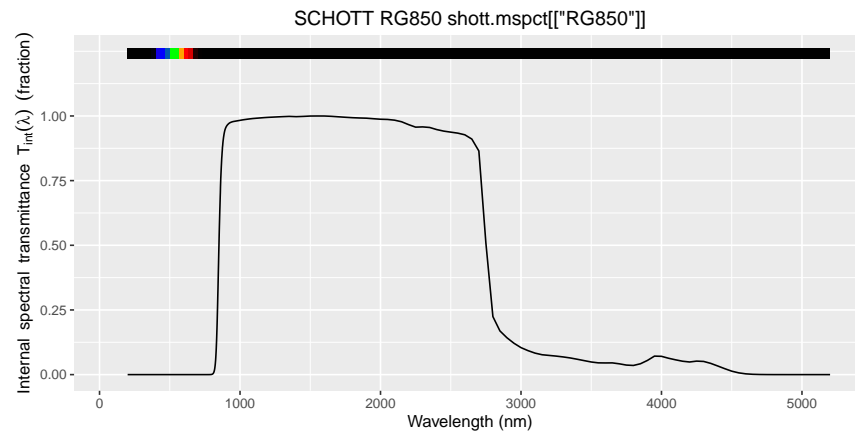


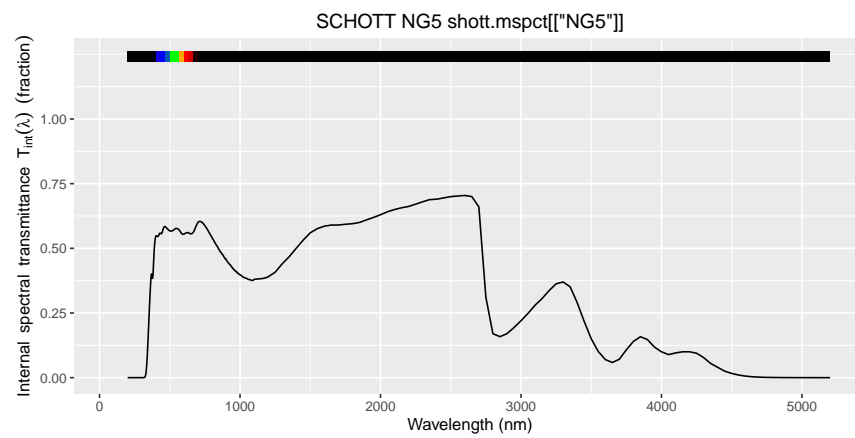
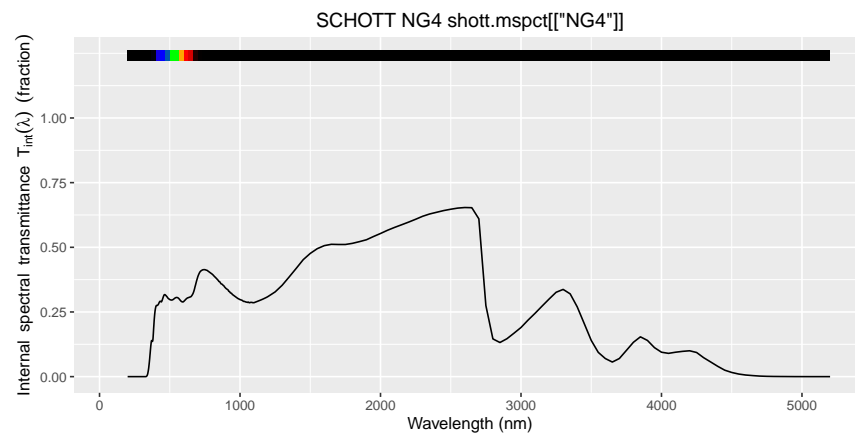
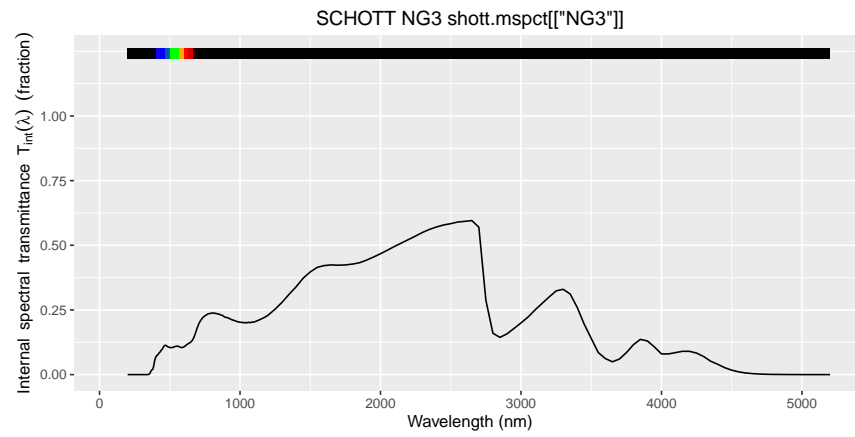


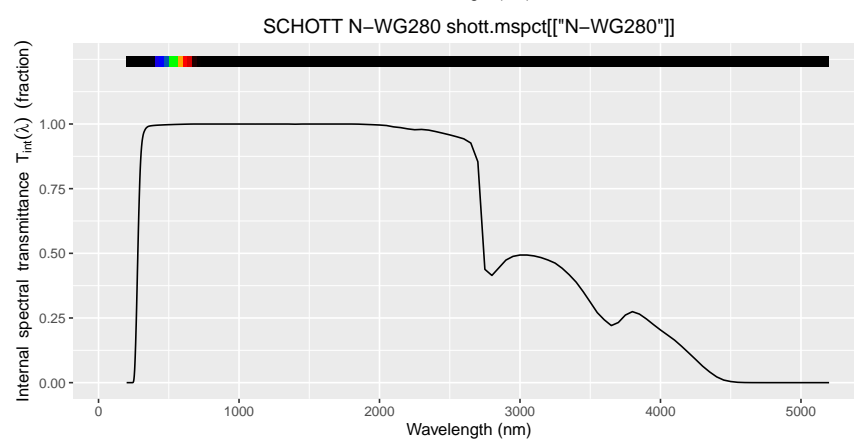
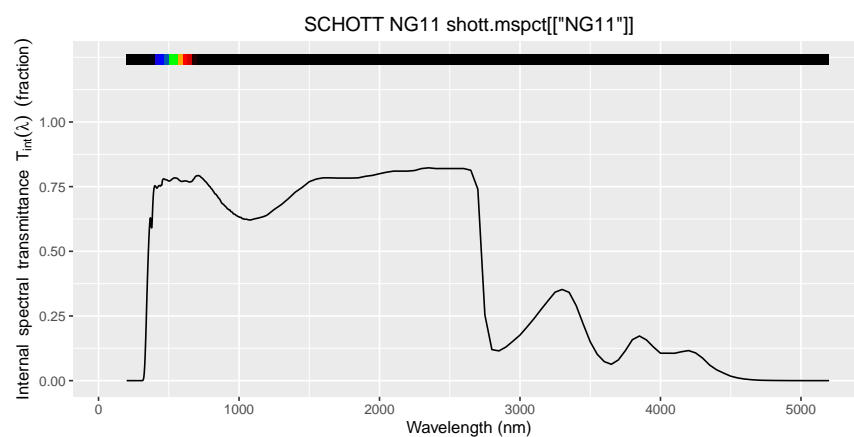
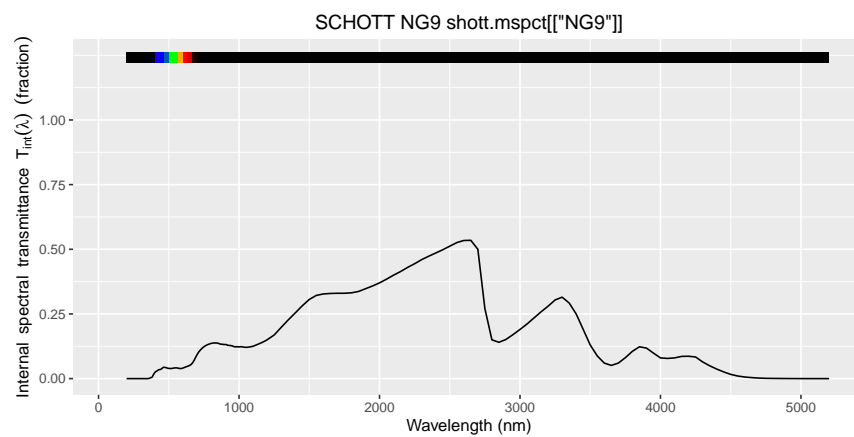


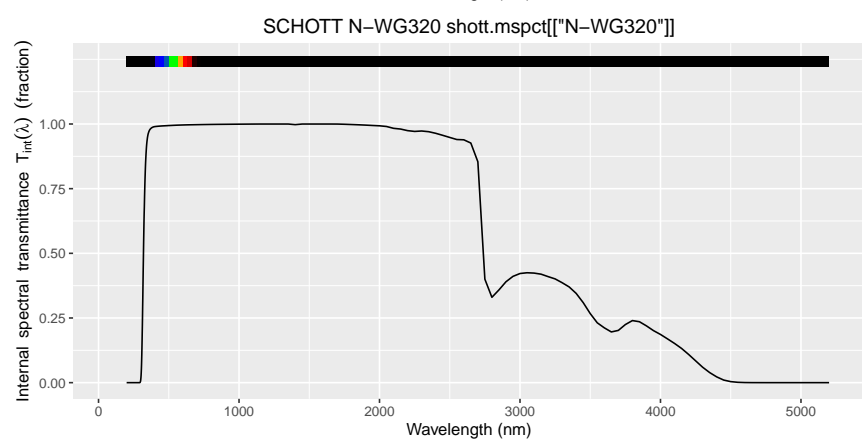
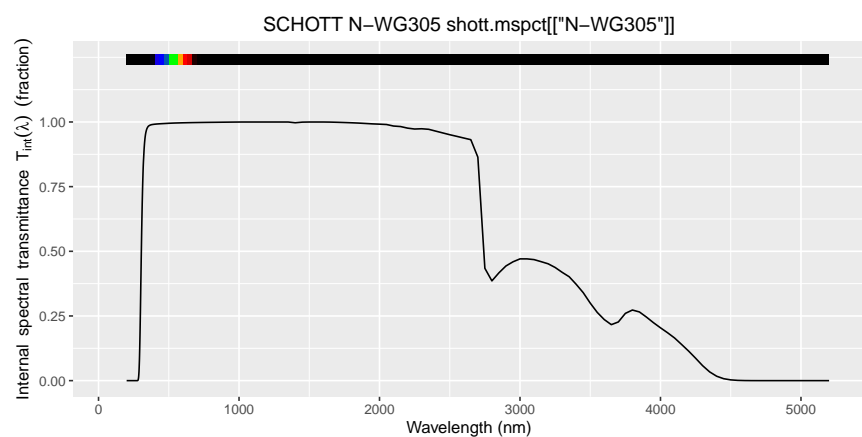
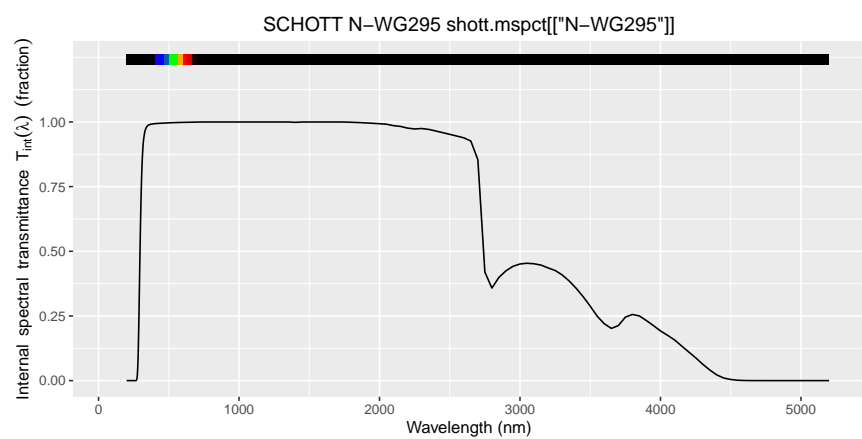


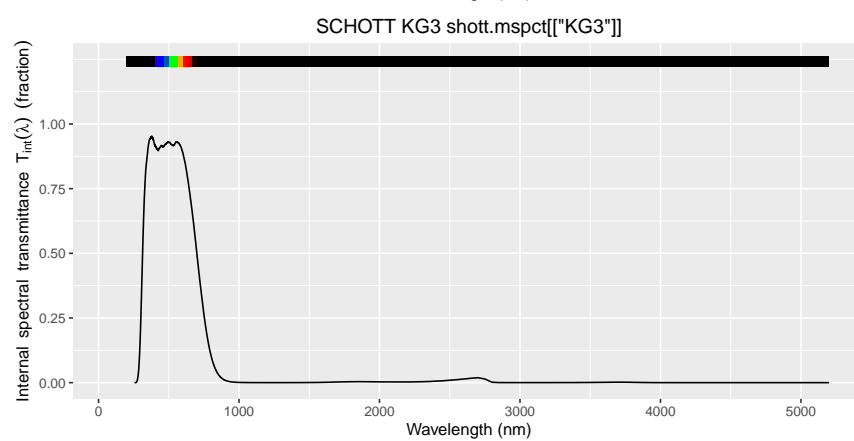
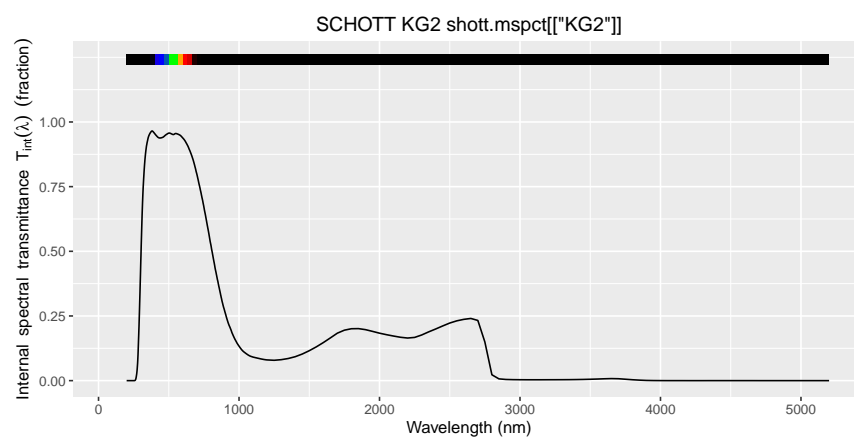
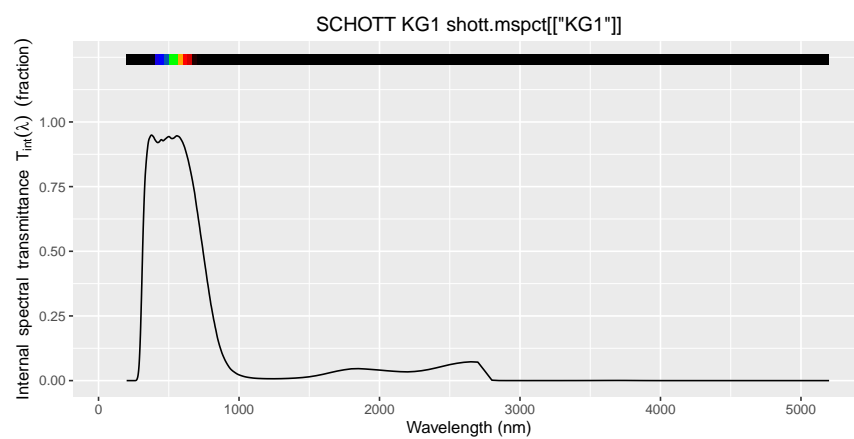


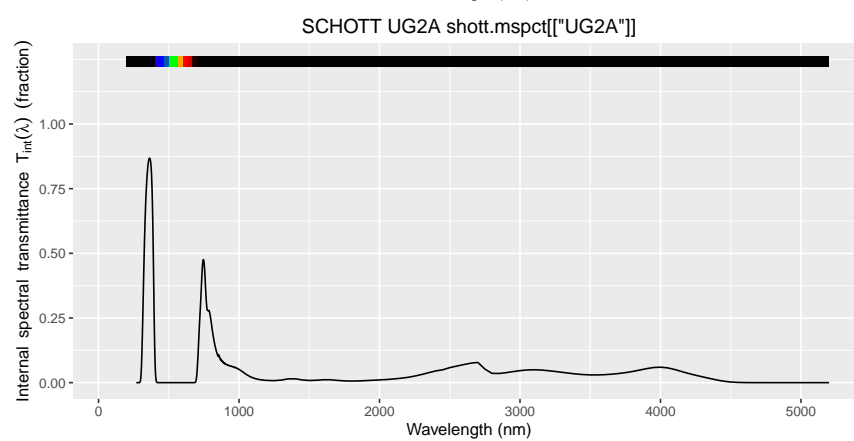
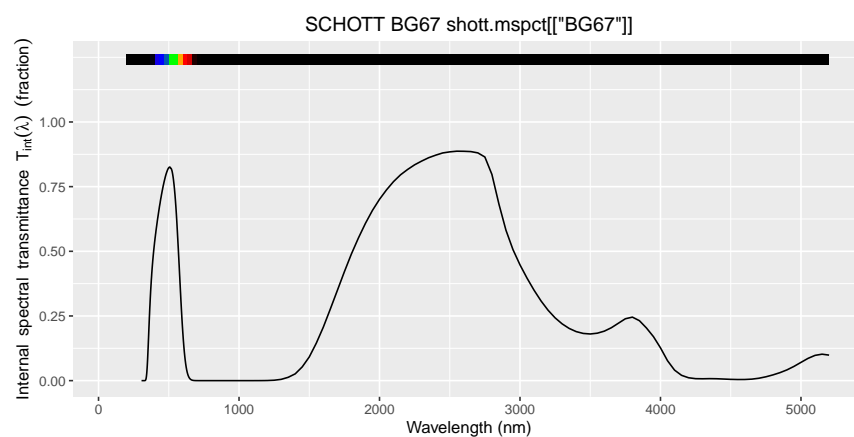
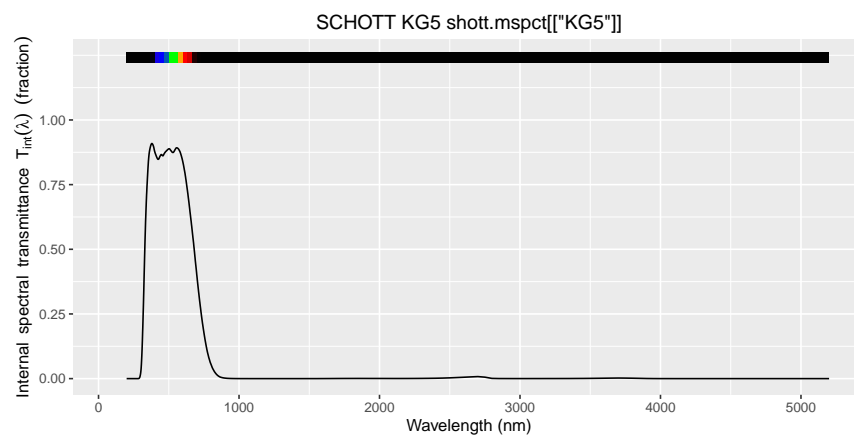


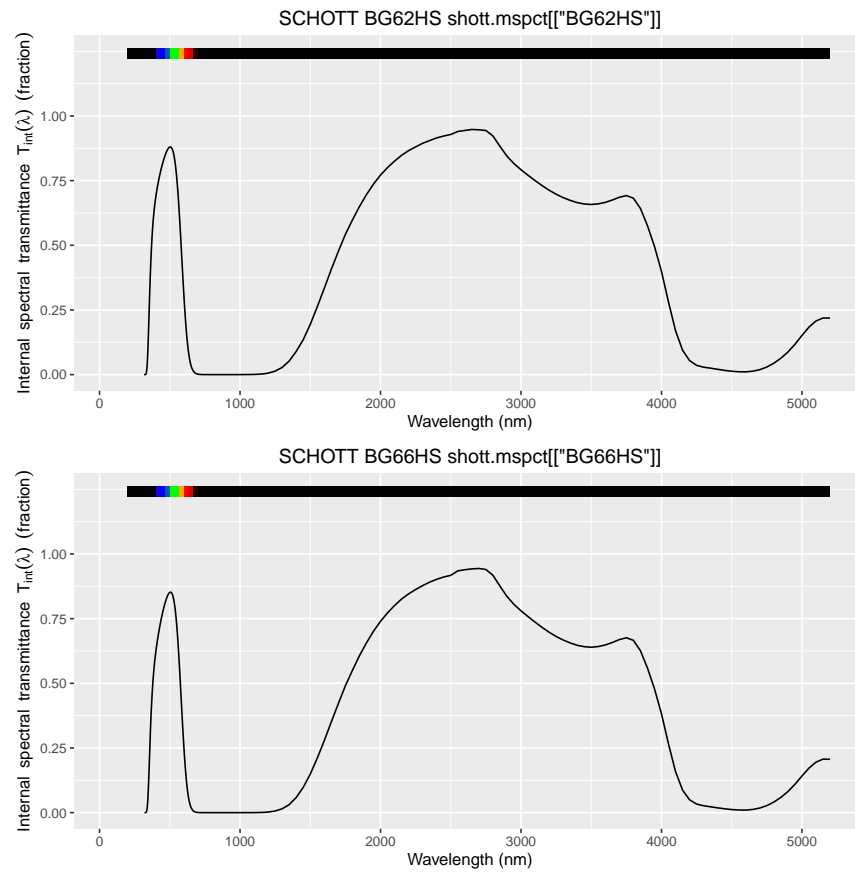












6 Petri dishes

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plot(petri_dishes.mspct[["PS_Sterilin101"]])
plot(petri_dishes.mspct[["PS_Sterilin109"]])
```

