

# photobiologyFilters Version 0.4.1

## Catalogue of filters

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## 1 Introduction

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

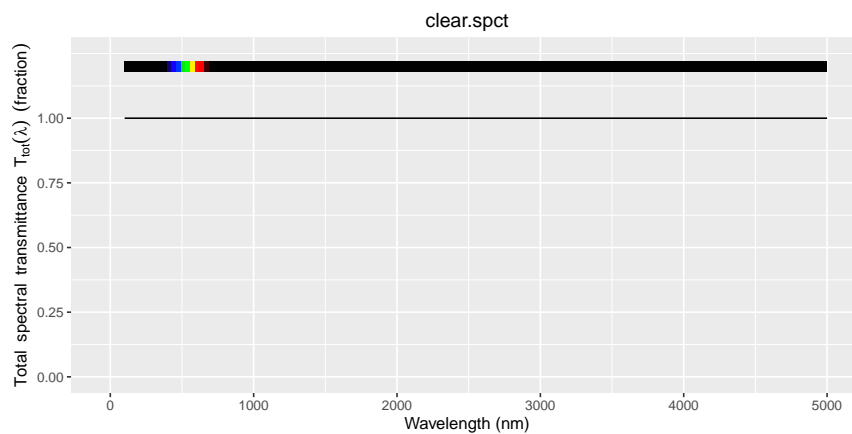
```
options(photobiology.plot.annotations = c("boxes", "labels", "colour_guide", "title"))
```

## 2 Dummy filters

### 2.1 Flat transmittance filters

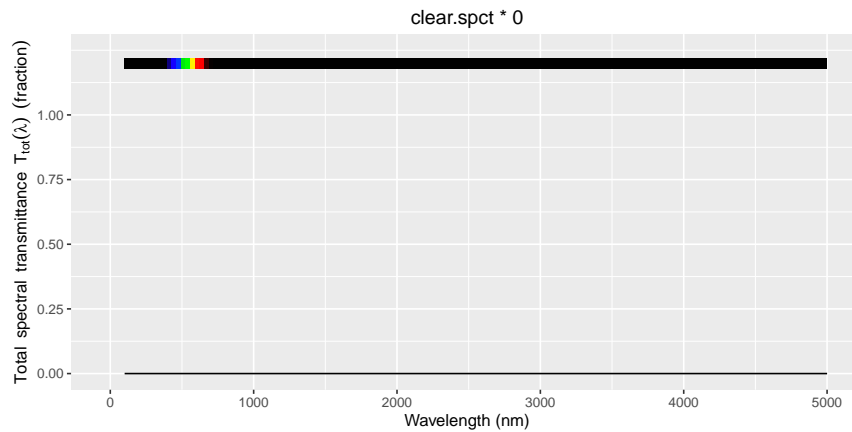
Perfectly clear filter.

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



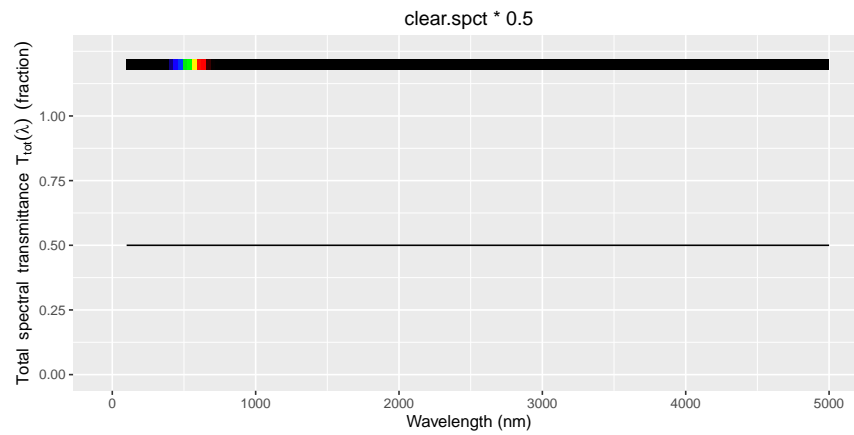
Perfectly opaque filter.

```
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.

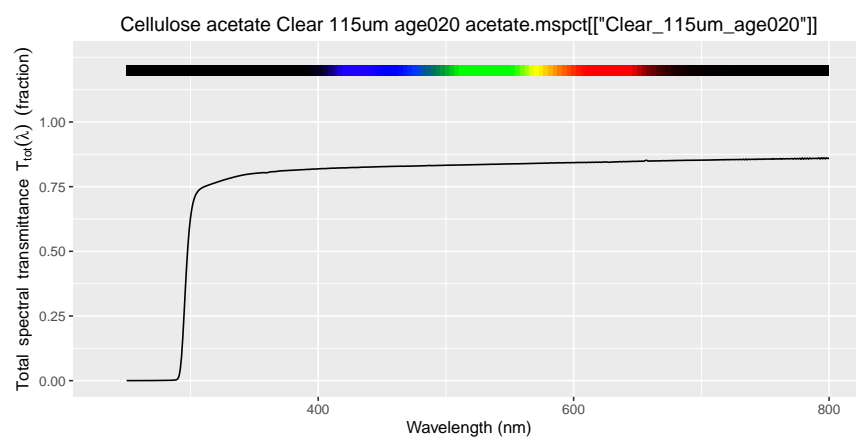
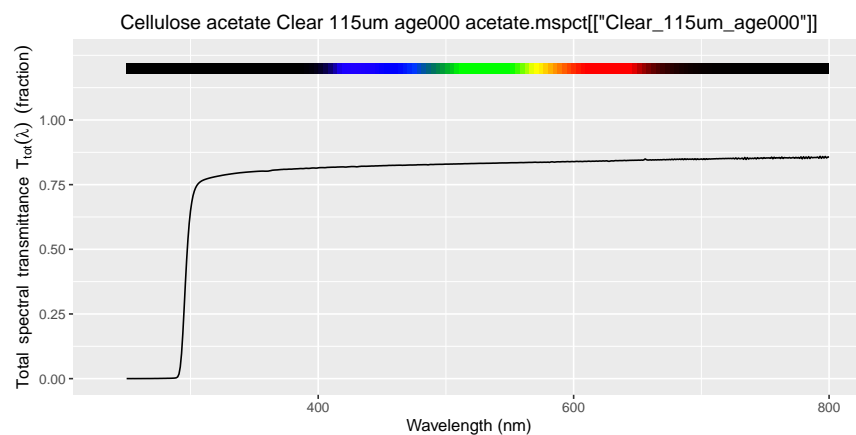
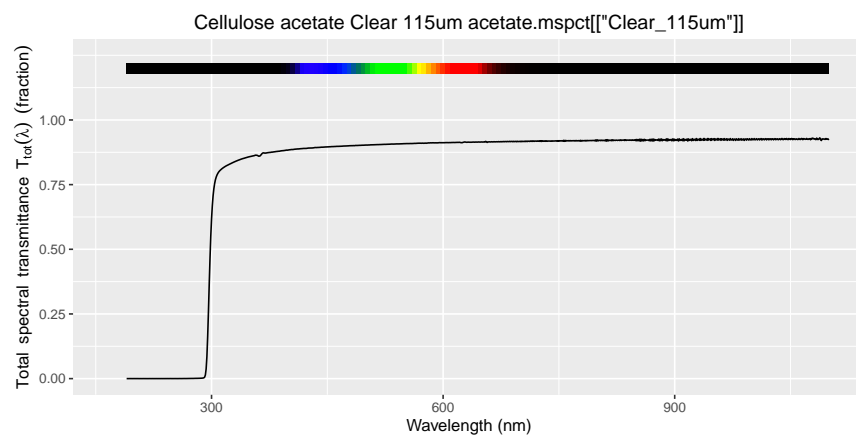
```
plot(clear.spct * A2T(1),
     annotations = c("colourguide", "title"))
```

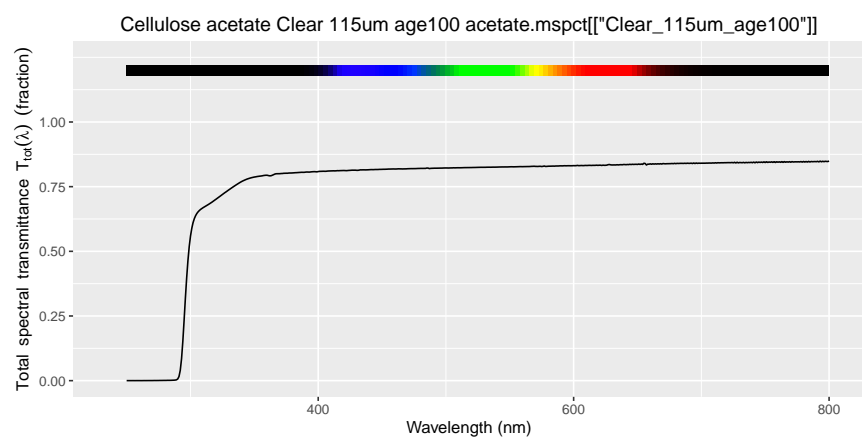
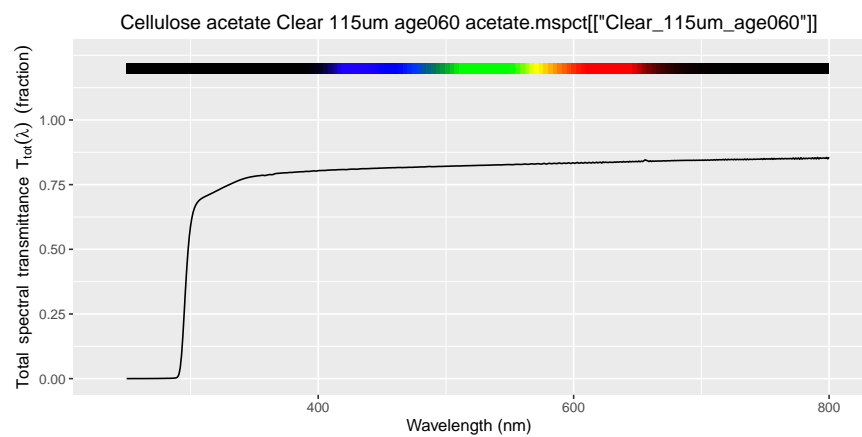
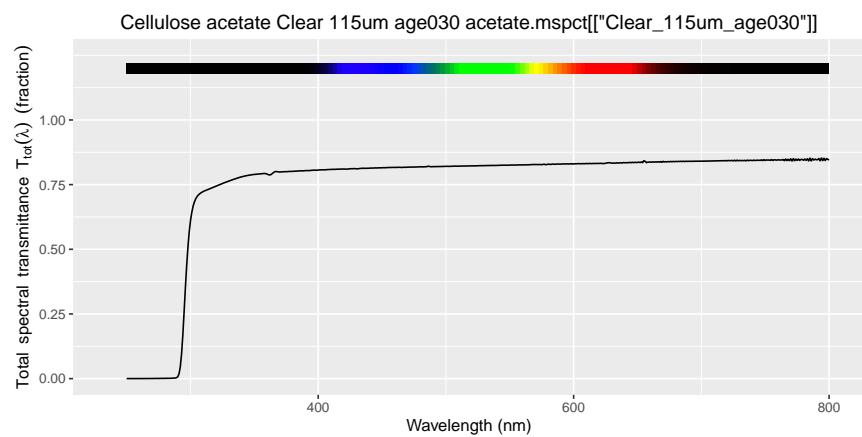


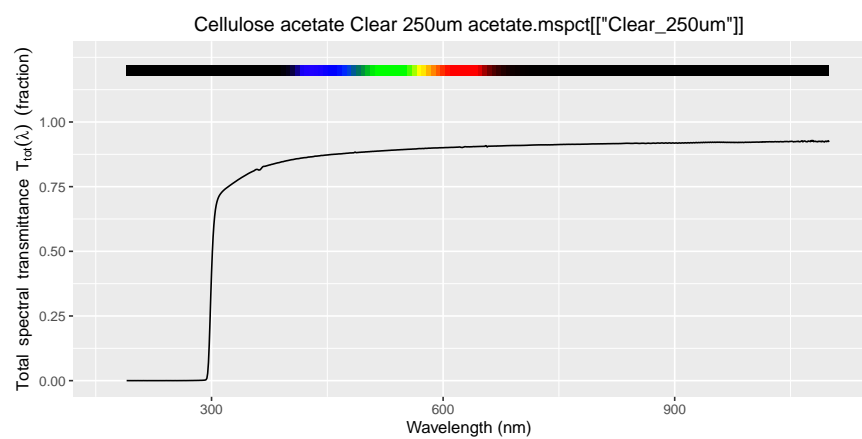
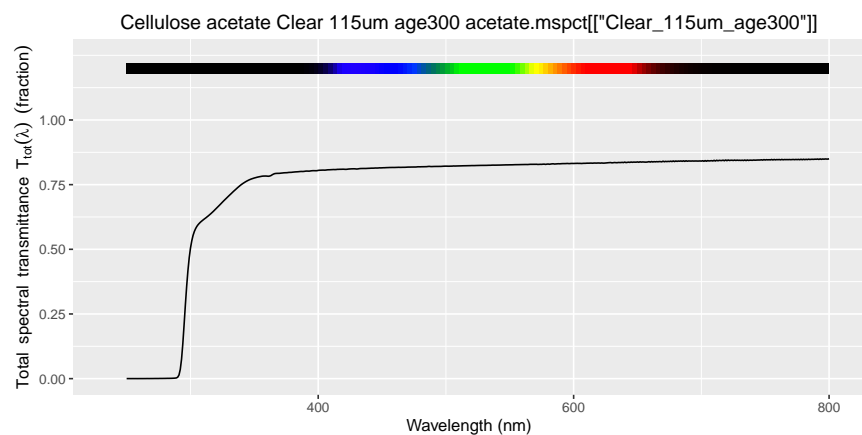
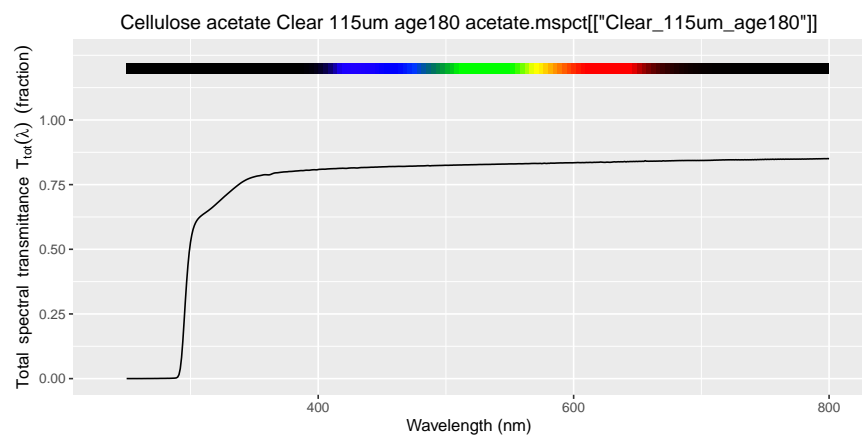
## 3 Plastic films

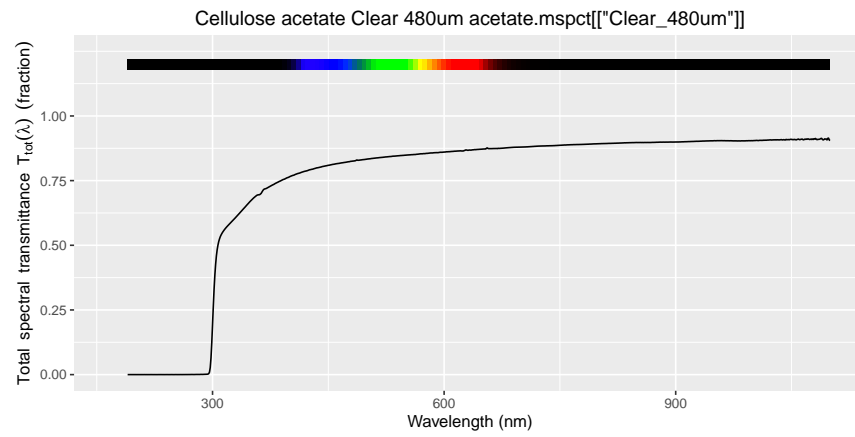
### 3.1 Cellulose diacetate

```
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 = "")))
}
```



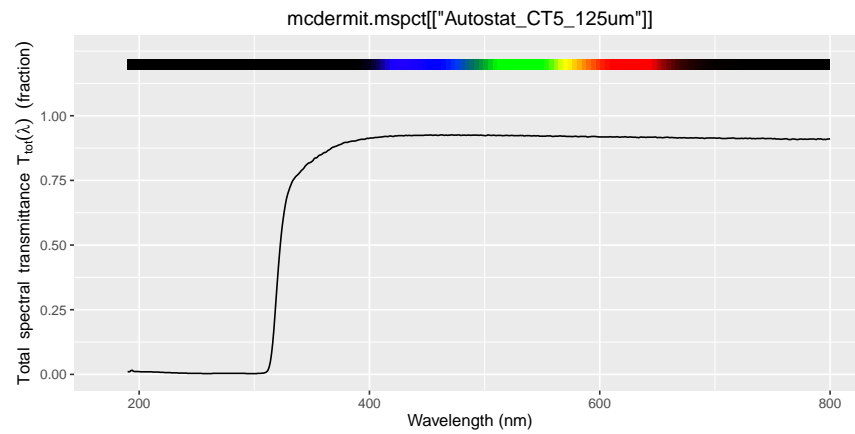






### 3.2 Polyester

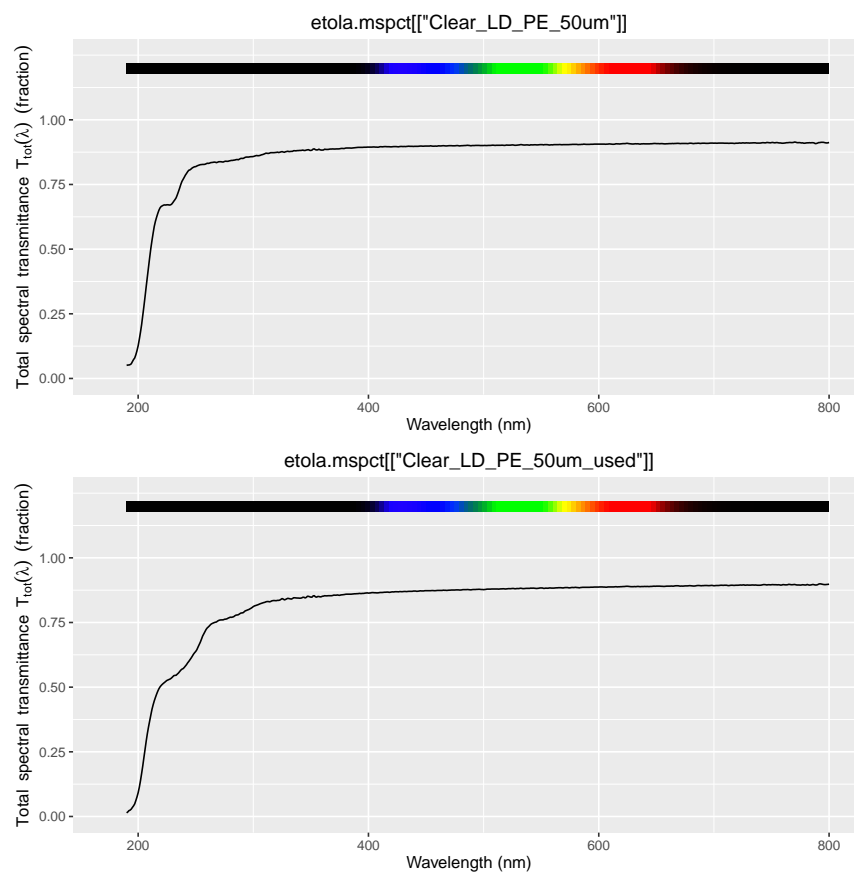
```
plot(mcdernit.mspct[["Autostat_CT5_125um"]])
```





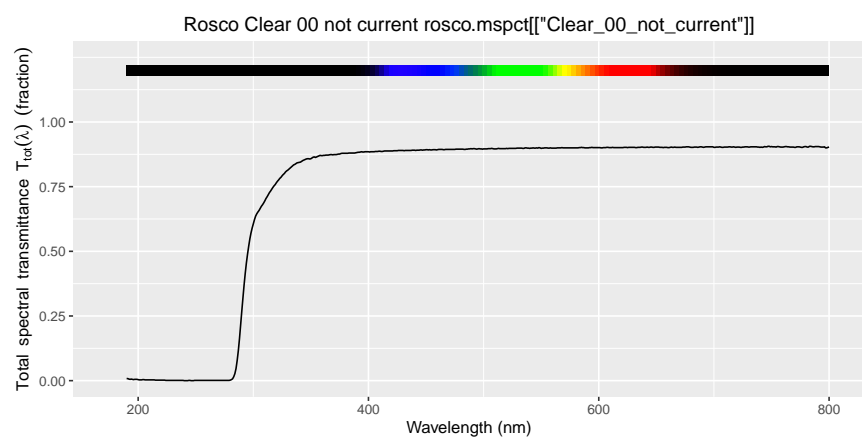
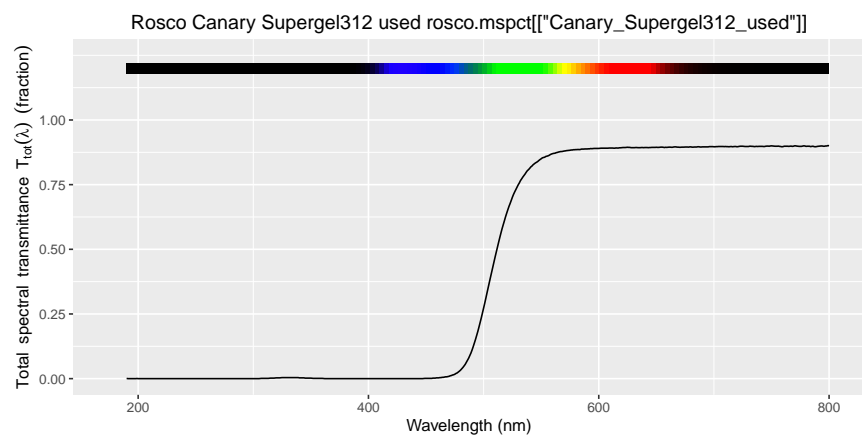
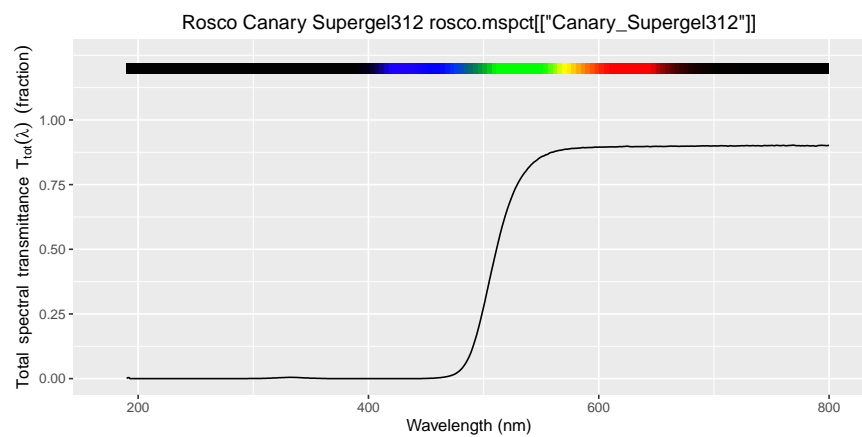
### 3.3 Polythene

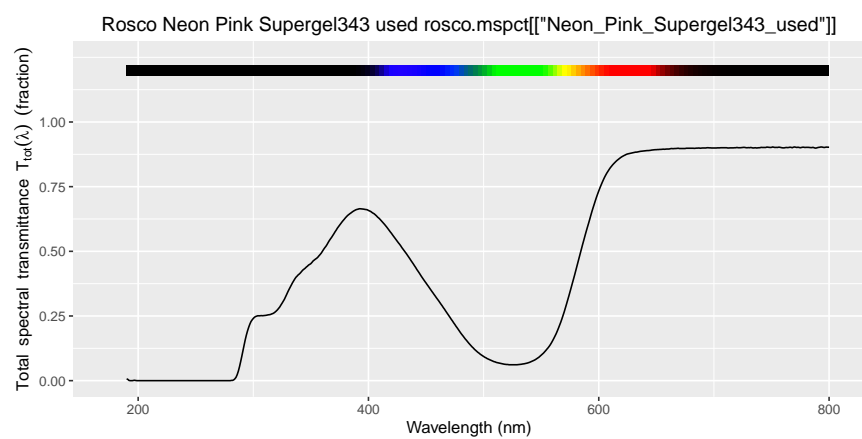
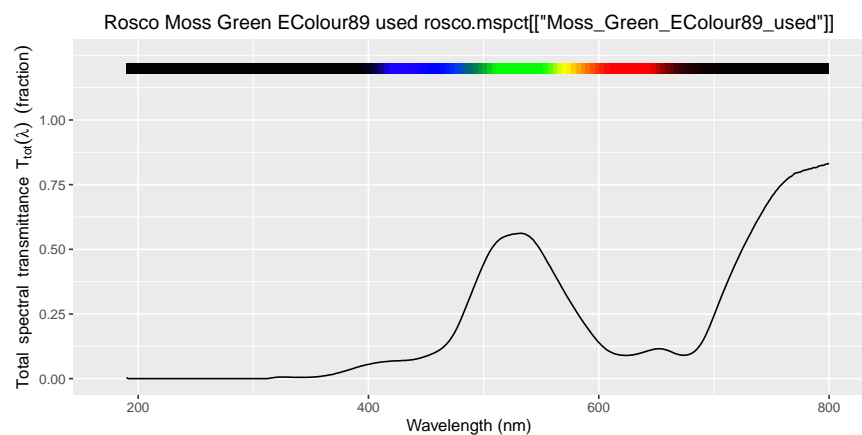
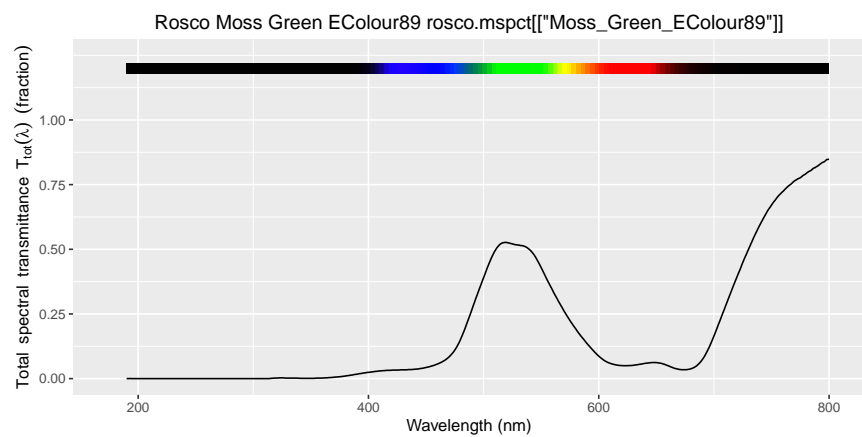
```
plot(etola.mspct[["Clear_LD_PE_50um"]])
plot(etola.mspct[["Clear_LD_PE_50um_used"]])
```

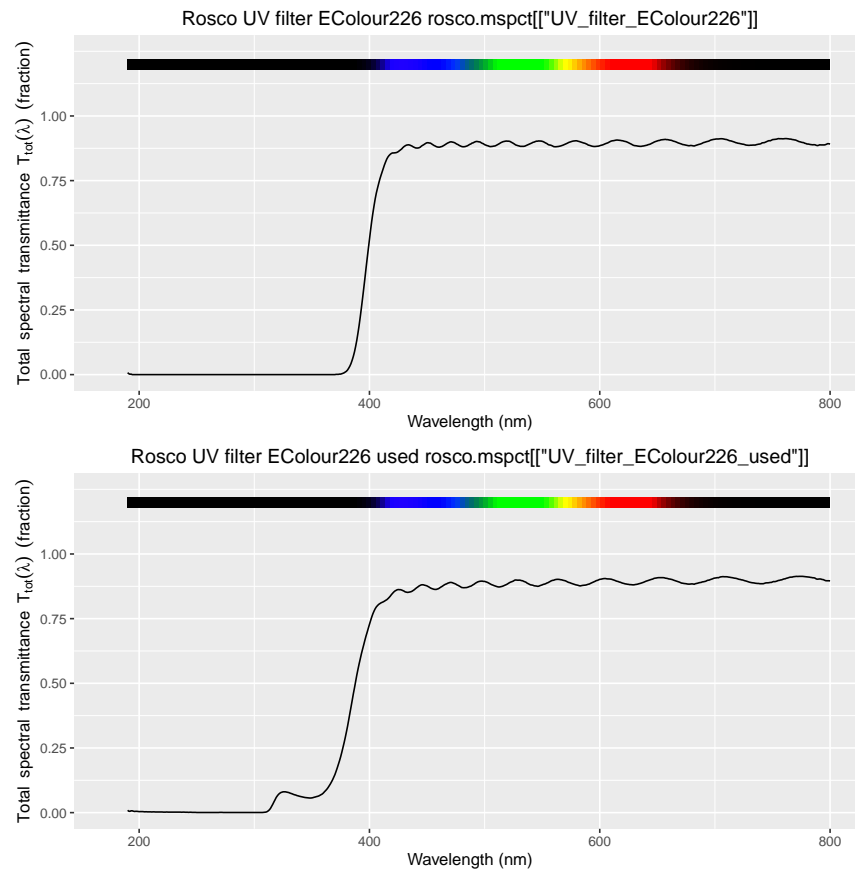


### 3.4 Rosco theatrical filters

```
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 = "")))
}
```

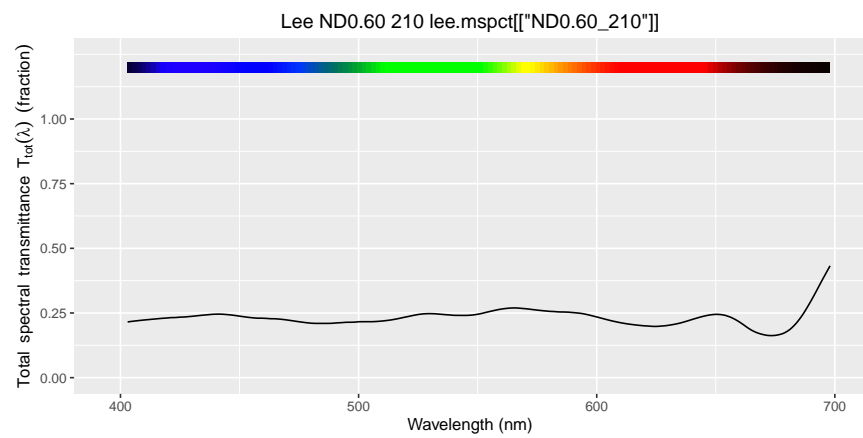
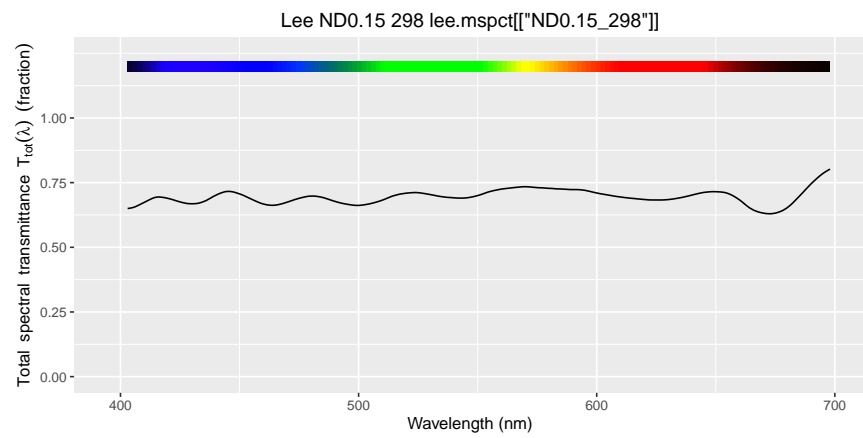
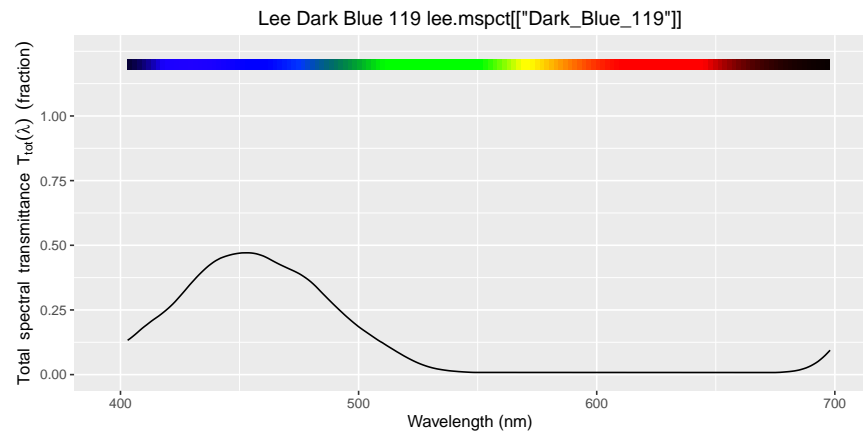


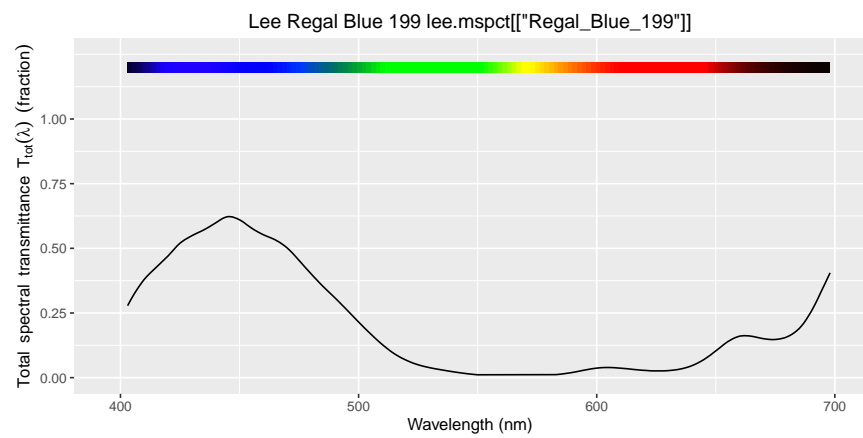
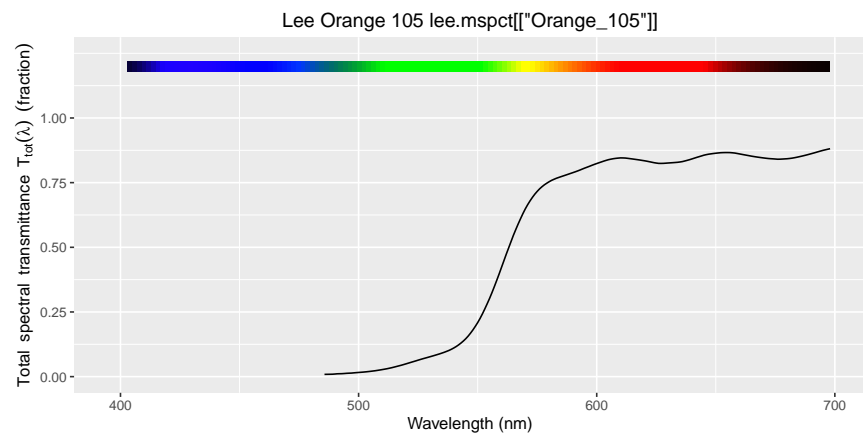
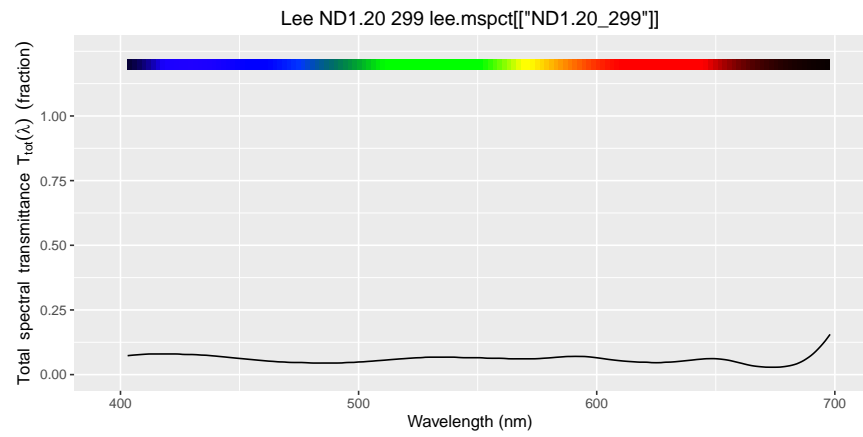


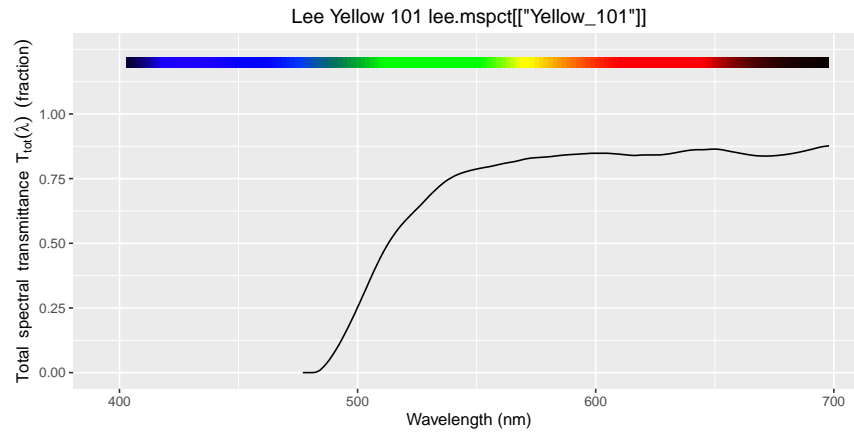


### 3.5 Lee theatrical filters

```
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 = "")))
}
```

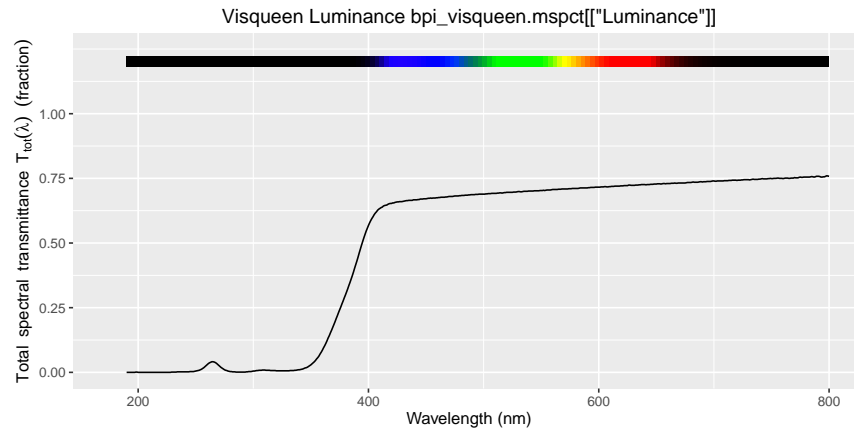


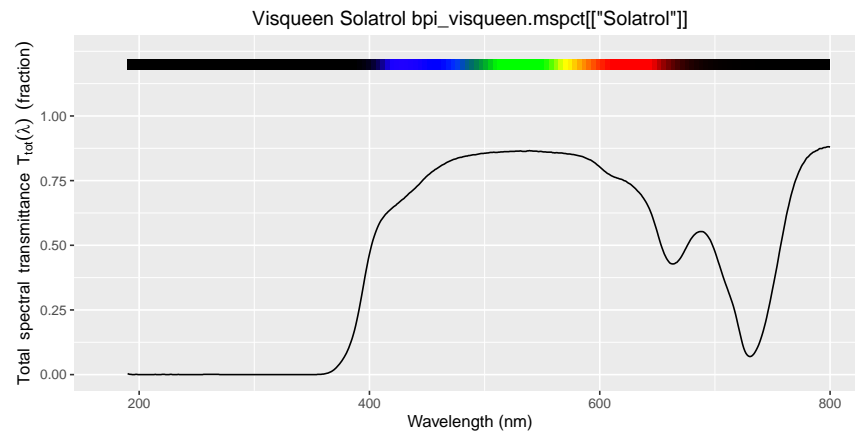




### 3.6 Commercial greenhouse films from BPI Agri Visqueen

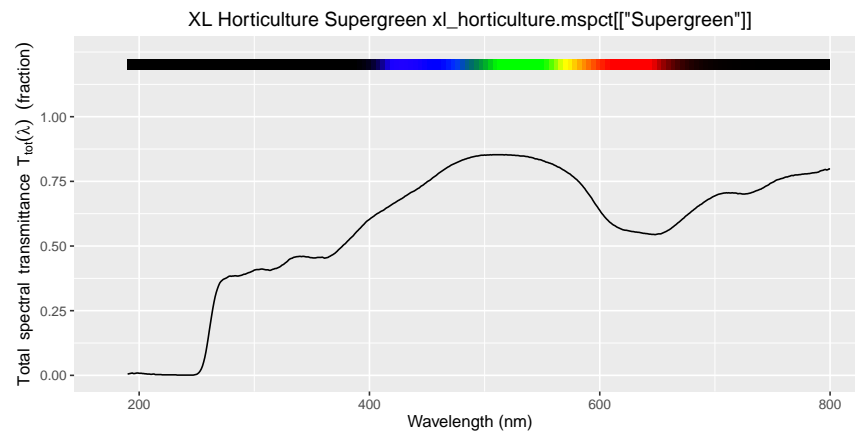
```
for (s in names(bpi_visqueen.mspect)) {
  print(plot(bpi_visqueen.mspect[[s]], annotations = "colour_guide") +
    labs(title = paste("Visqueen ", gsub("_", " ", s, fixed = TRUE),
      ' bpi_visqueen.mspect[["', s, '"]]',
      sep = "")))
}
```



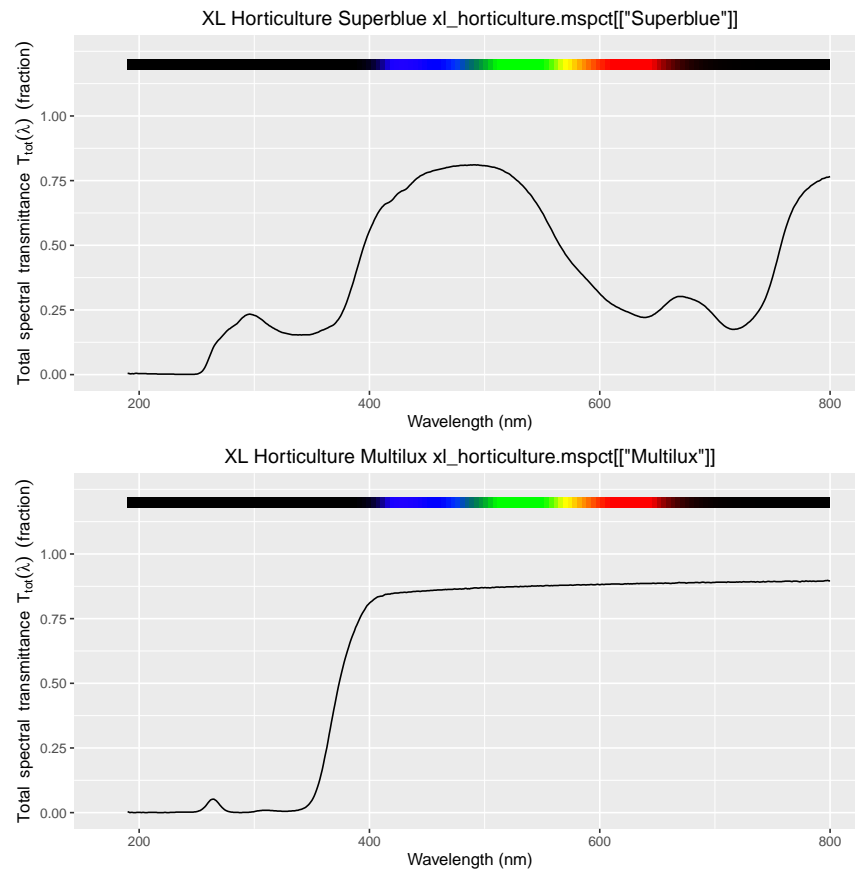


### 3.7 Commercial greenhouse films from XL Agriculture

```
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 = "")))
}
```



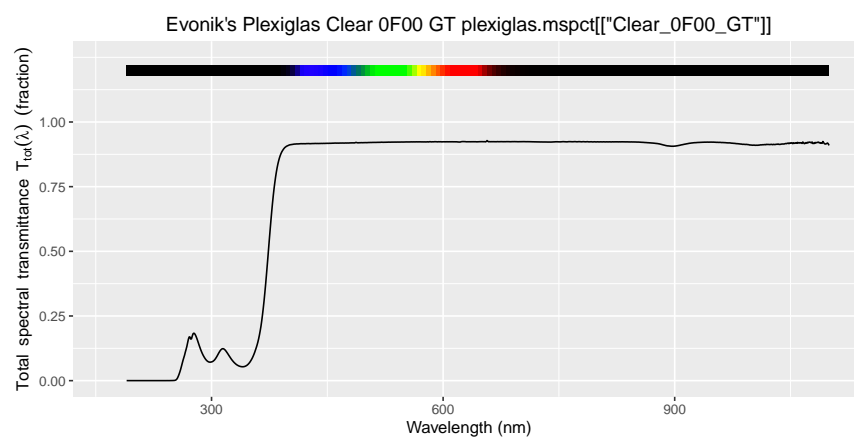
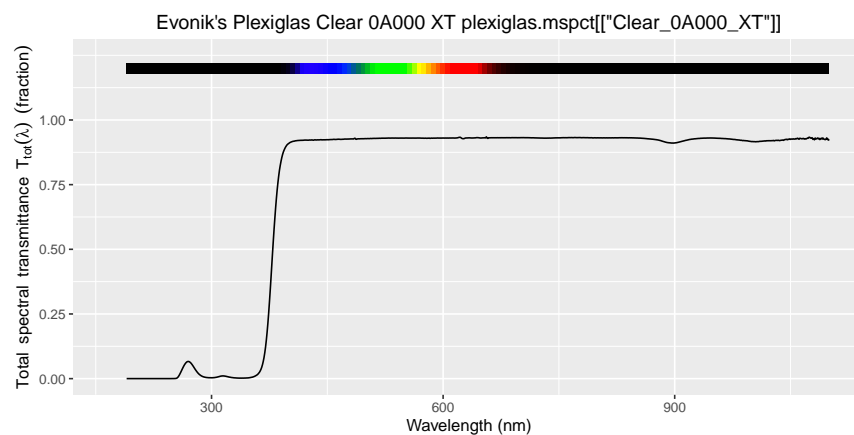
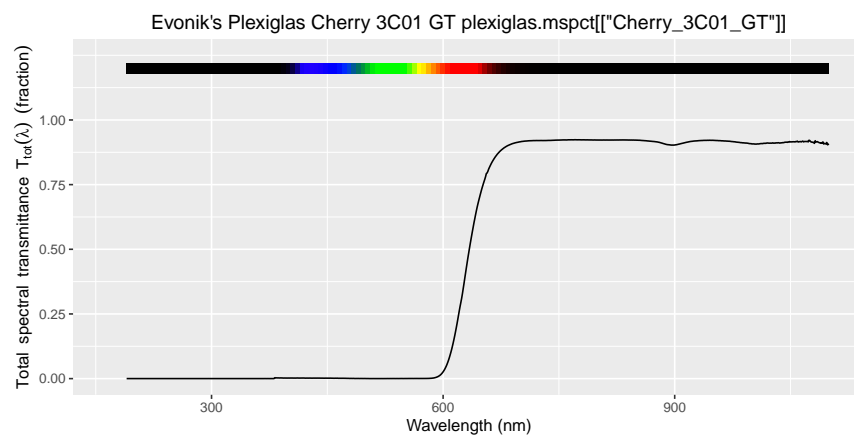


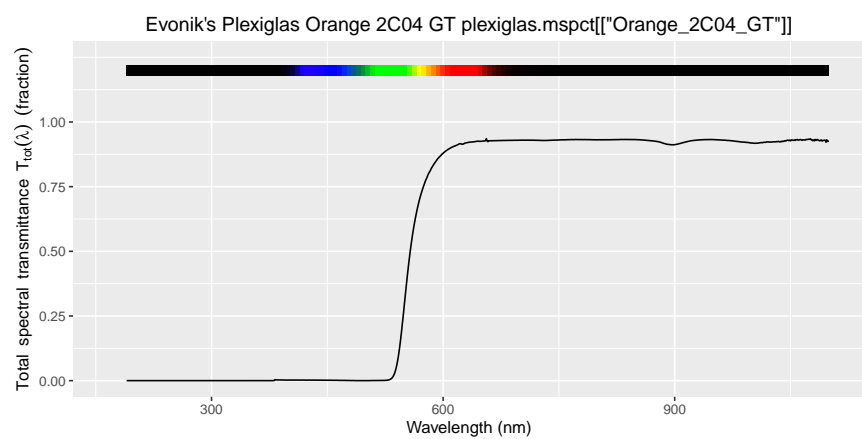
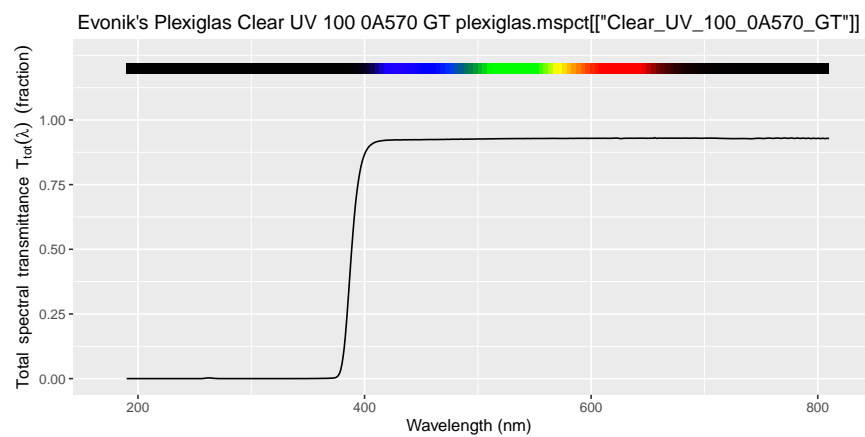
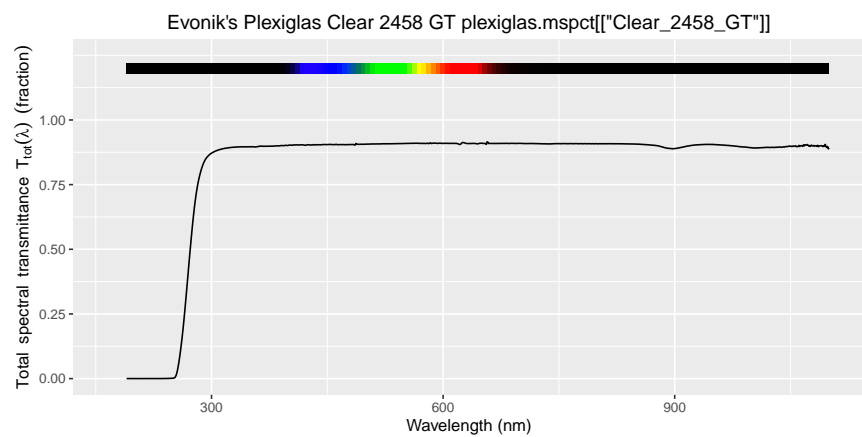


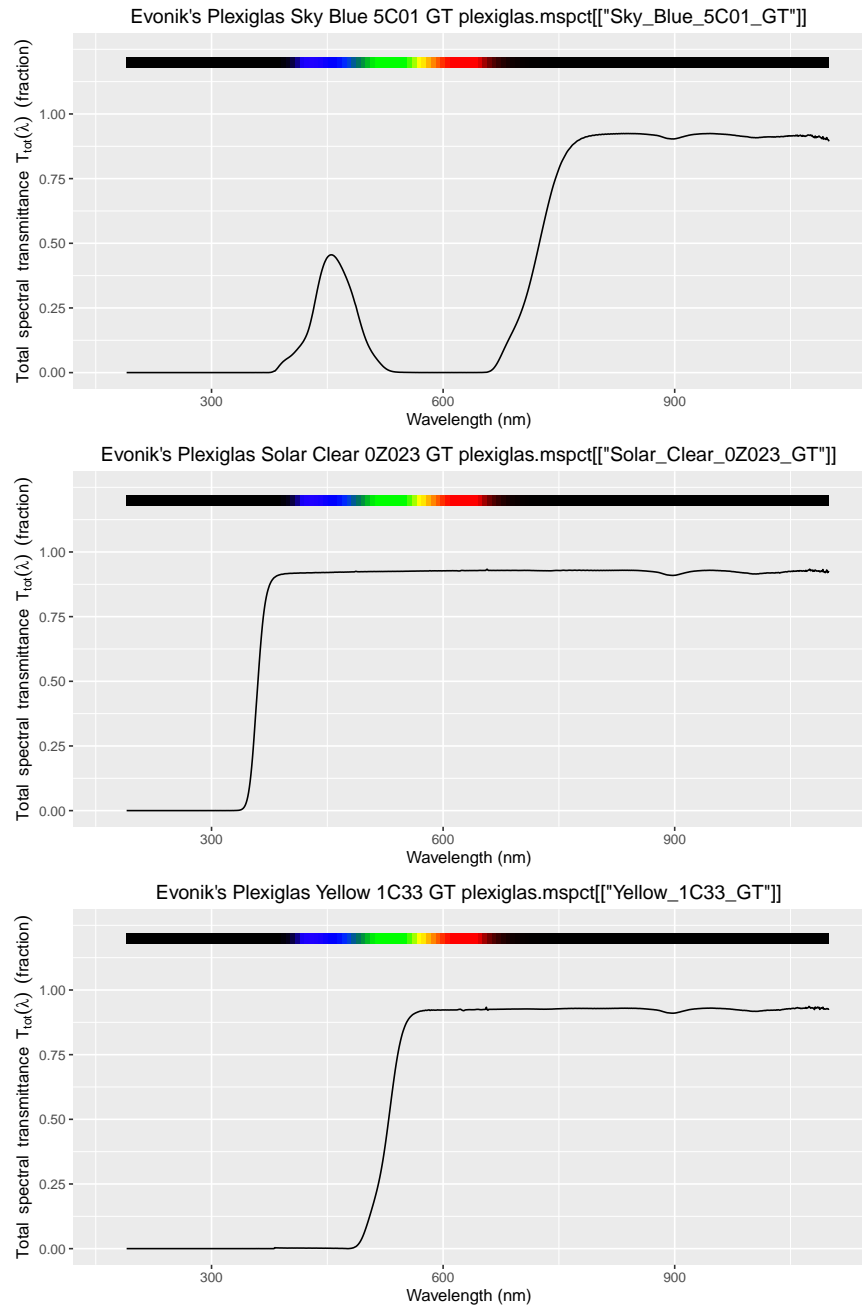
## 4 Plastic sheets

### 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 = " ")))
}
```





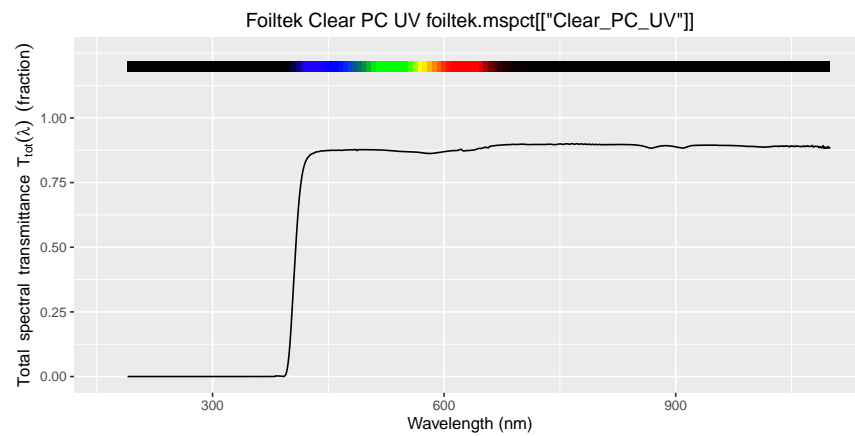
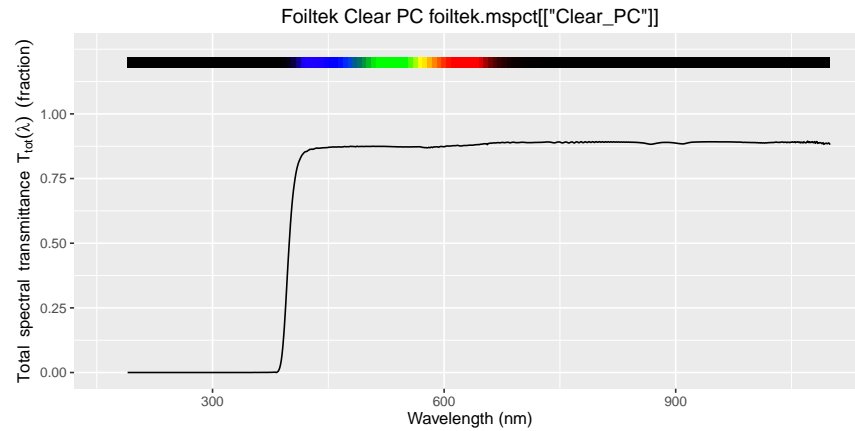


## 4.2 Polycarbonate

```

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 = "")))
}

```

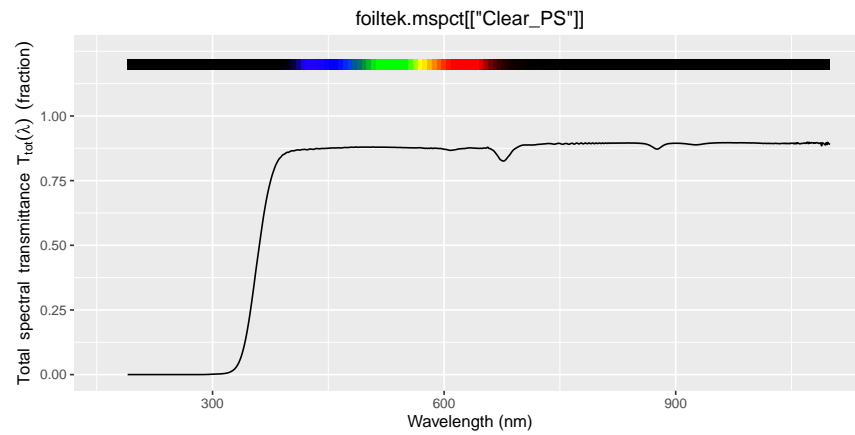


### 4.3 Polystyrene

```

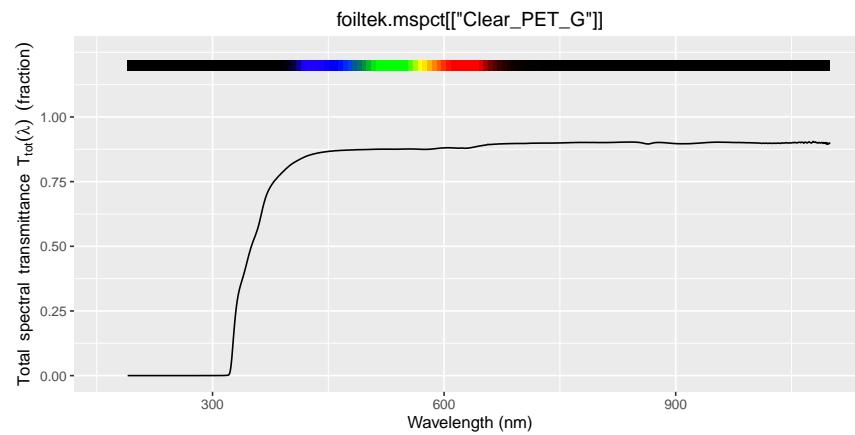
plot(foiltek.mspct[["Clear_PS"]],
  annotations = c("colour.guide", "title"))

```



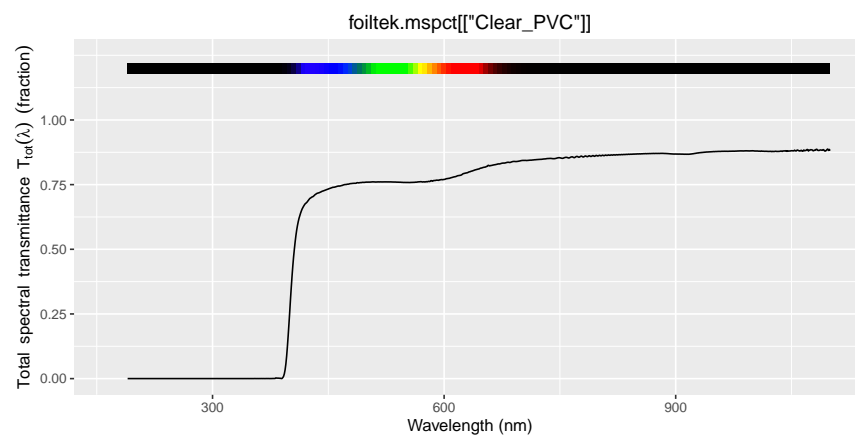
## 4.4 Polyester

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



## 4.5 Polyvinylchloride

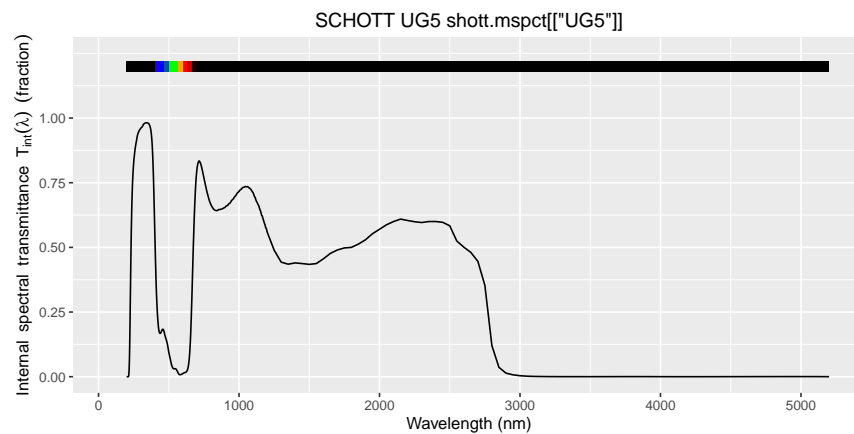
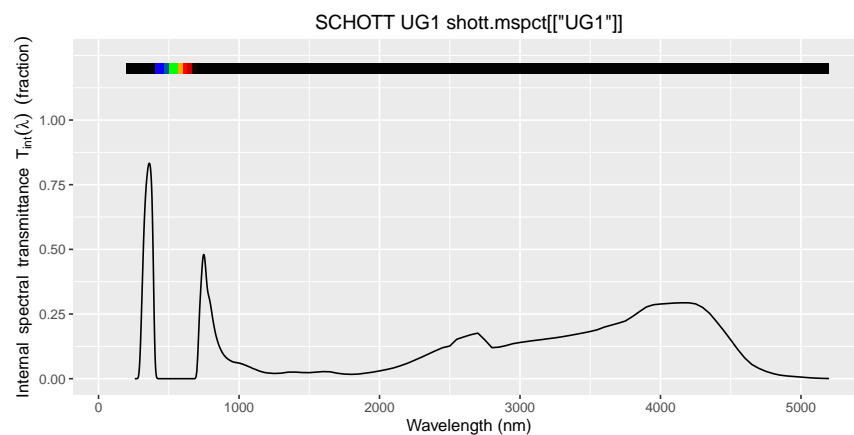
```
plot(foiltek.mspct[["Clear_PVC"]],
     annotations = c("colourguide", "title"))
```



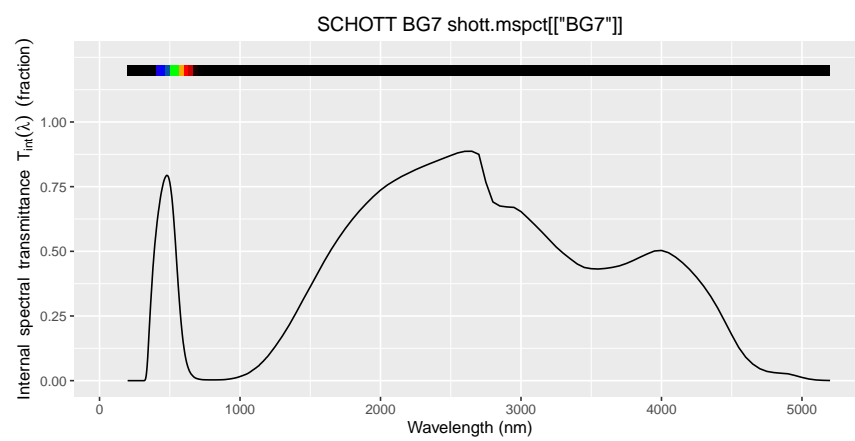
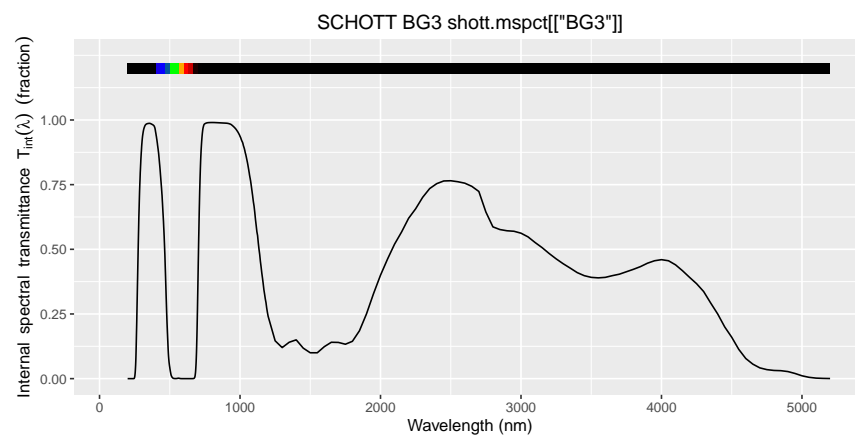
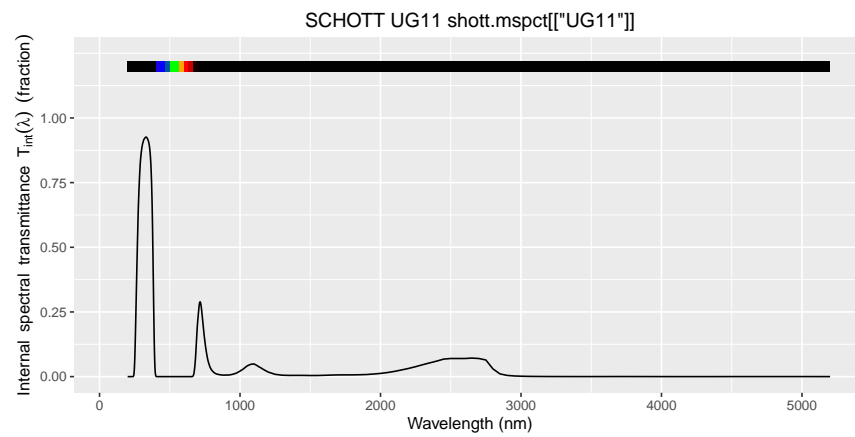
## 5 Optical glass filters

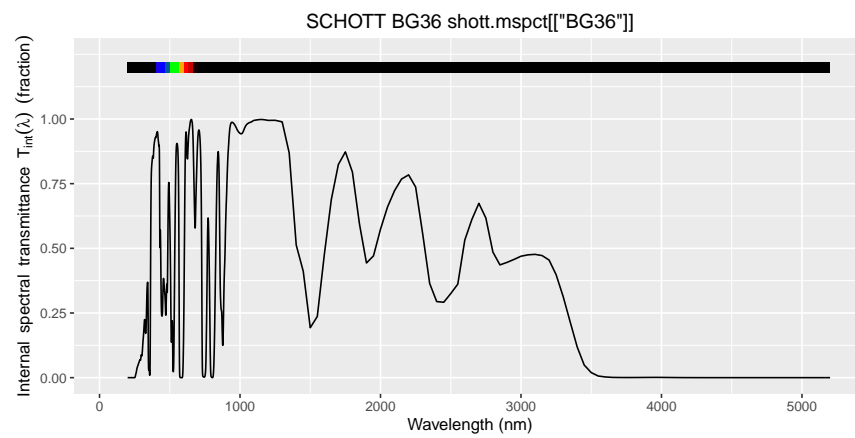
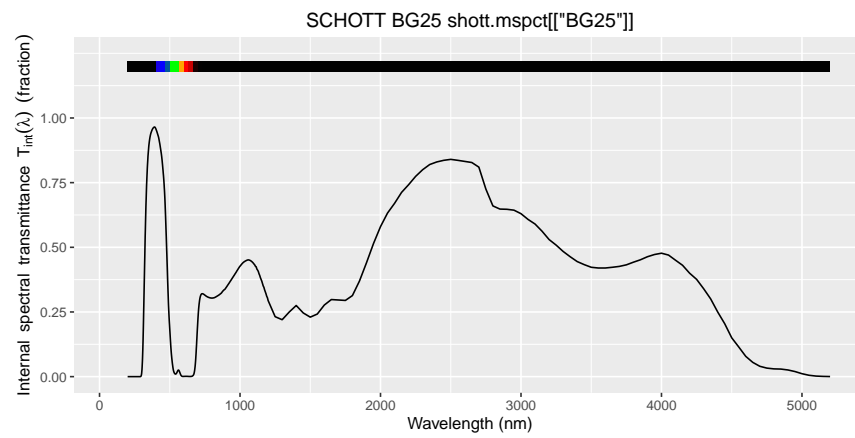
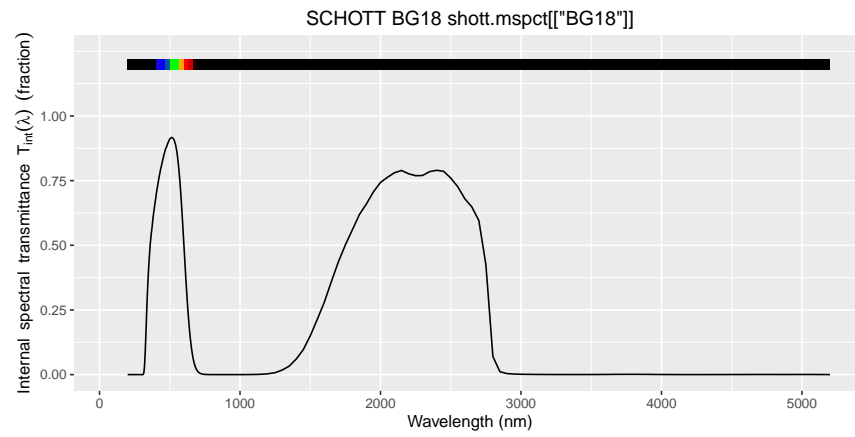
### 5.1 Schott long-pass filters

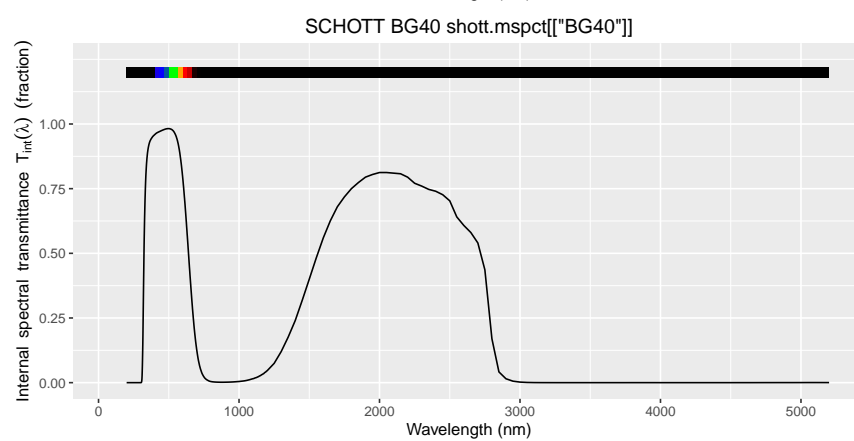
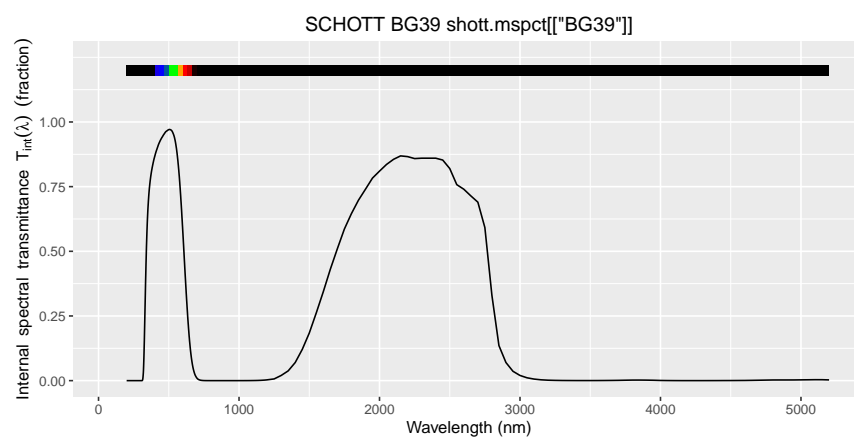
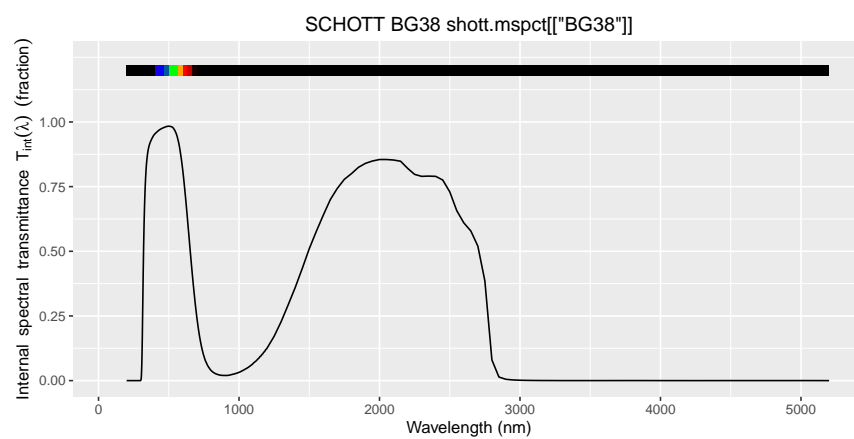
```
for (s in names(schott.mspect)) {  
  print(plot(schott.mspect[[s]], annotations = "colour_guide") +  
    labs(title = paste("SCHOTT ", s,  
      ' schott.mspect[["', s, '"]]',  
      sep = " ")))  
}
```

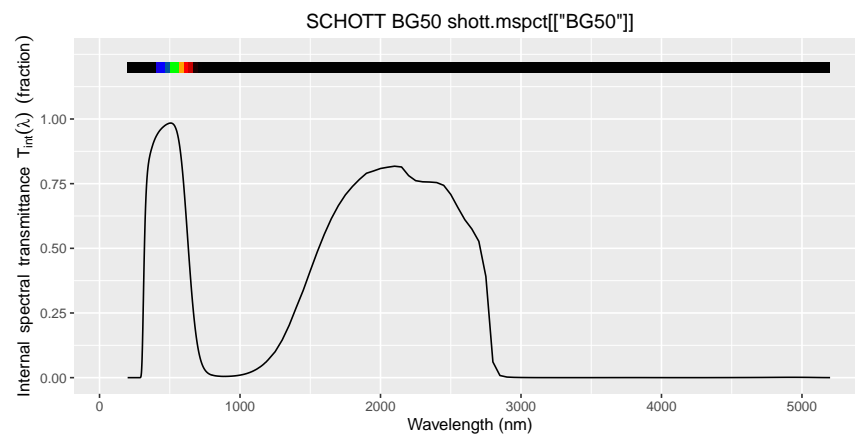
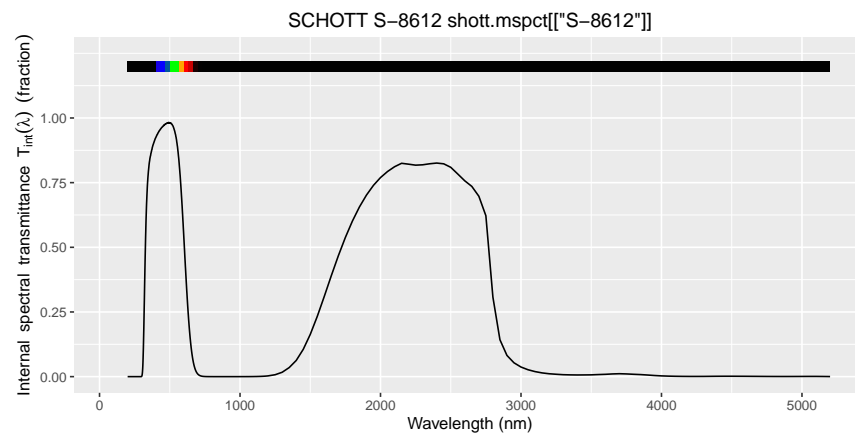
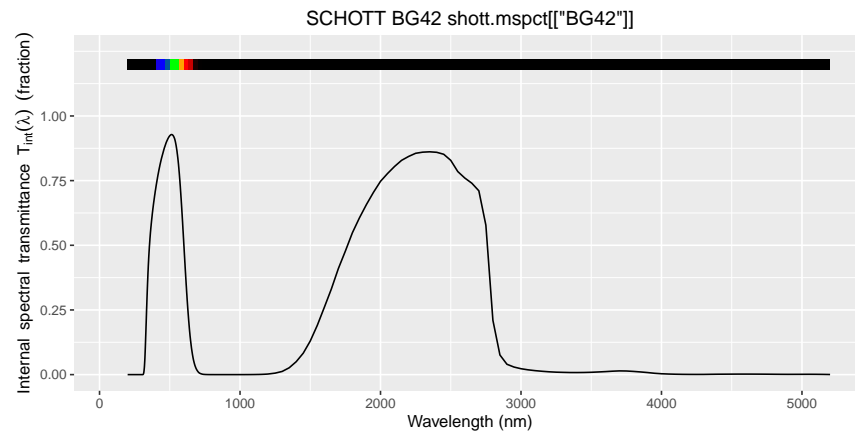


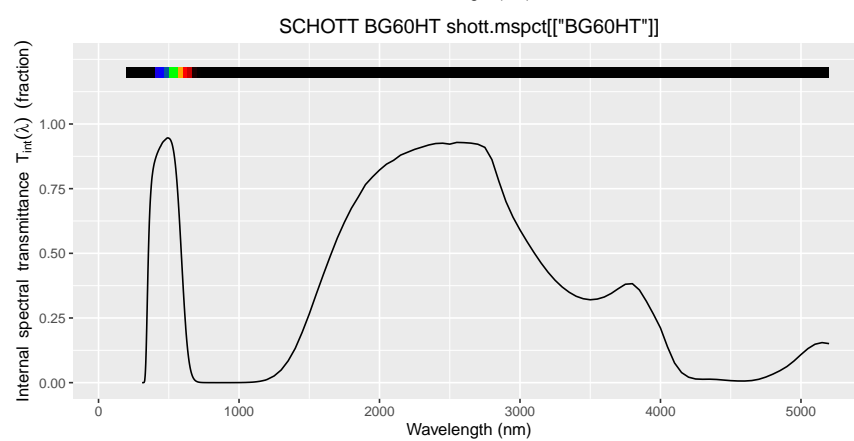
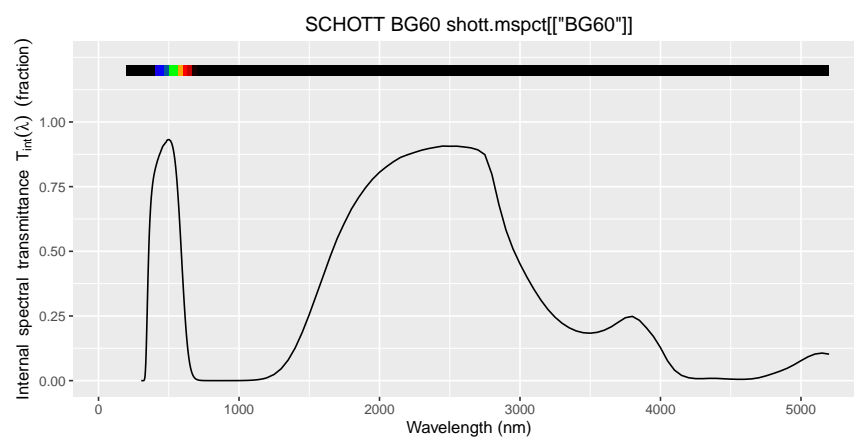
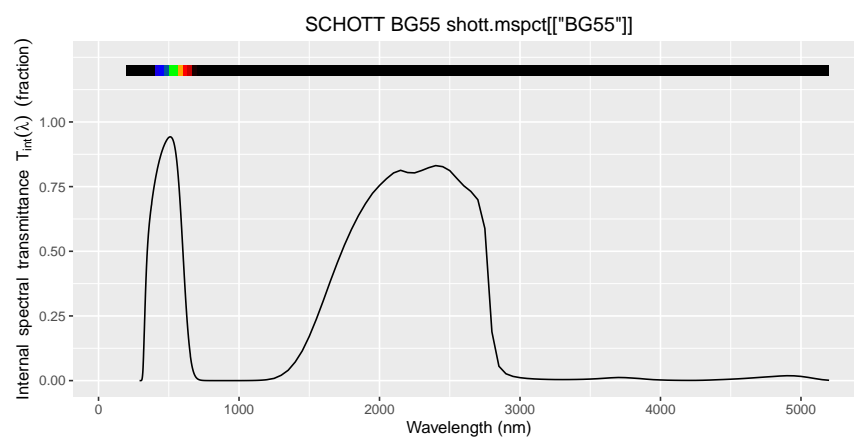


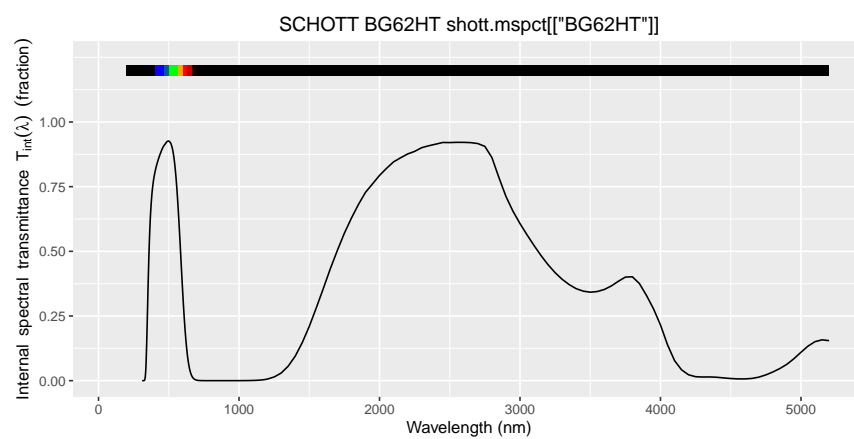
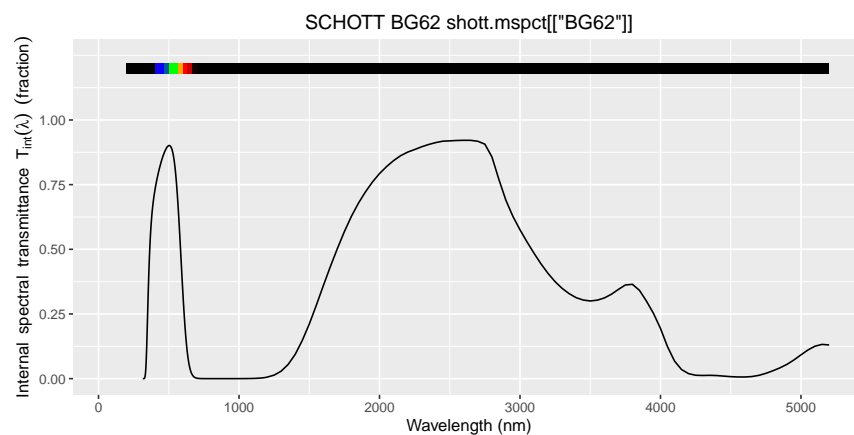
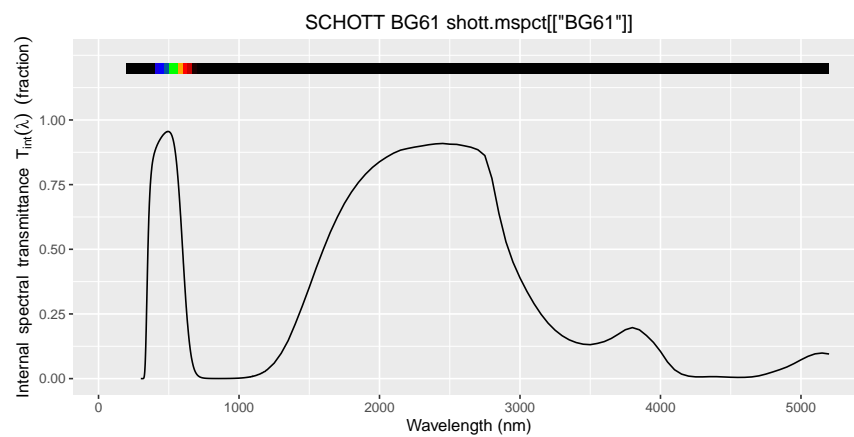


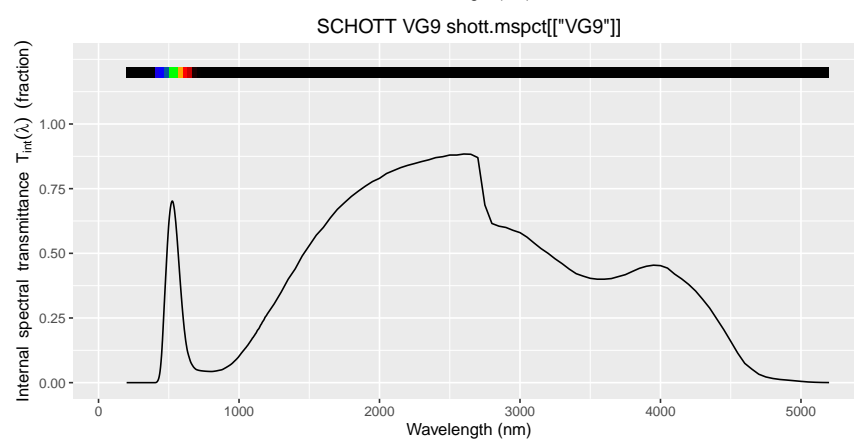
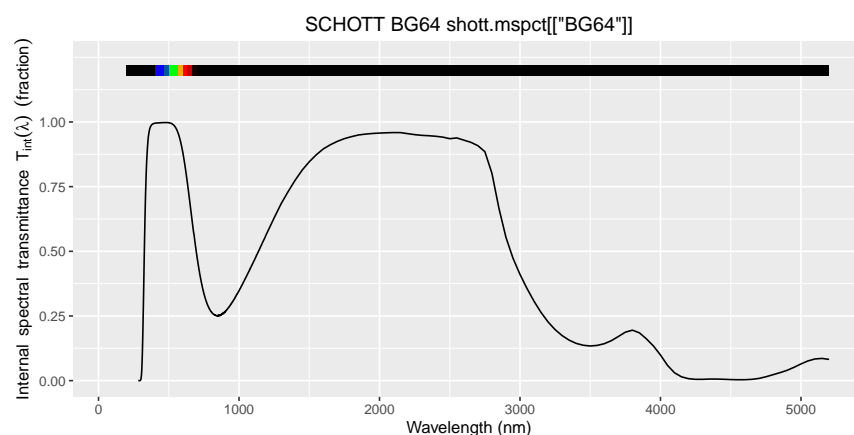
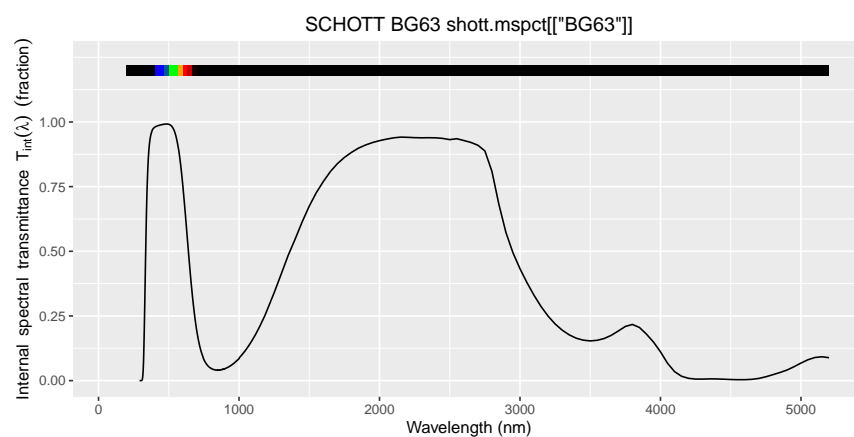


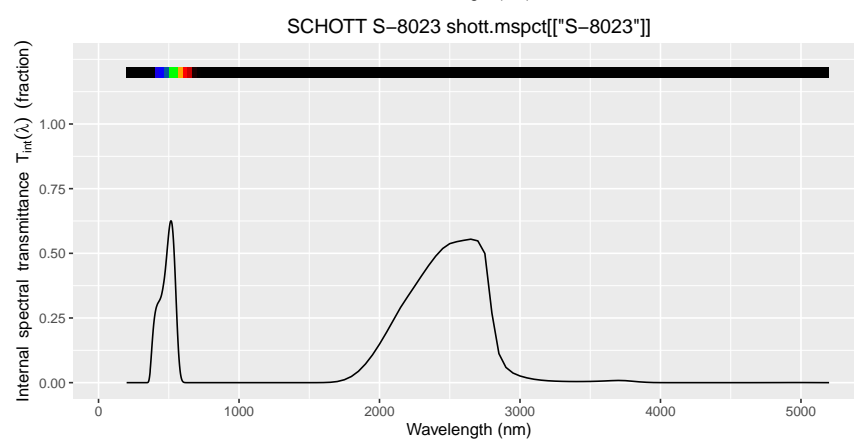
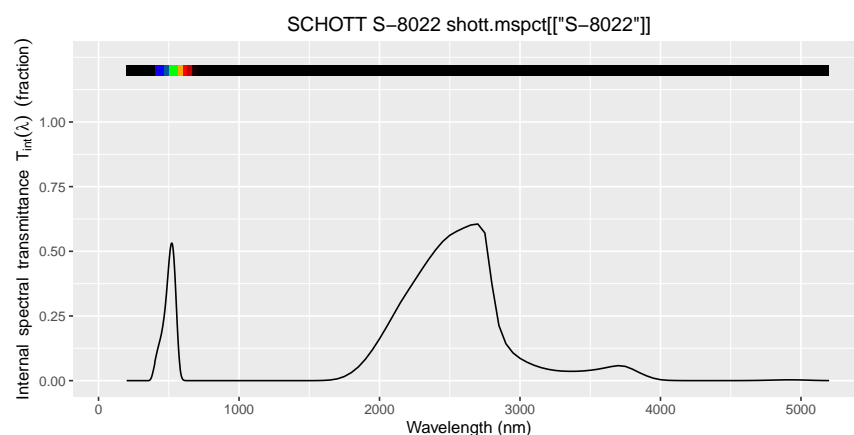
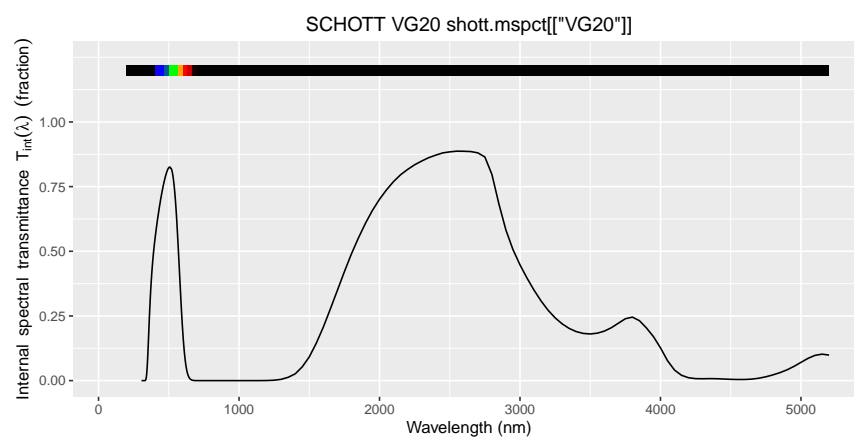




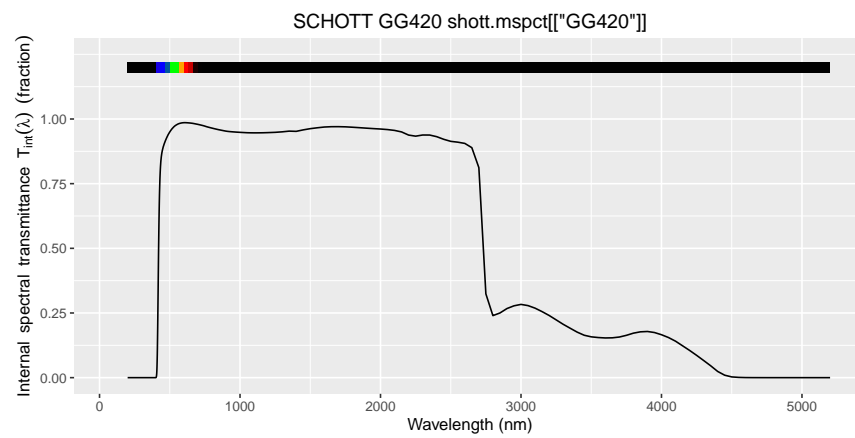
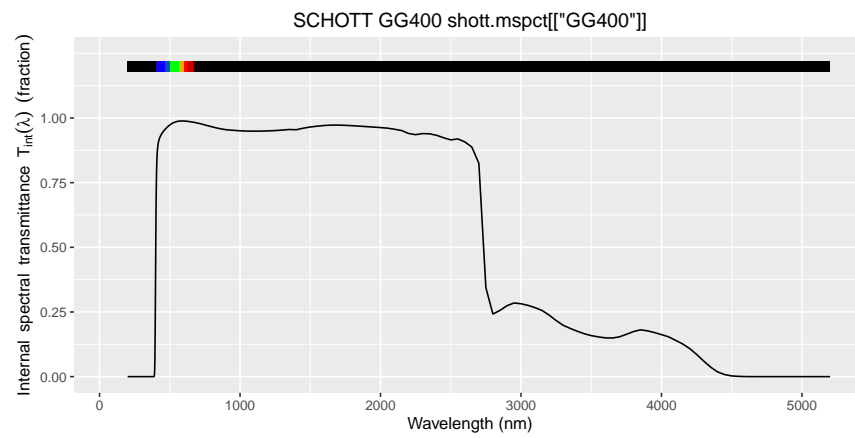
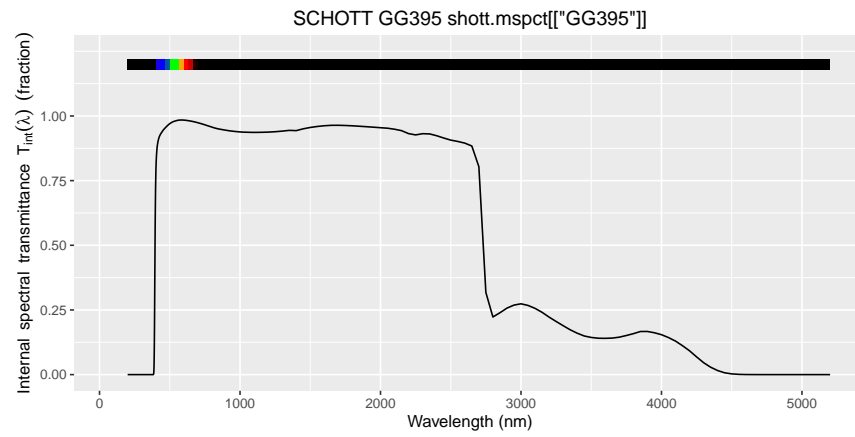


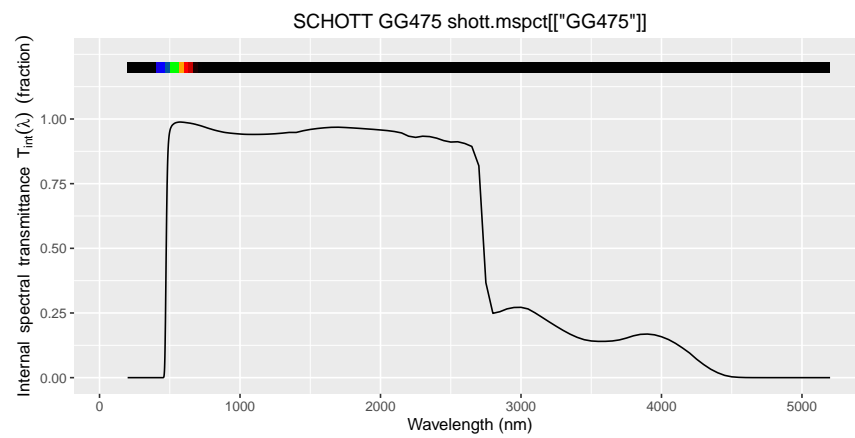
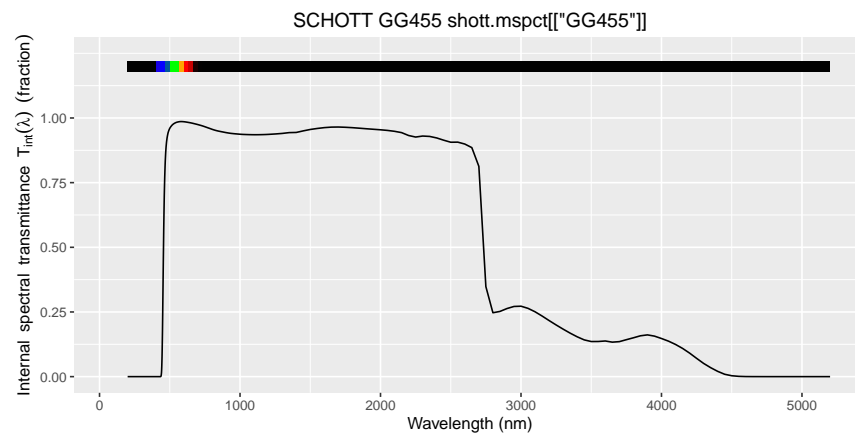
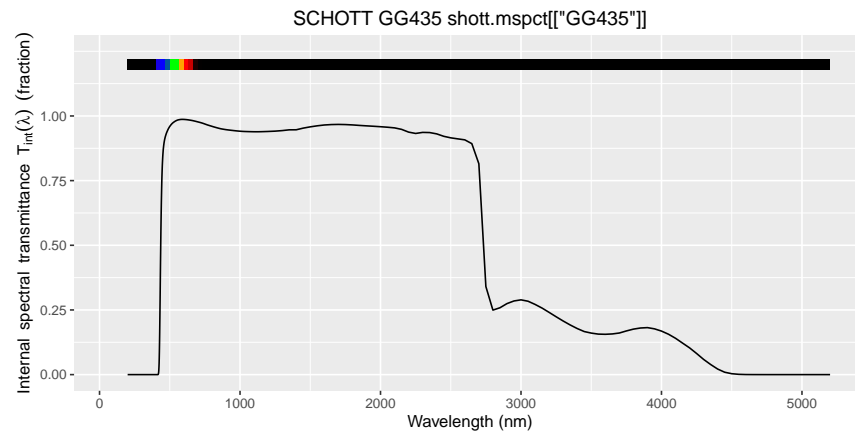


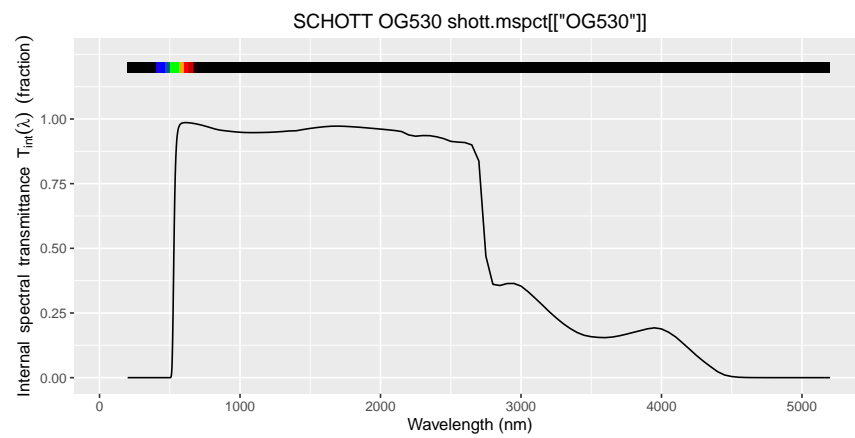
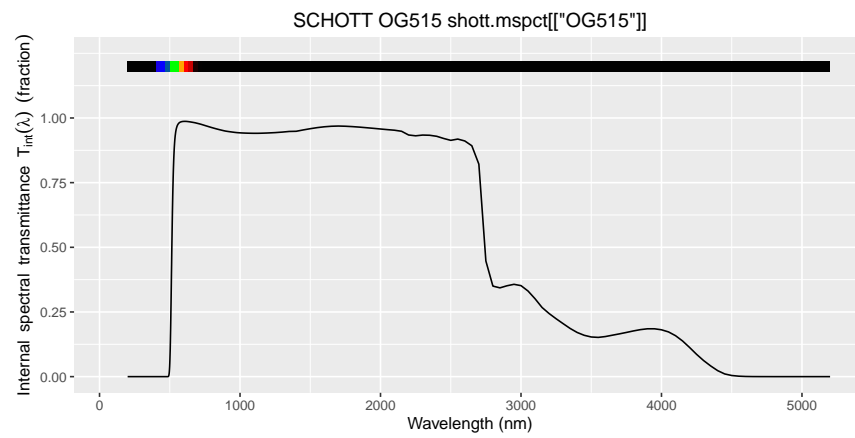
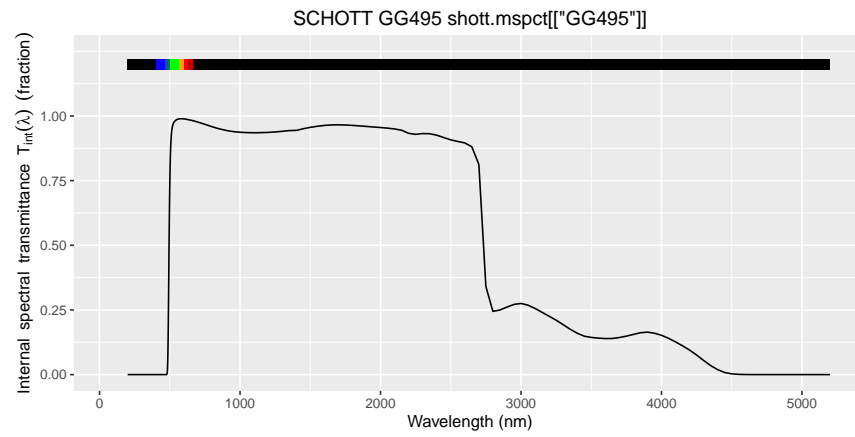


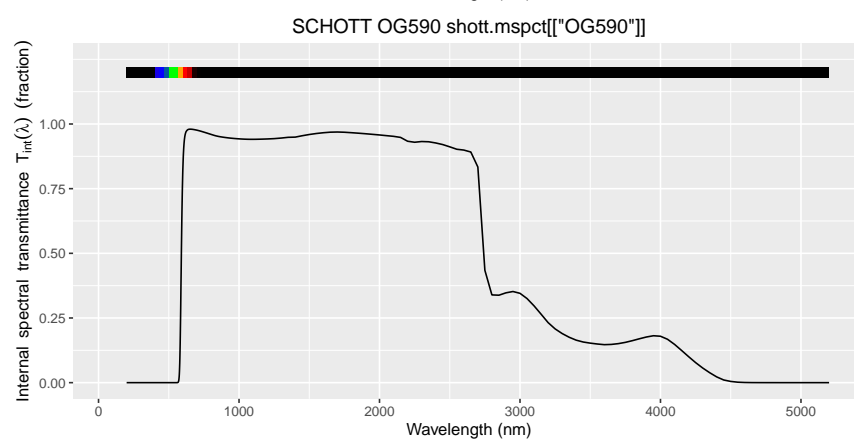
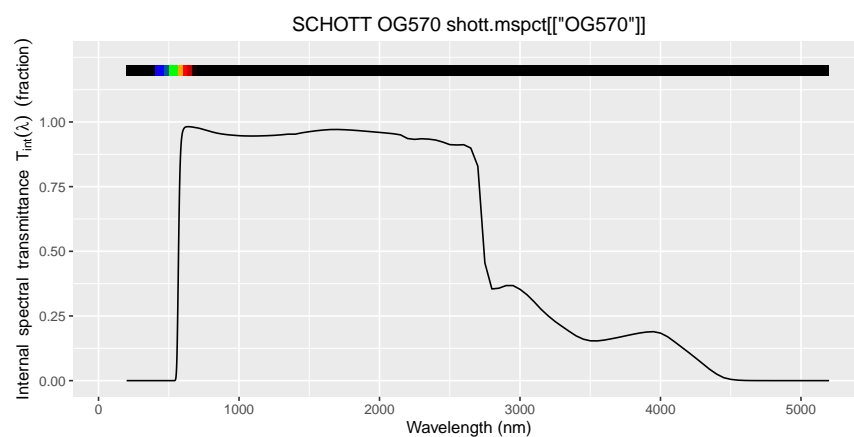
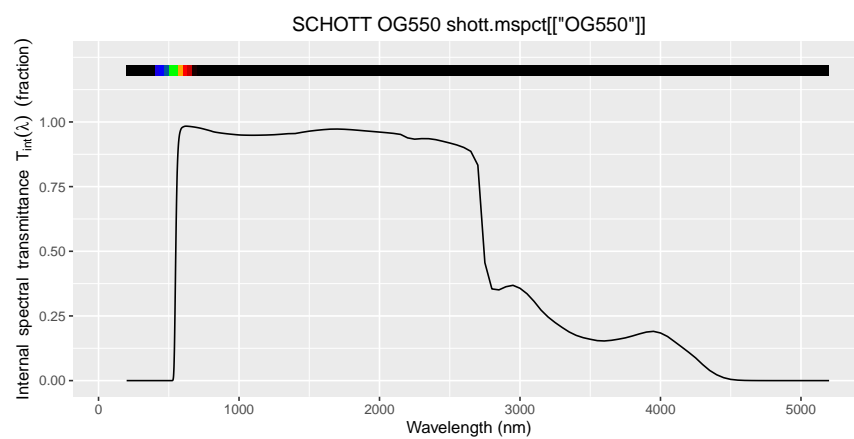


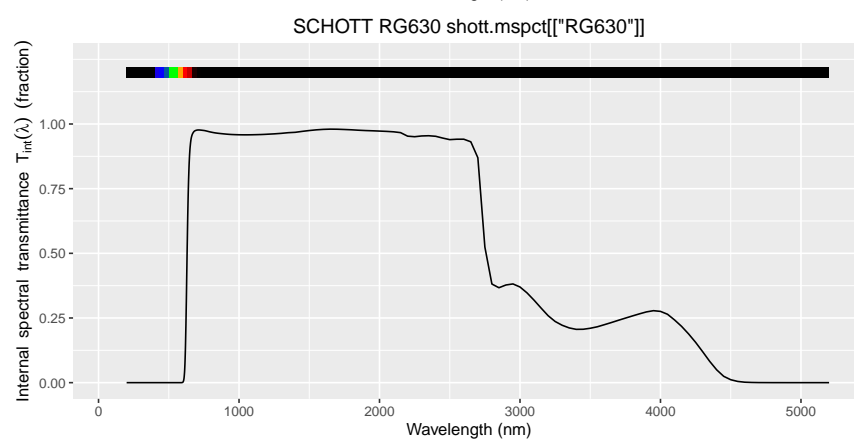
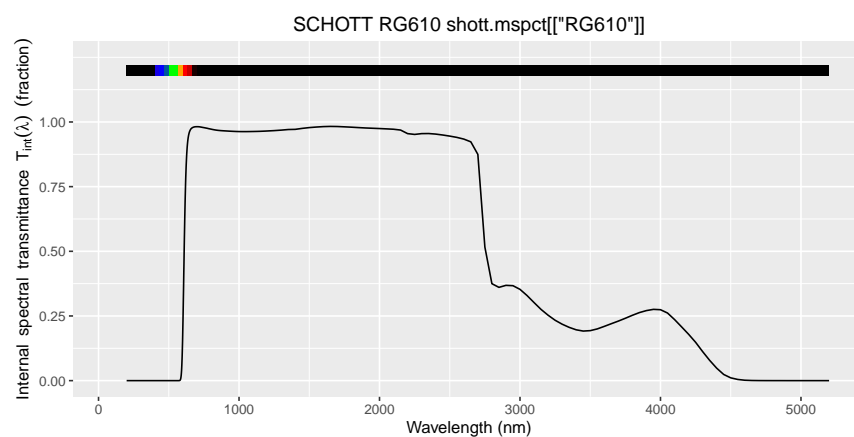
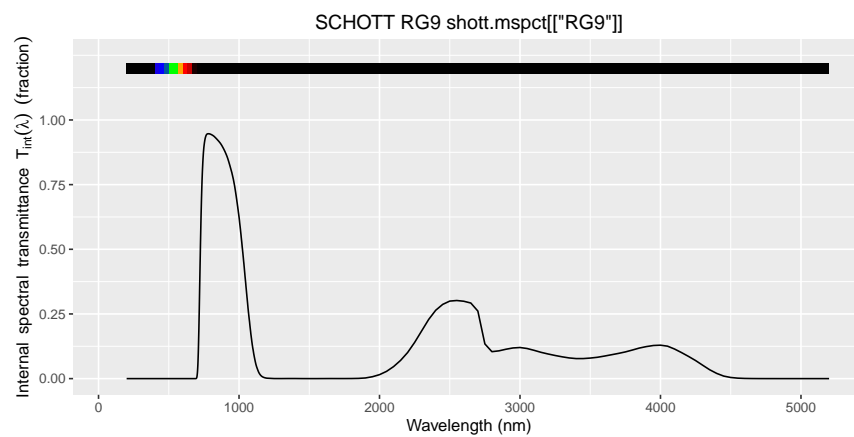


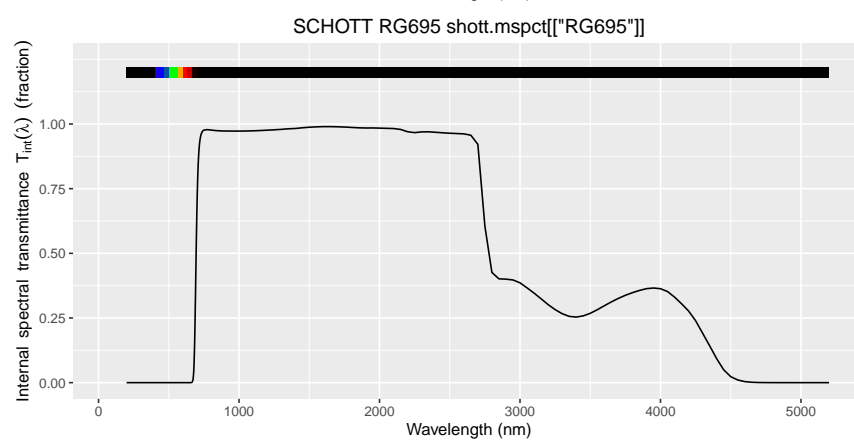
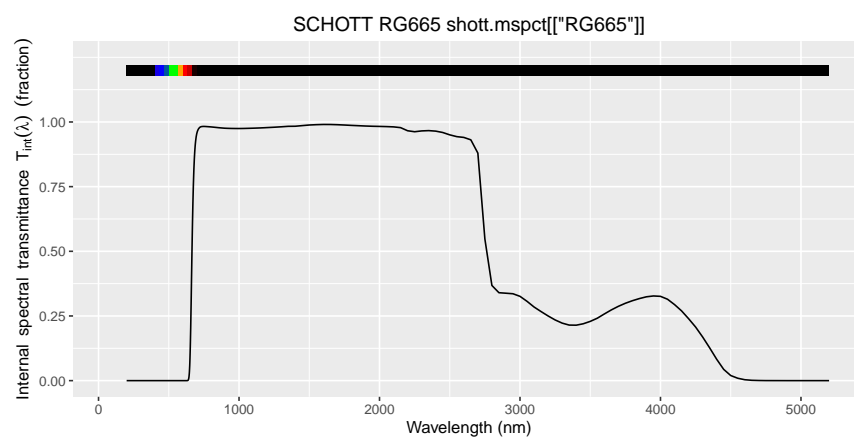
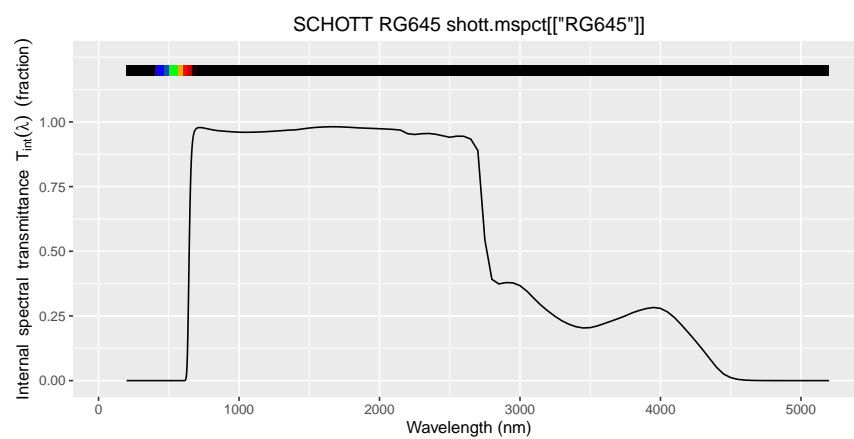


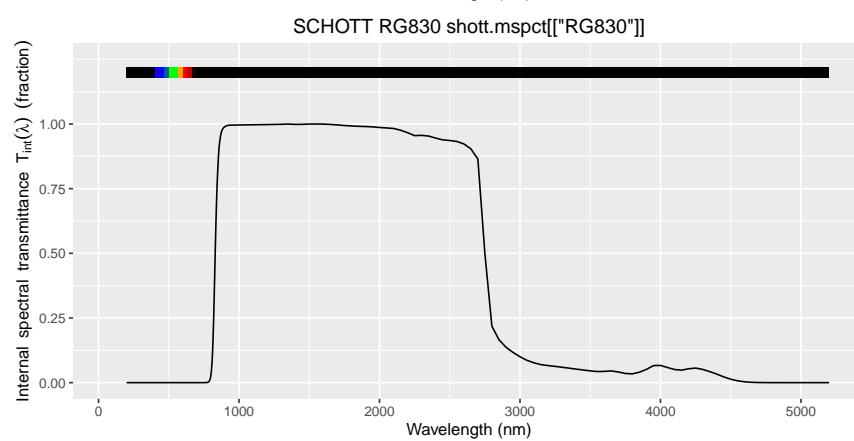
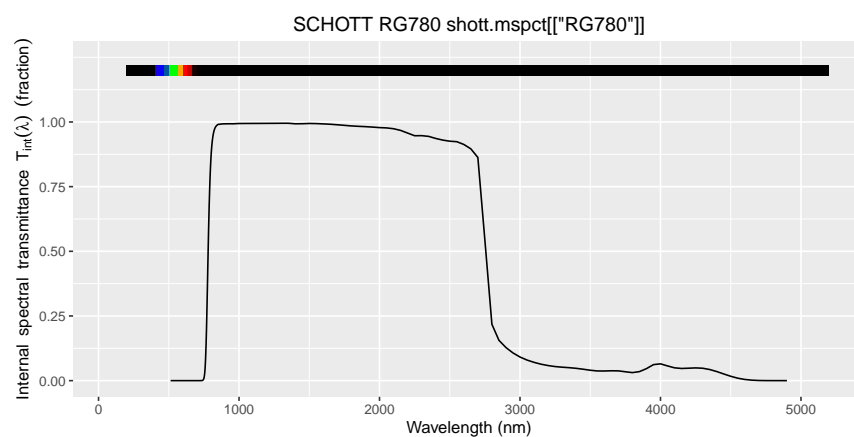
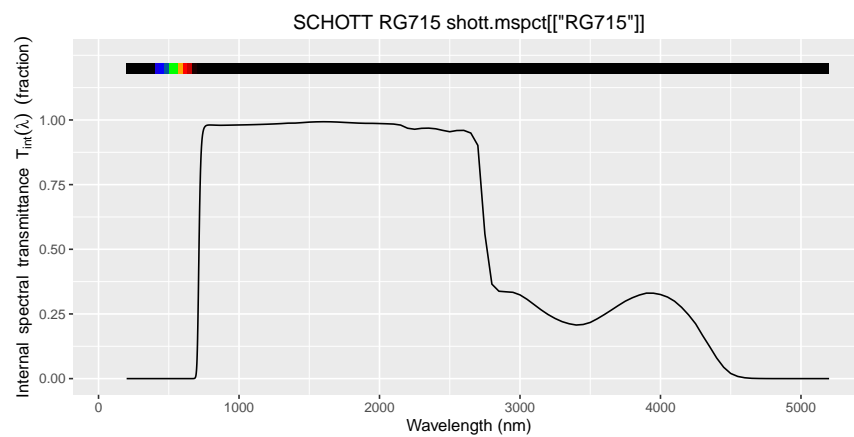


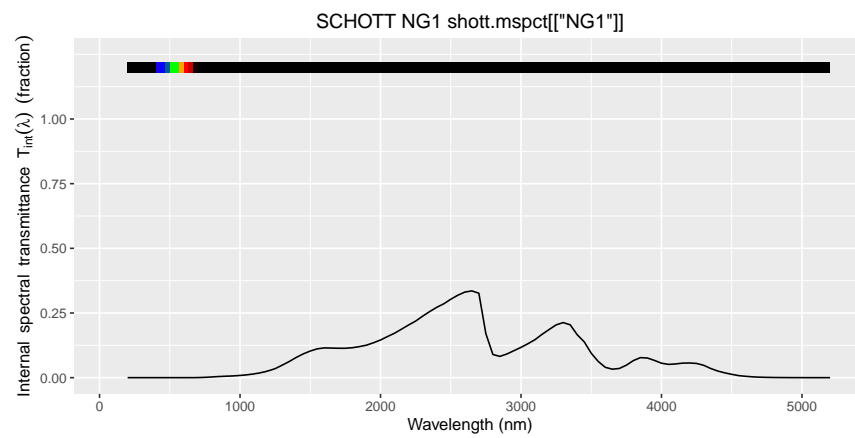
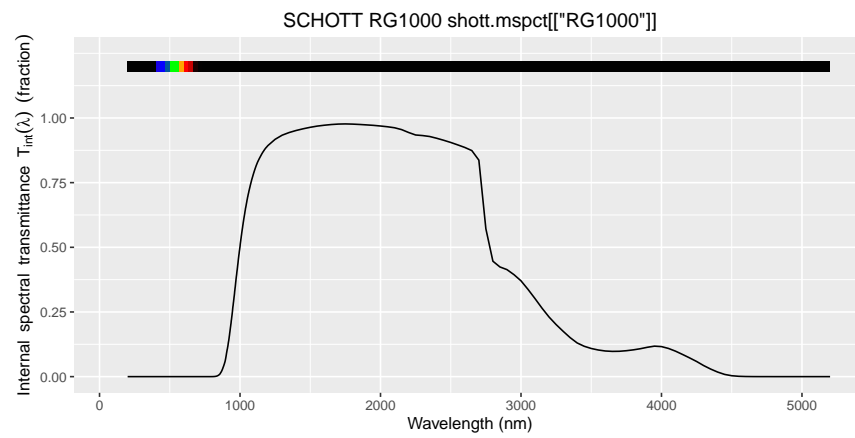
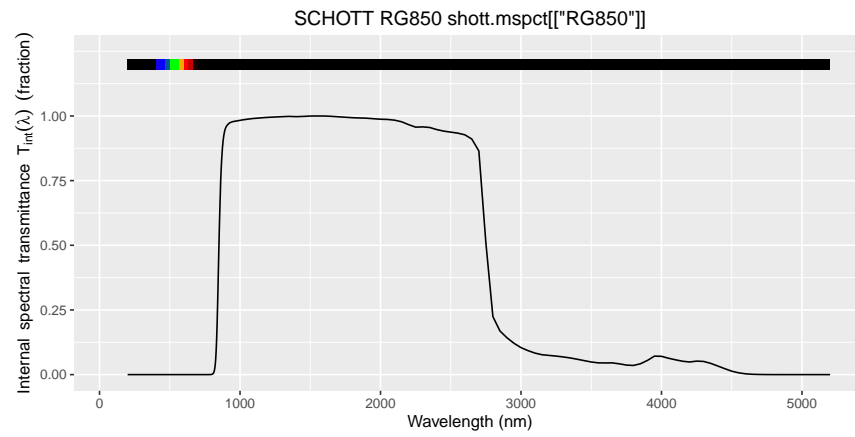




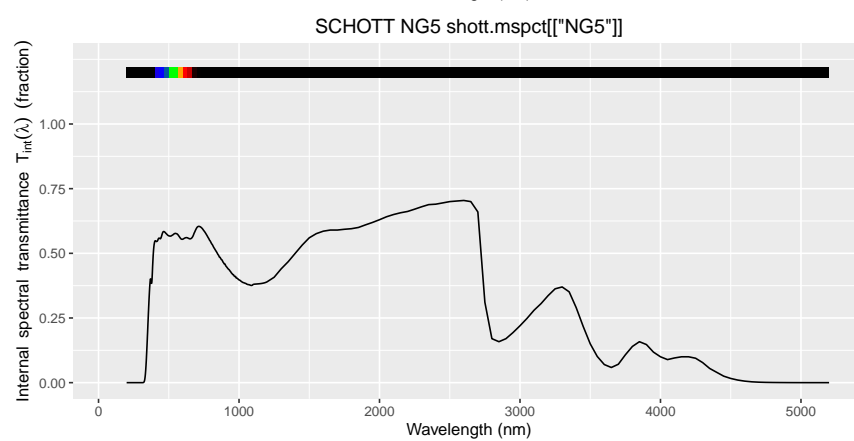
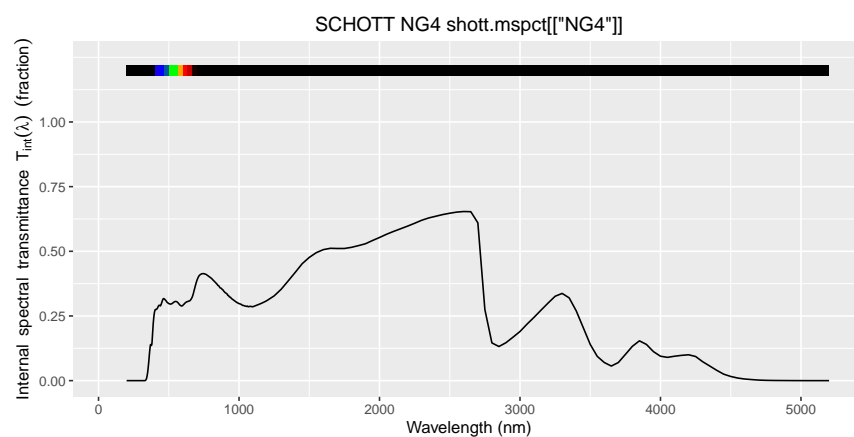
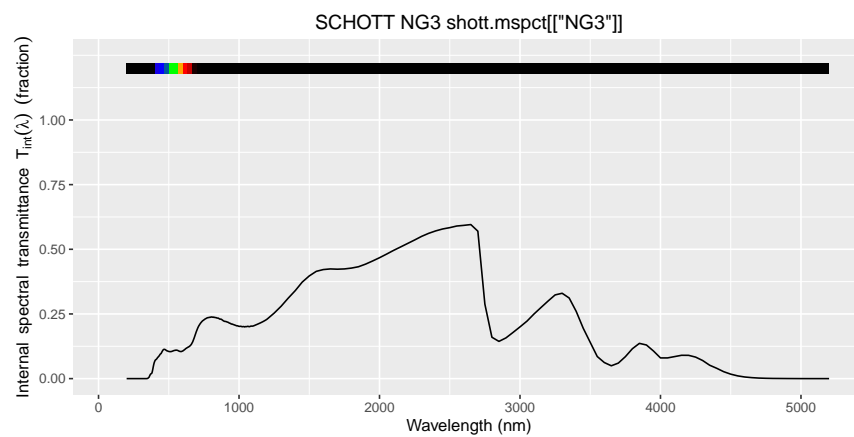


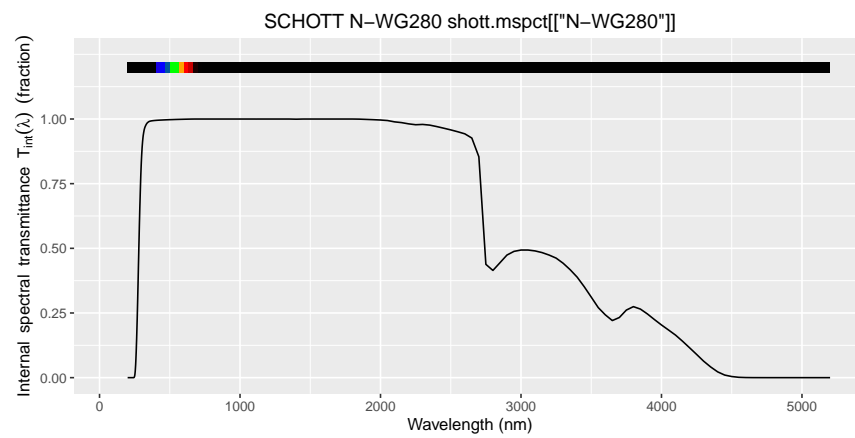
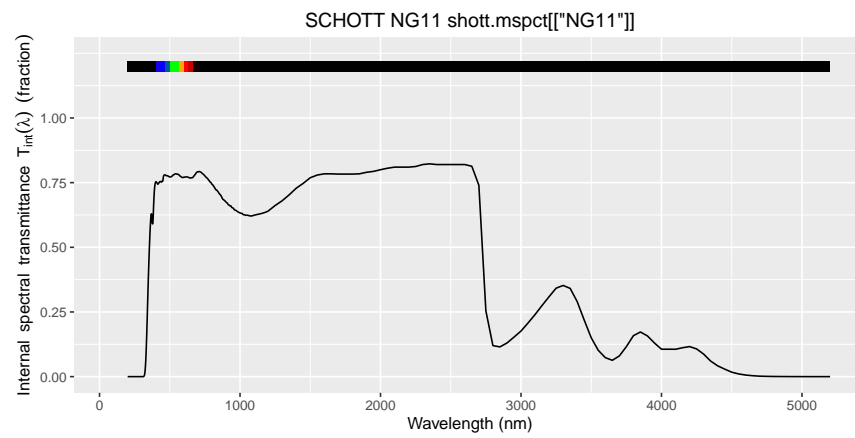
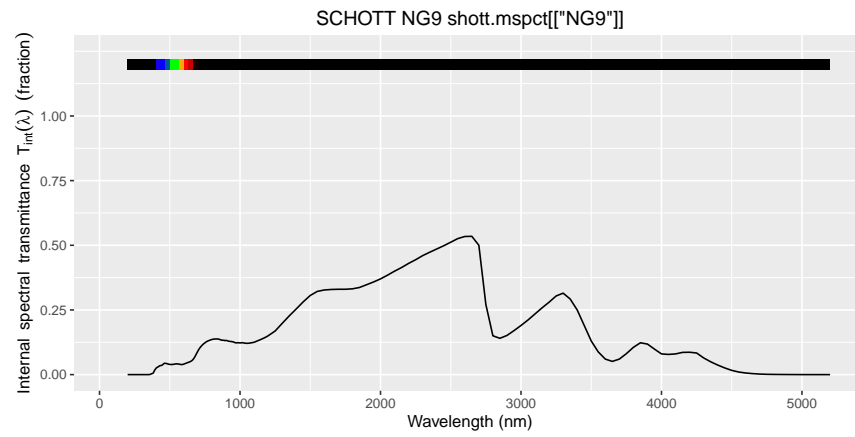


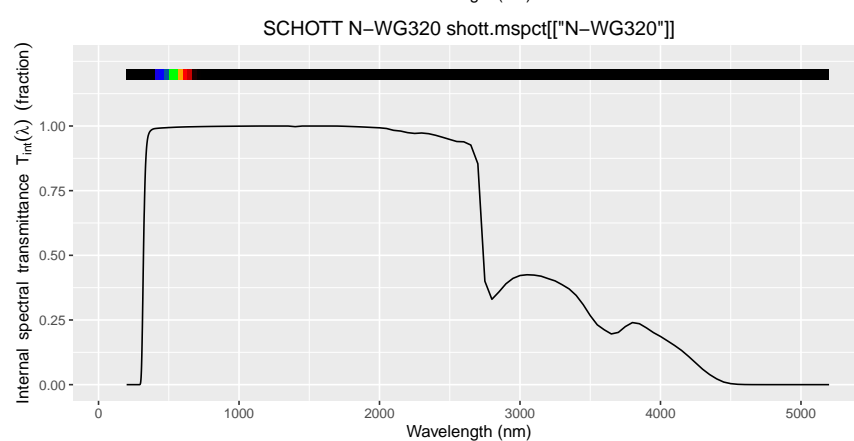
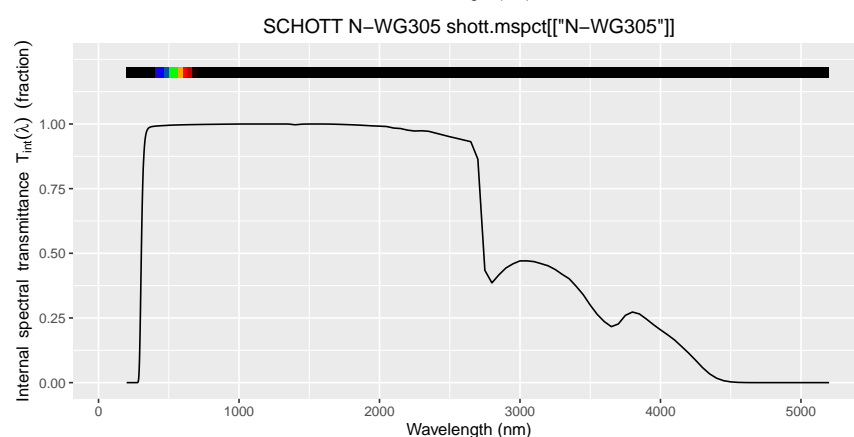
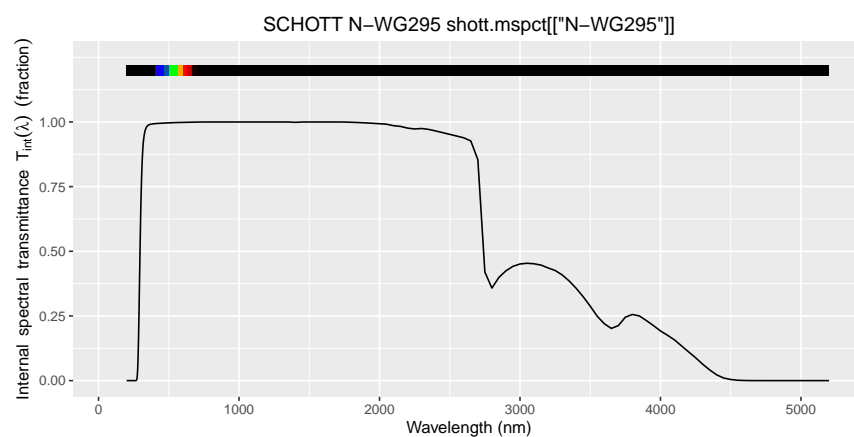


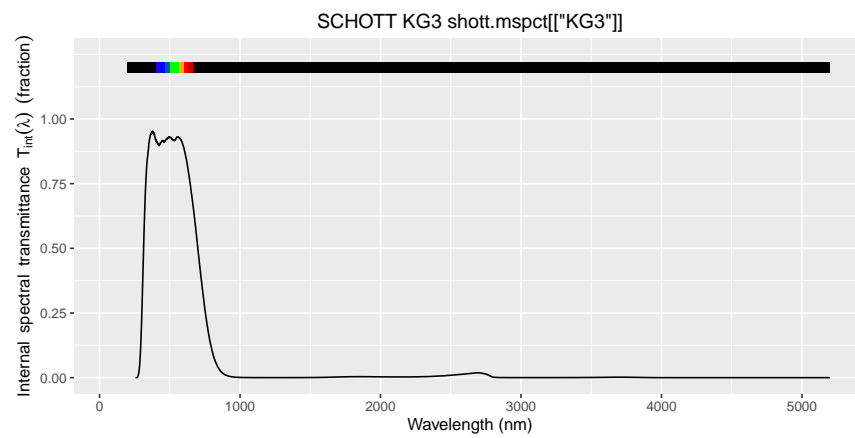
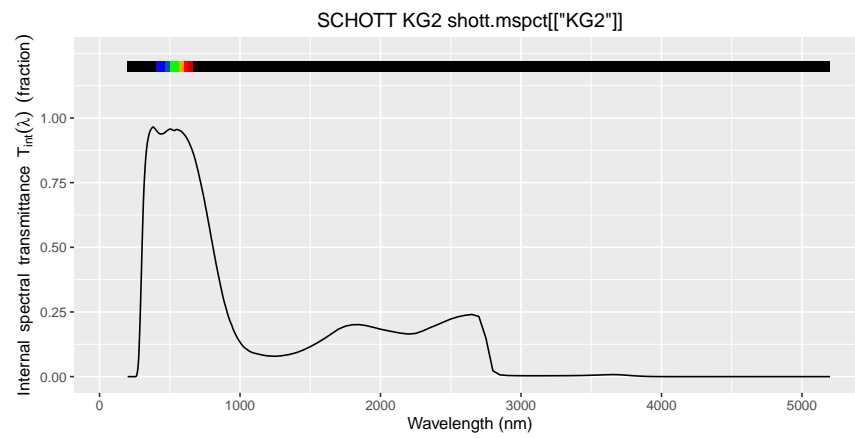
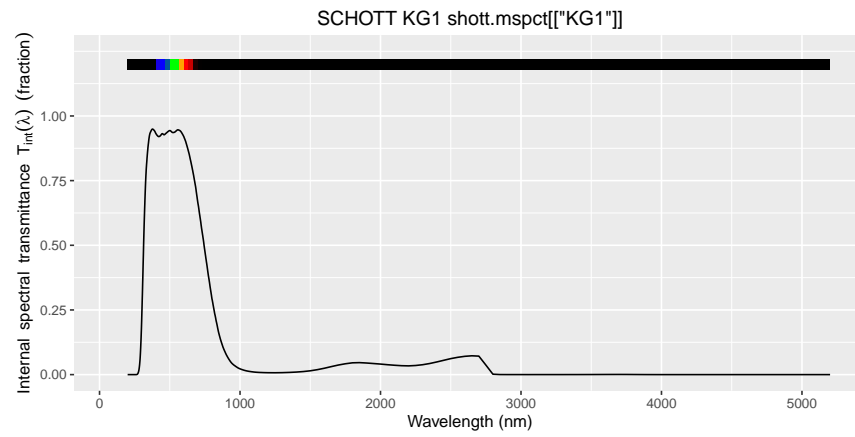


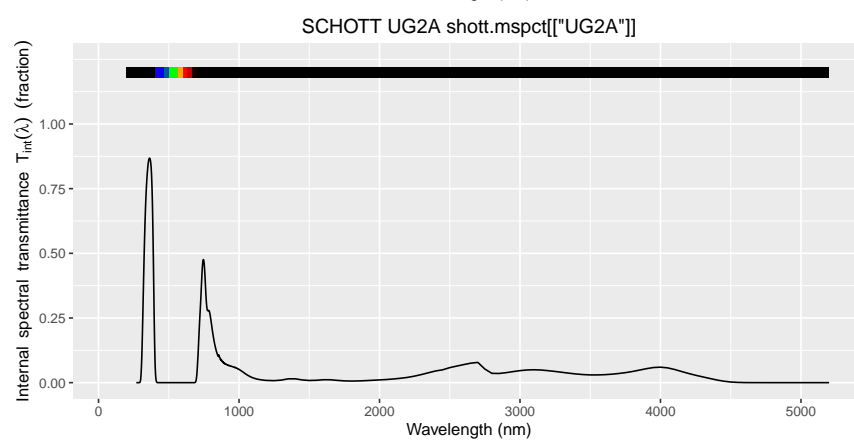
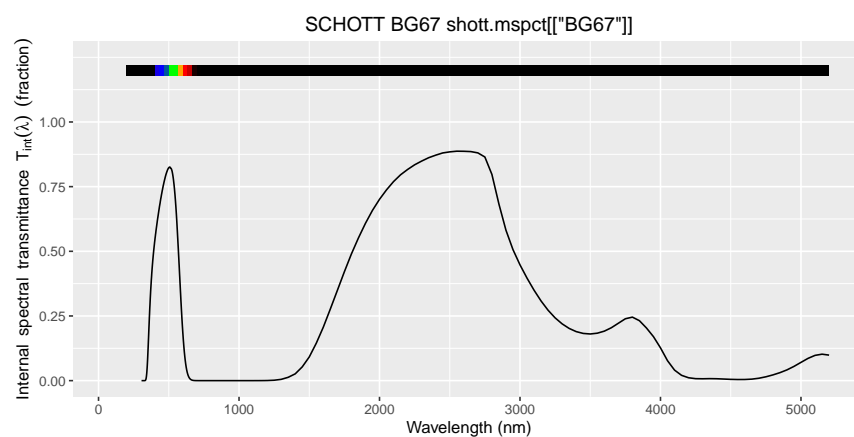
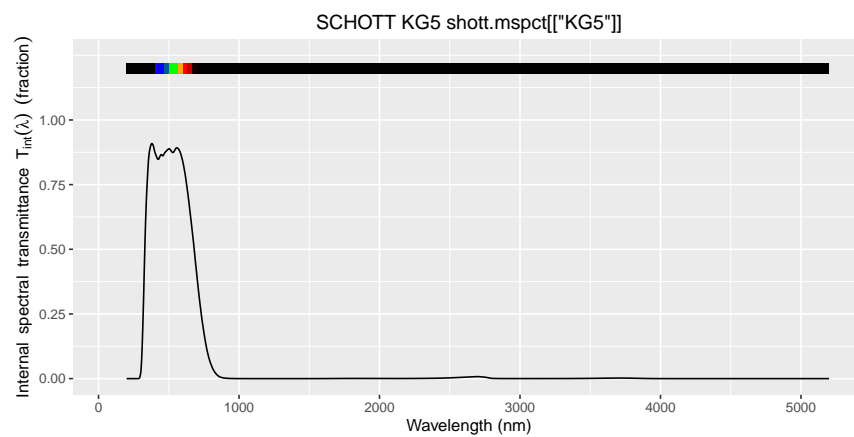


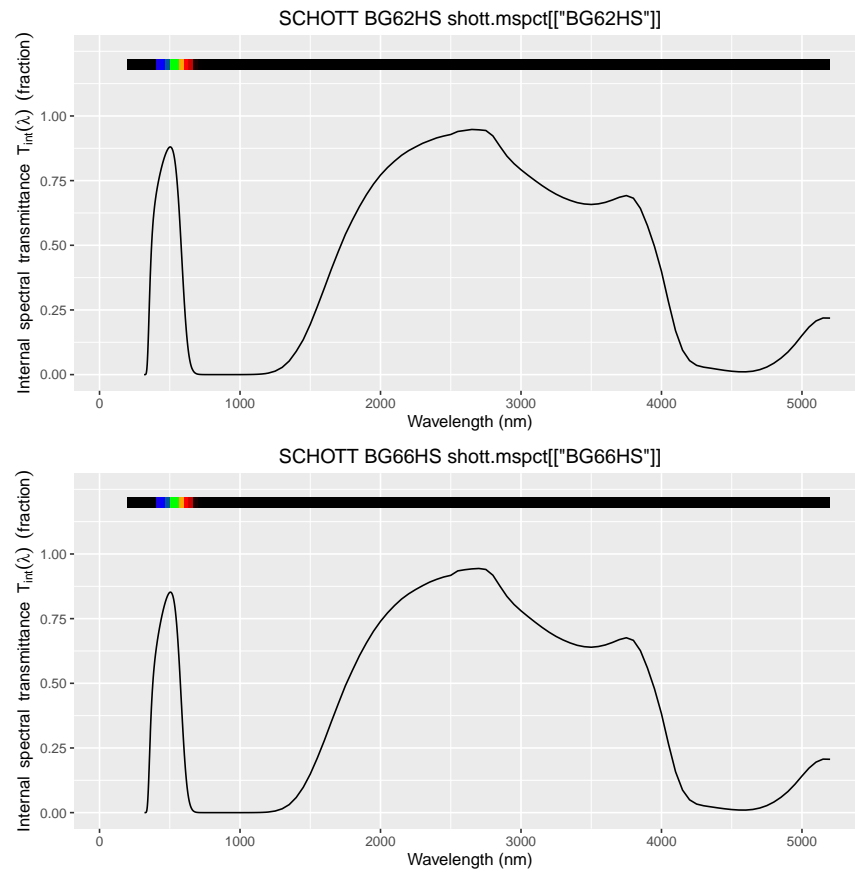












## 6 Petri dishes

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

