

photobiologyFilters Version 0.1.11

Catalogue of filters

Pedro J. Aphalo

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1 Introduction

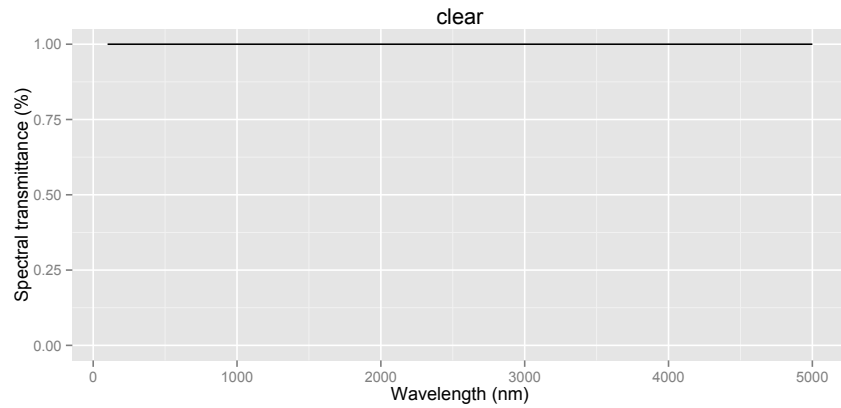
```
library(ggplot2)
library(photobiologyFilters)
library(photobiologygg)
```

```
filter.plotter <- function(filter_name, w.low=280, w.high=1100,
                             ylab="Spectral transmittance (%)"){
  fig_linear <- ggplot(aes(x=w.length, y=Tfr), data=get(paste(filter_name, ".spct", sep=""))) +
    labs(x="Wavelength (nm)", y=ylab, title=filter_name) + ylim(0,1) +
    geom_line()
  # fig_log <- fig_linear + scale_y_log10(limits=c(1e-5,30))
  print(fig_linear + stat_peaks(span=71, ignore_threshold=0.25, colour="red", hjust=0, angle=90) +
        stat_valleys(span=51, ignore_threshold=-0.5, colour="blue", hjust=0, angle=90))
  # print(fig_log)
}
```

2 Dummy filters

2.1 Perfectly clear filter

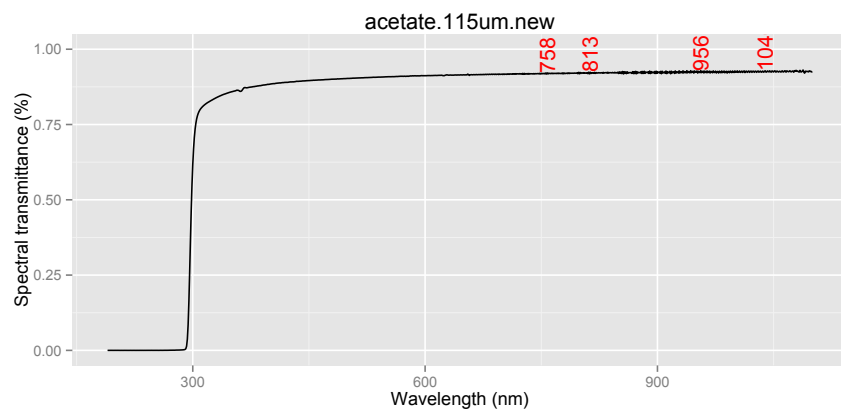
```
filter.plotter("clear")
```

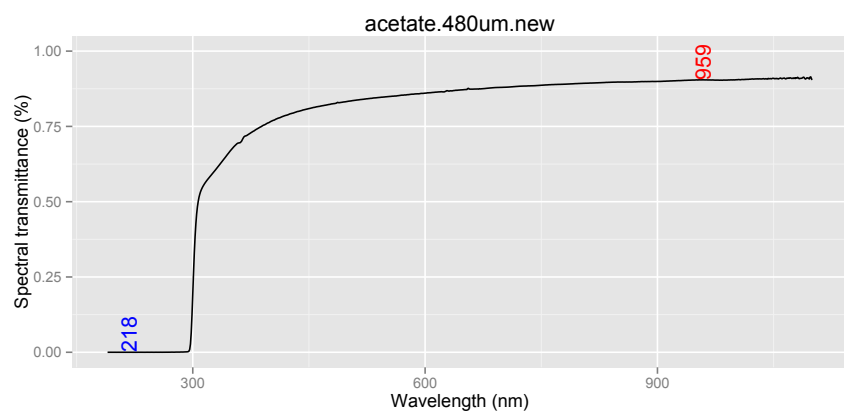
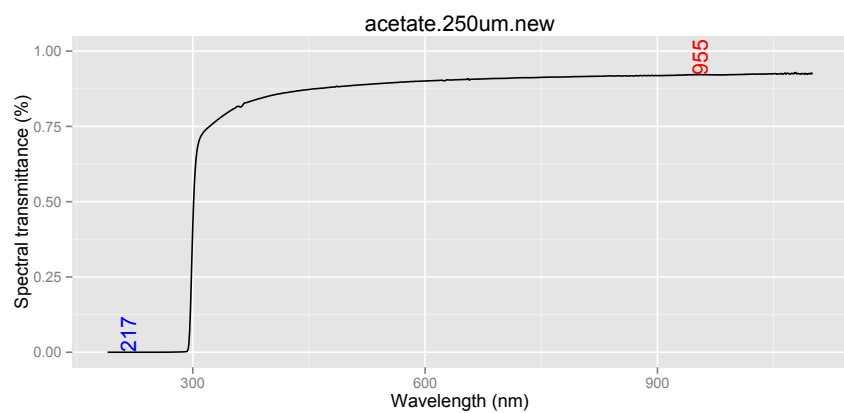


3 Plastic films

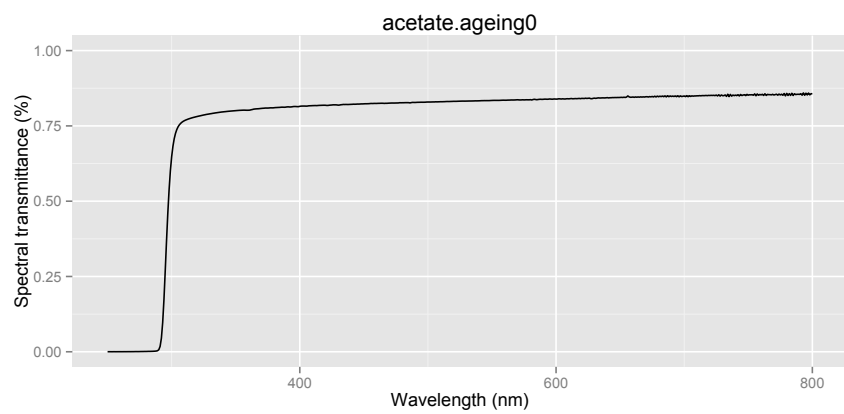
3.1 Cellulose diacetate

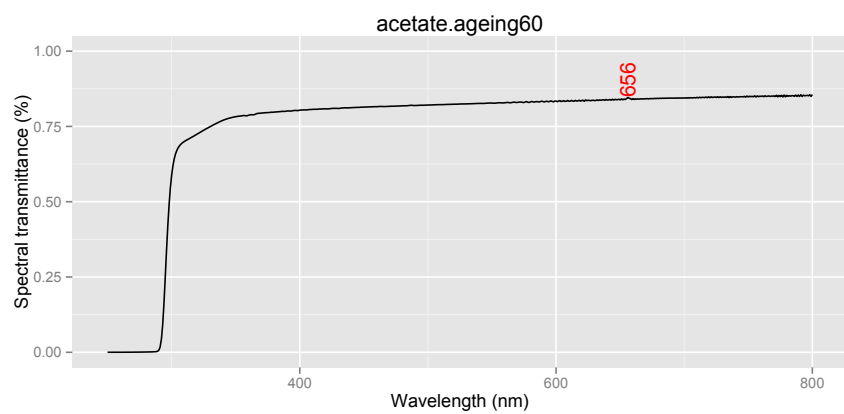
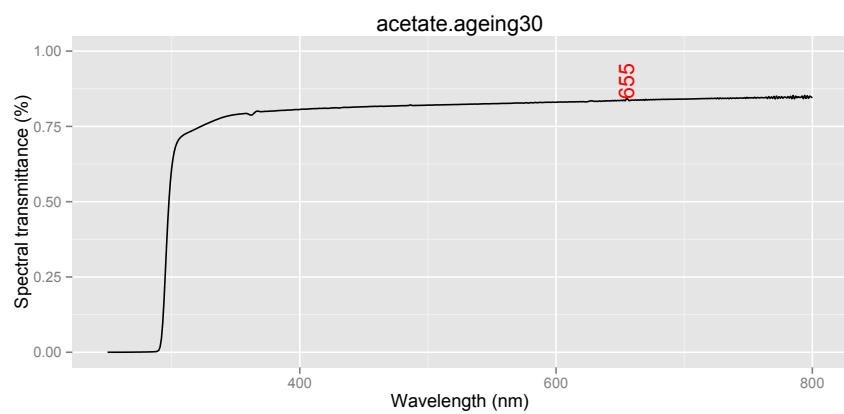
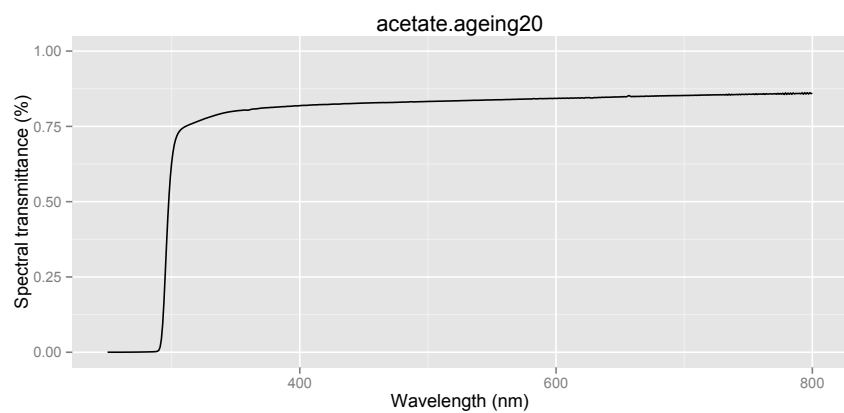
```
for (filter in c("acetate.115um.new", "acetate.250um.new", "acetate.480um.new")) {  
  filter.plotter(filter)  
}
```

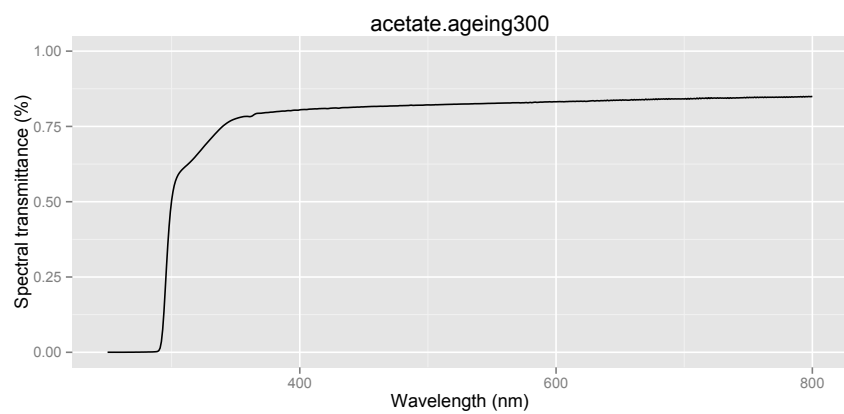
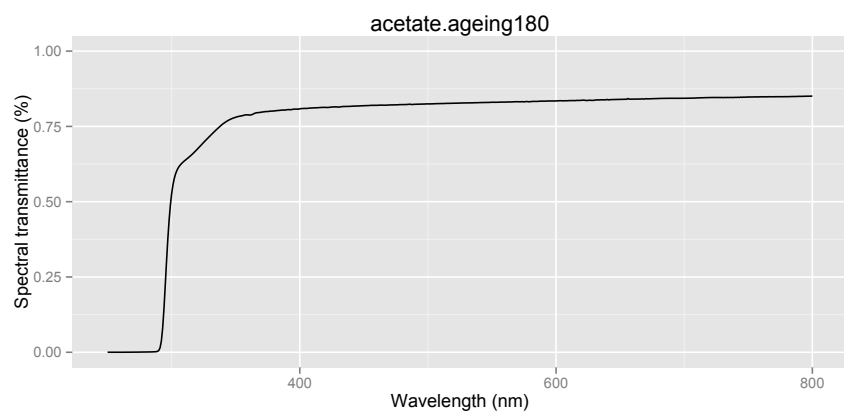
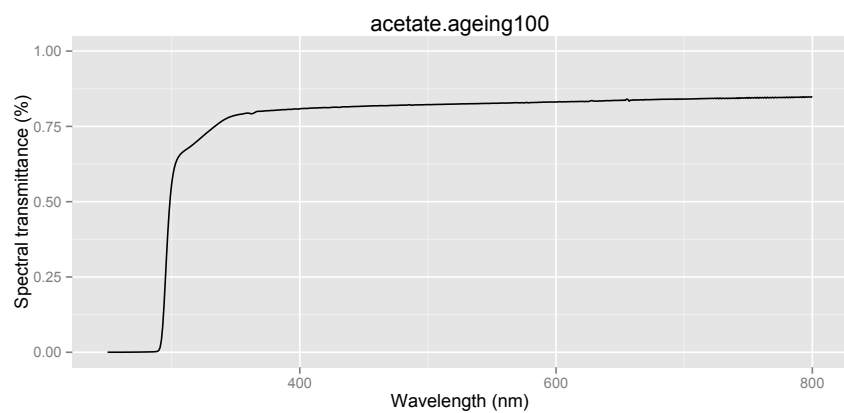




```
for (filter in c("acetate.ageing0", "acetate.ageing20", "acetate.ageing30", "acetate.ageing60", "acetate.ageing100")) {  
  filter.plotter(filter)  
}
```

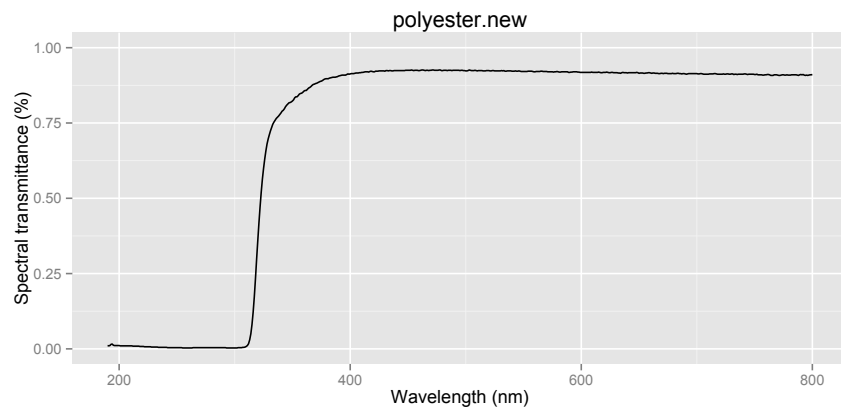






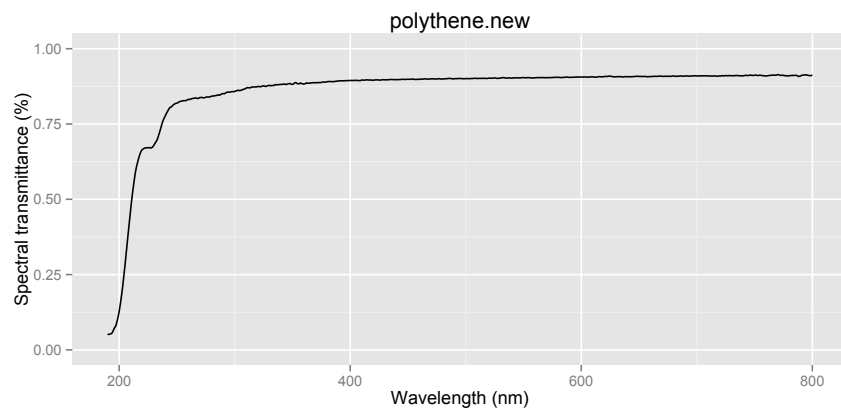
3.2 Polyester

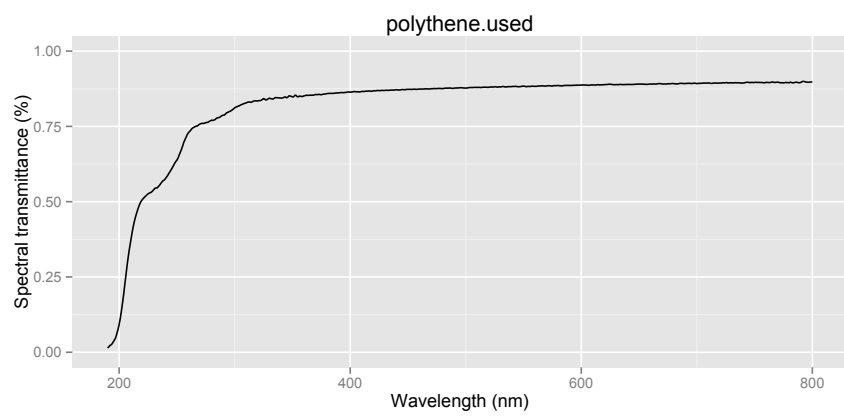
```
filter.plotter("polyester.new")
```



3.3 Polythene

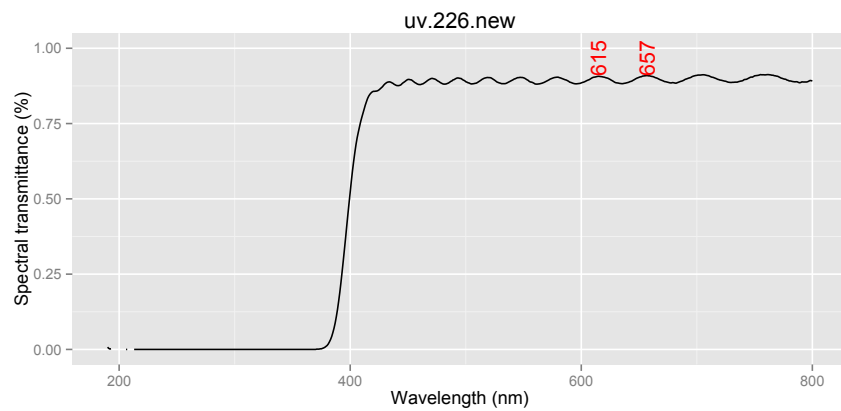
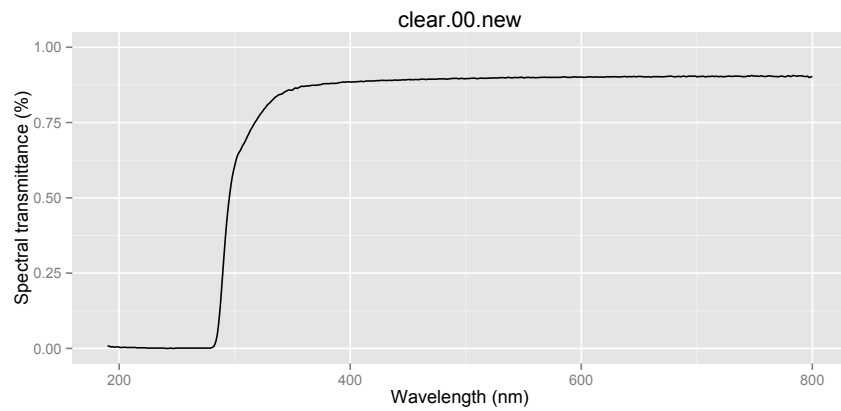
```
filter.plotter("polythene.new")  
filter.plotter("polythene.used")
```

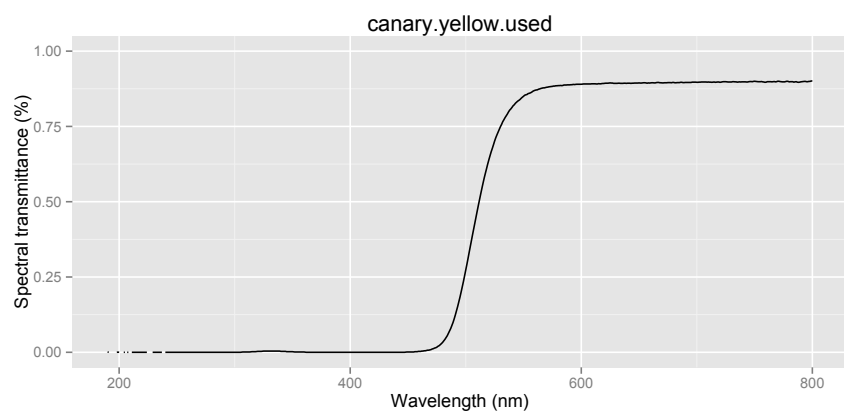
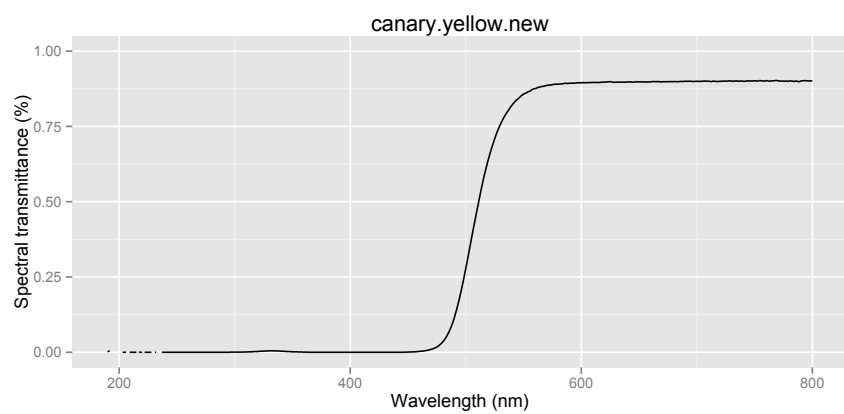
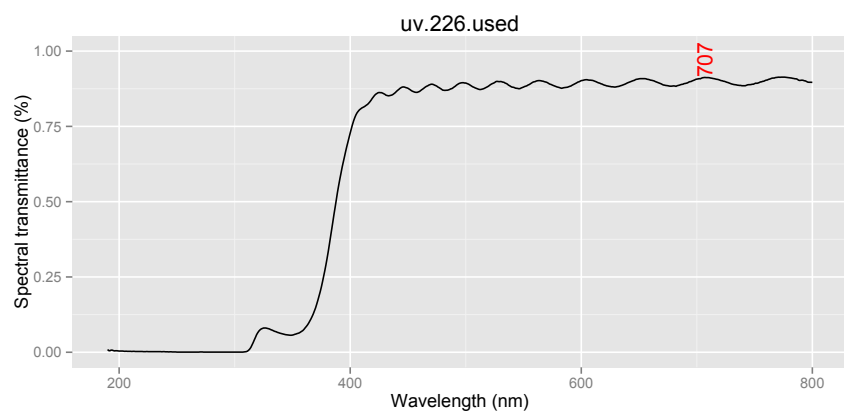


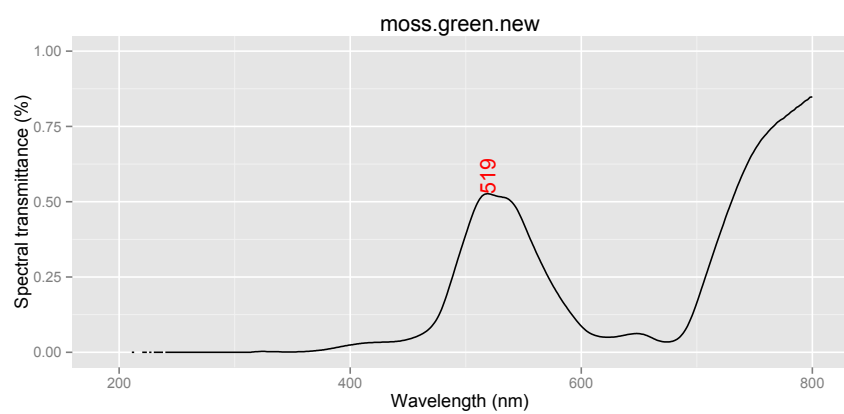
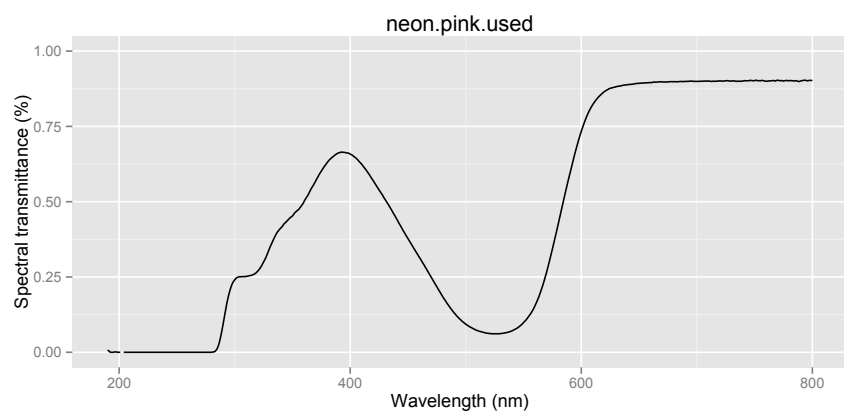


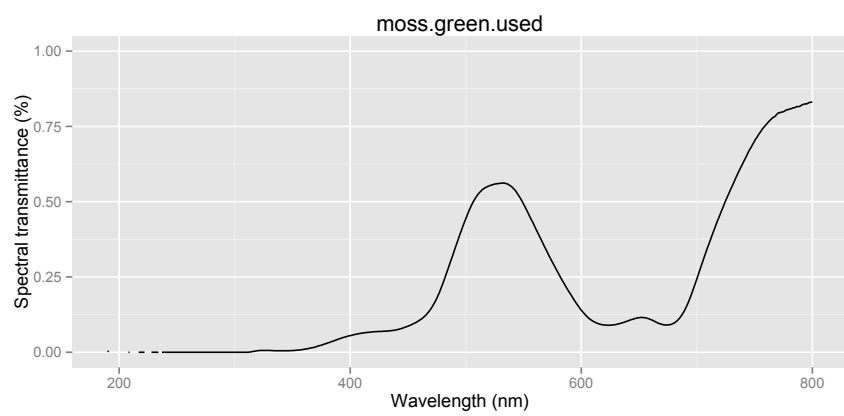
3.4 Rosco theatrical filters

```
for (filter in c("clear.00.new", "uv.226.new", "uv.226.used", "canary.yellow.new",  
                "canary.yellow.used", "rose.pink.new", "neon.pink.used",  
                "moss.green.new", "moss.green.used")) {  
  filter.plotter(filter)  
}
```



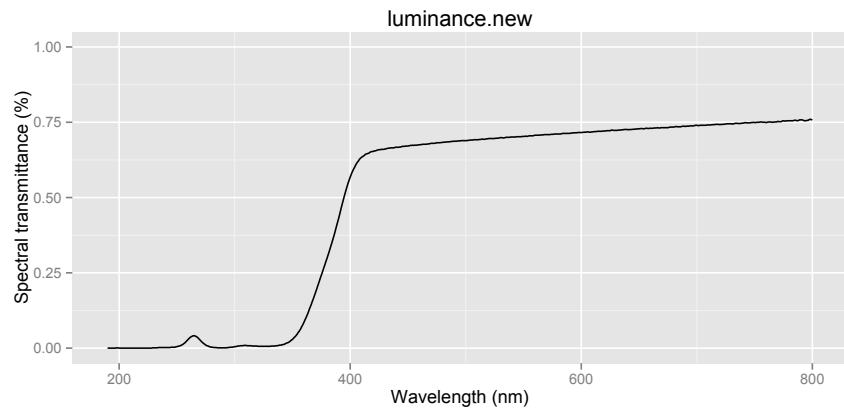
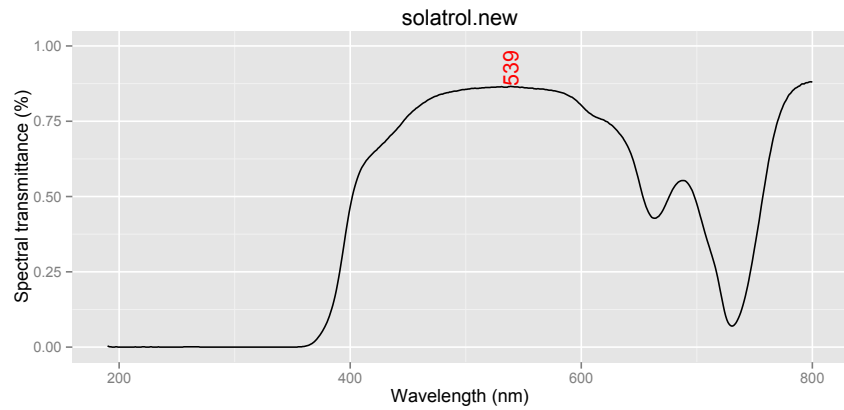






3.5 Commercial greenhouse films from BPI Agri Visqueen

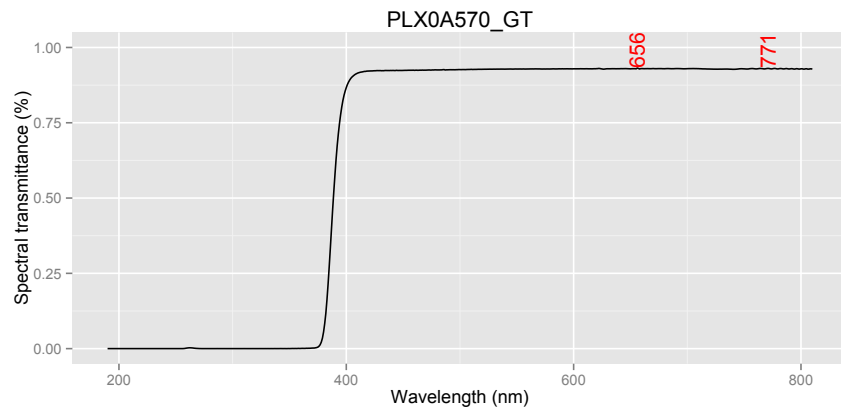
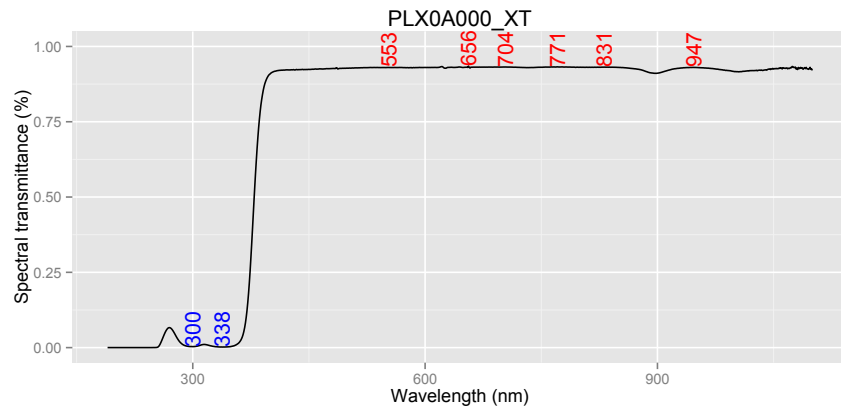
```
for (filter in c("solatrol.new", "luminance.new")) {  
  filter.plotter(filter)  
}
```

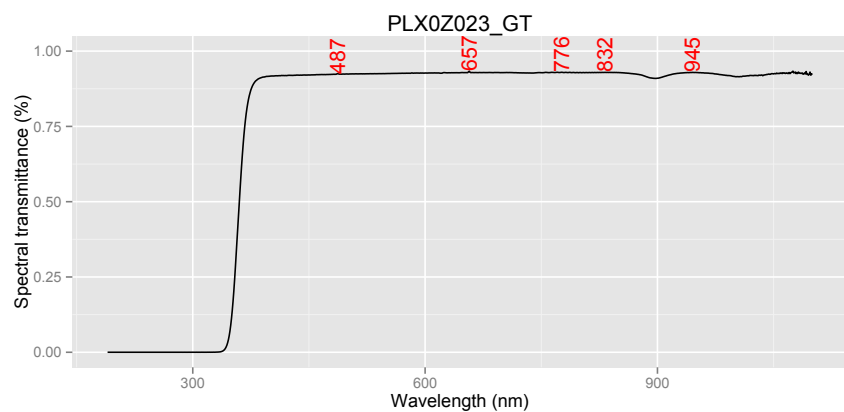
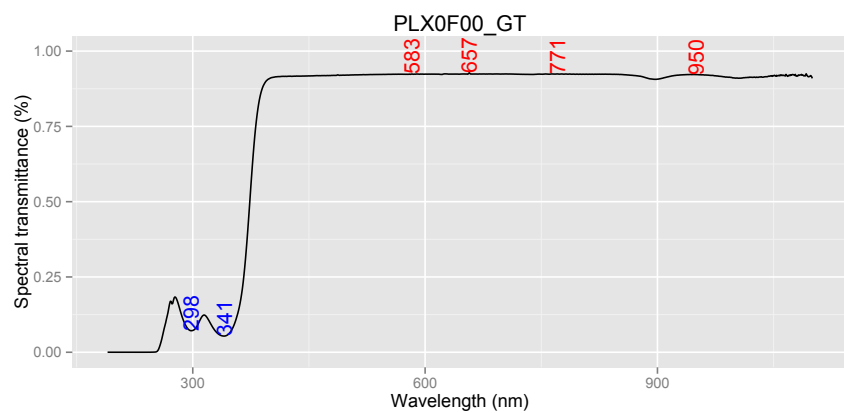


4 Plastic sheets

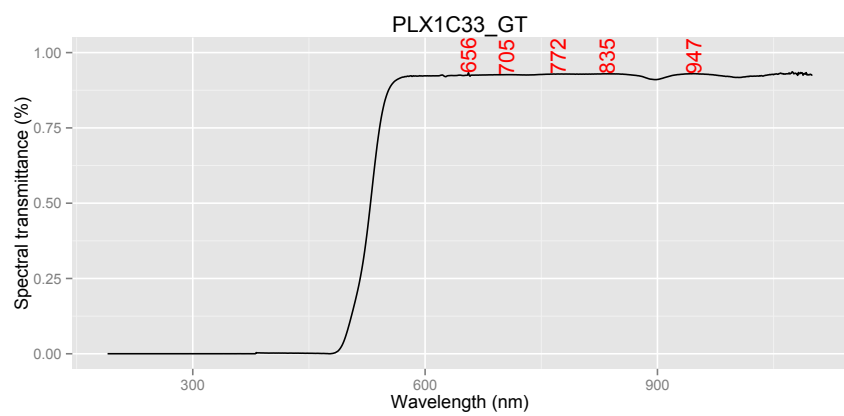
4.1 Plexiglas

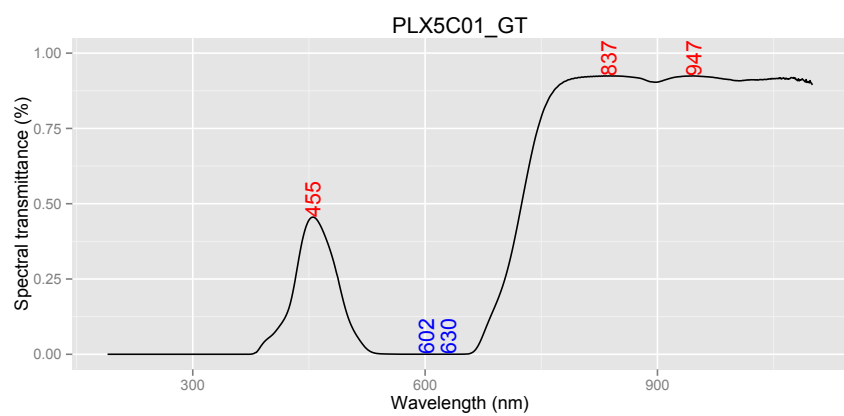
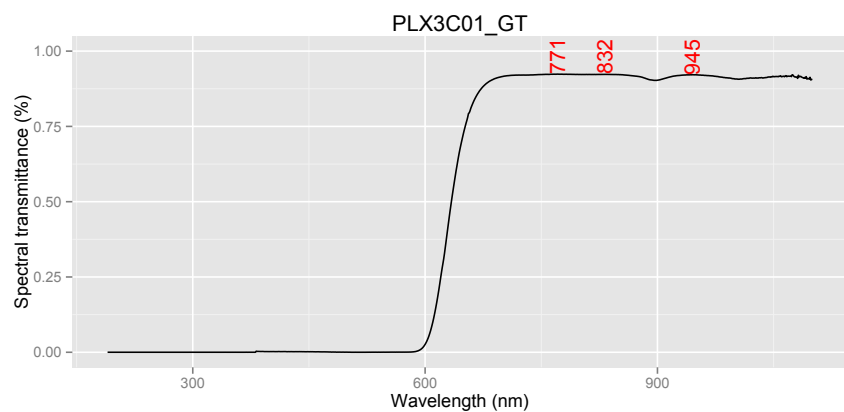
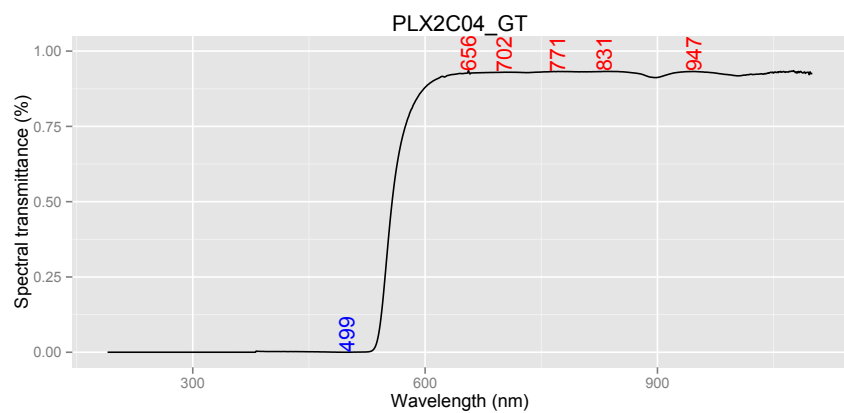
```
for (filter in c("PLX0A000_XT", "PLX0A570_GT", "PLX0F00_GT", "PLX0Z023_GT")) {  
  filter.plotter(filter)  
}
```





```
for (filter in c("PLX1C33_GT", "PLX2C04_GT", "PLX3C01_GT", "PLX5C01_GT")) {
  filter.plotter(filter)
}
```

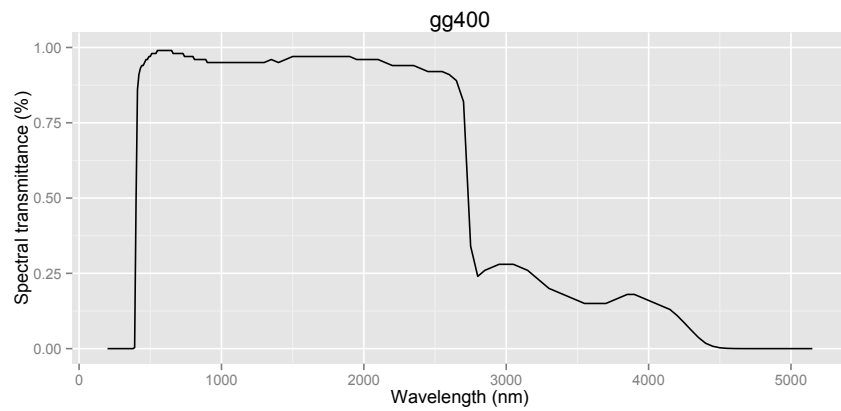
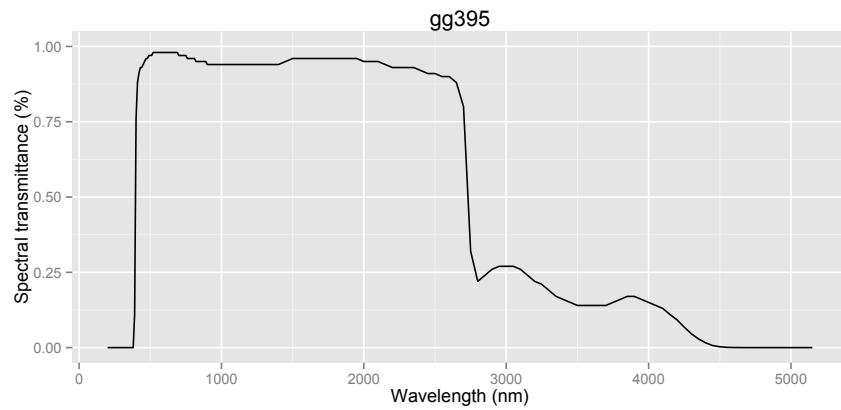


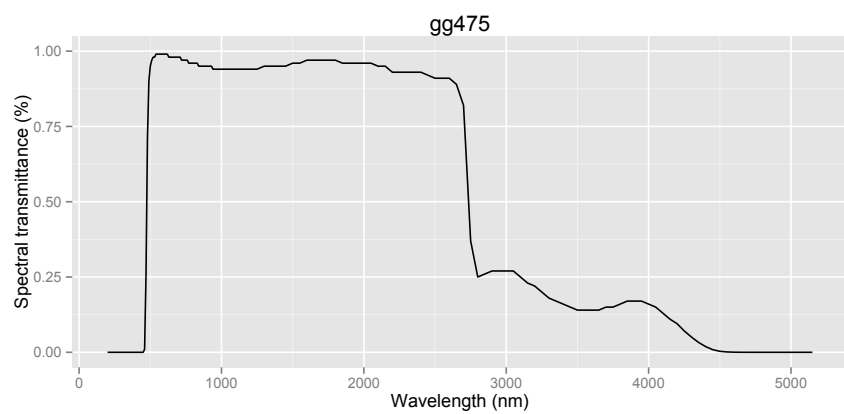
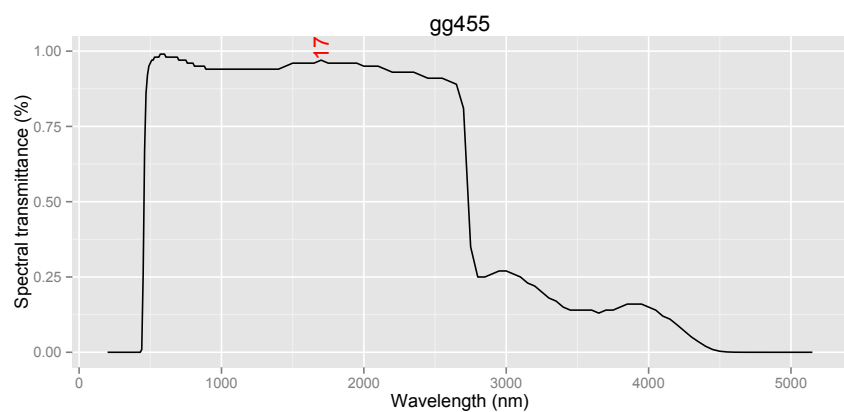
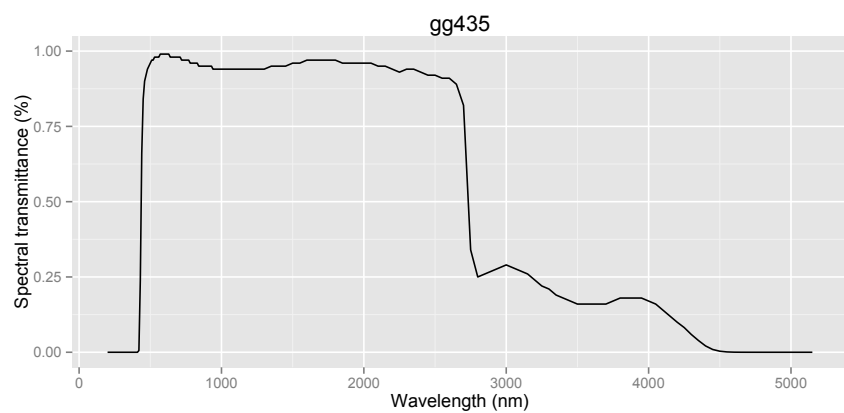


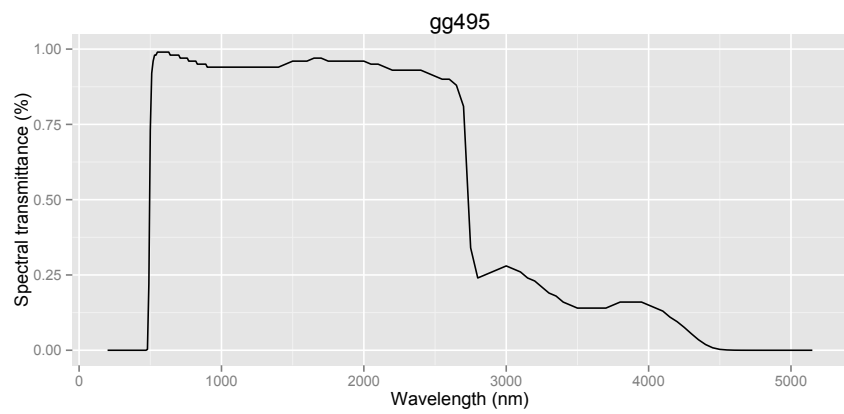
5 Optical glass filters

5.1 Schott long-pass filters

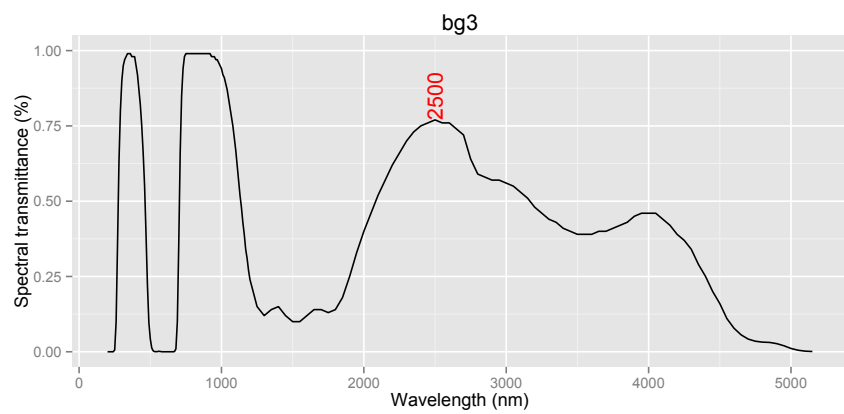
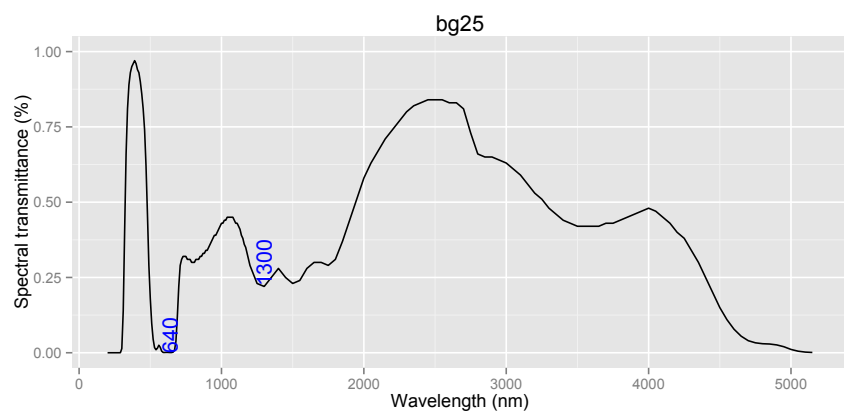
```
for (filter in c("gg395", "gg400", "gg435", "gg455", "gg475", "gg495")) {  
  filter.plotter(filter)  
}
```

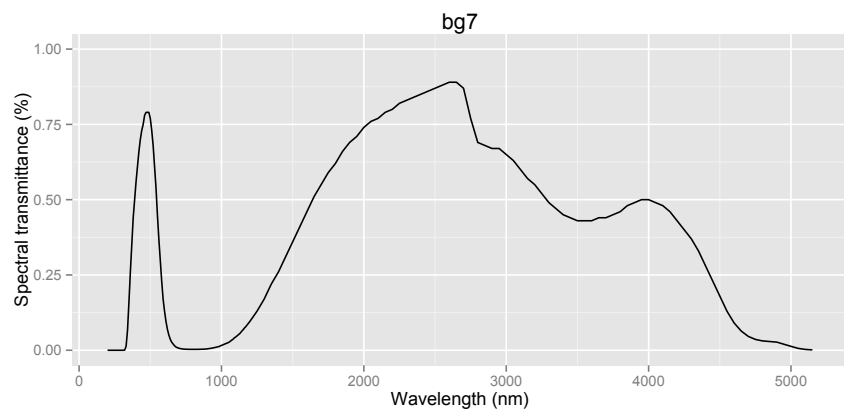




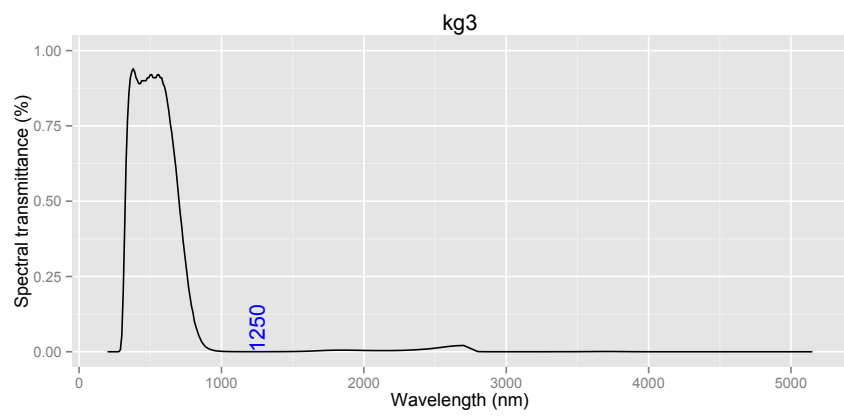
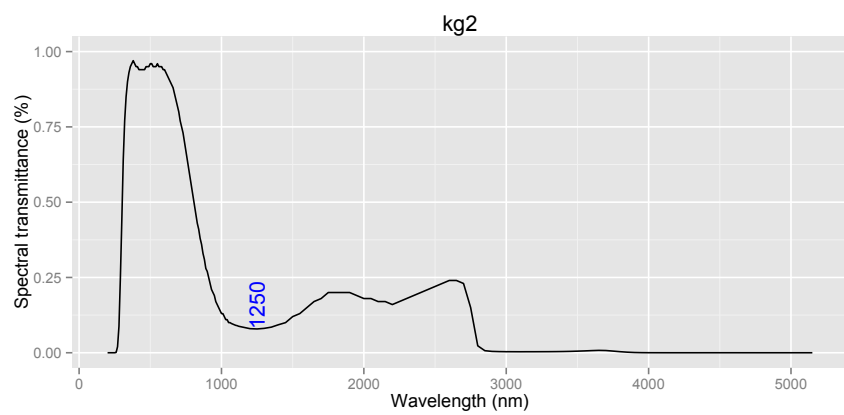


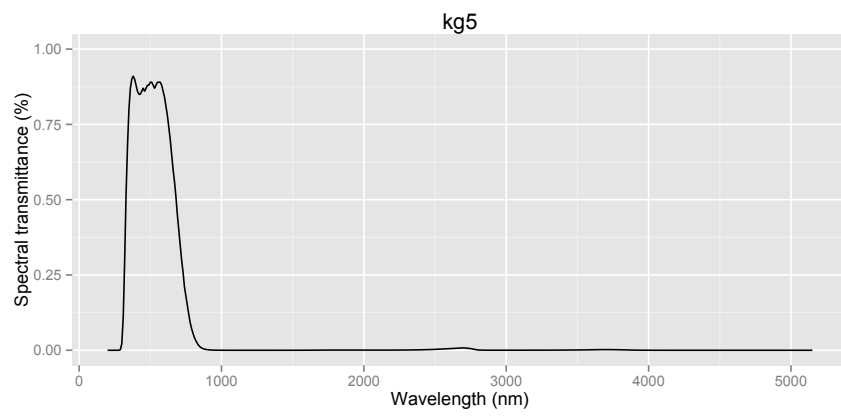
```
for (filter in c("bg25", "bg3", "bg7")) {  
  filter.plotter(filter)  
}
```



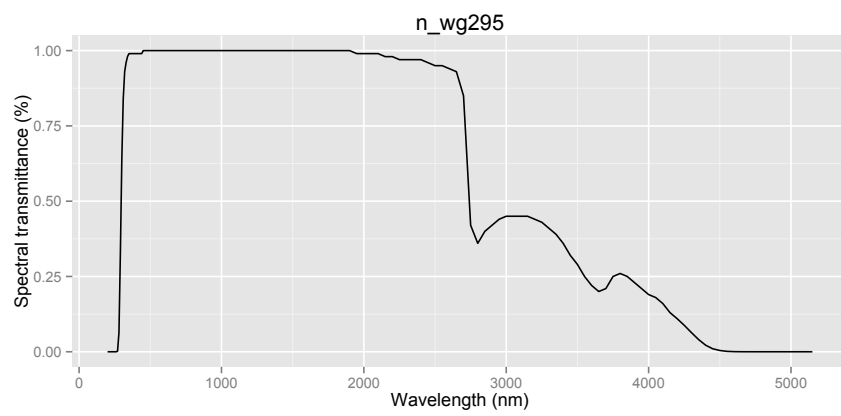
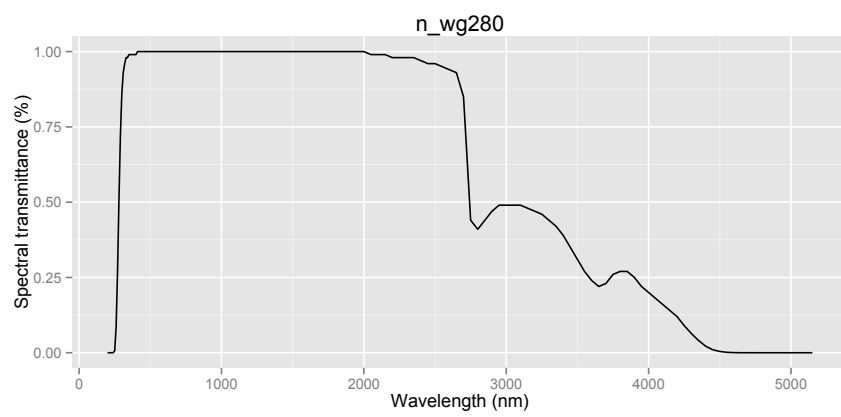


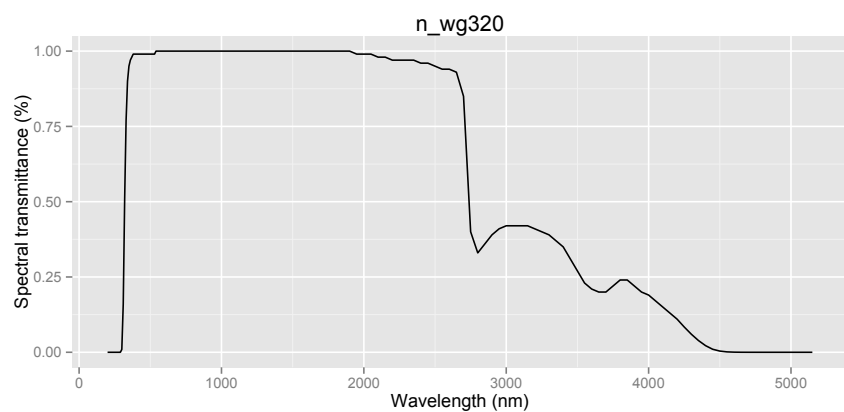
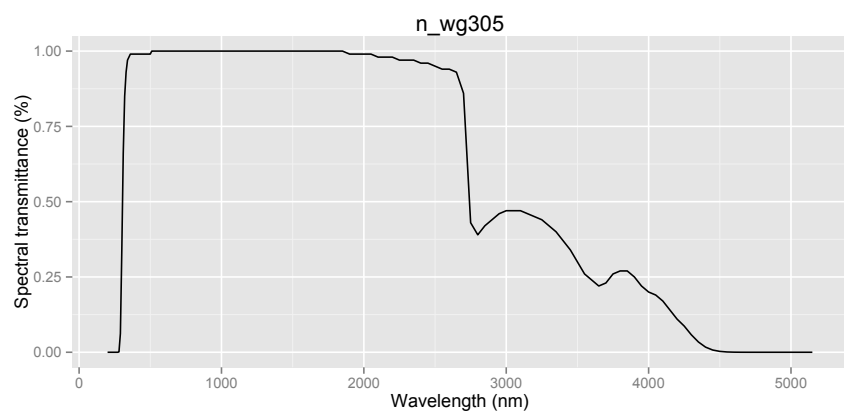
```
for (filter in c("kg2", "kg3", "kg5")) {  
  filter.plotter(filter)  
}
```



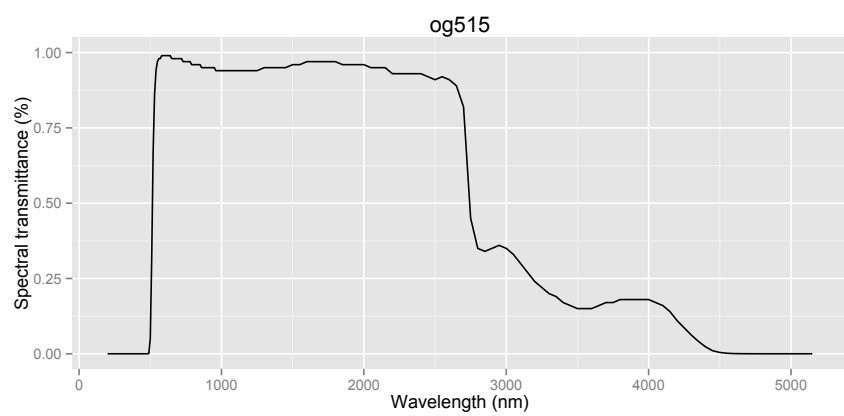


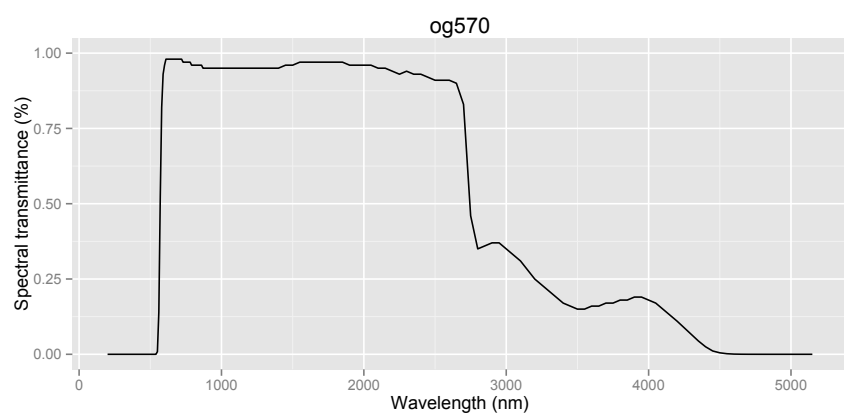
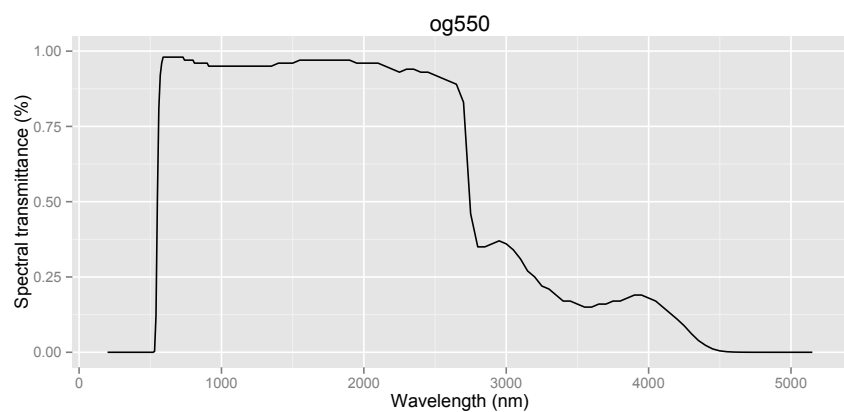
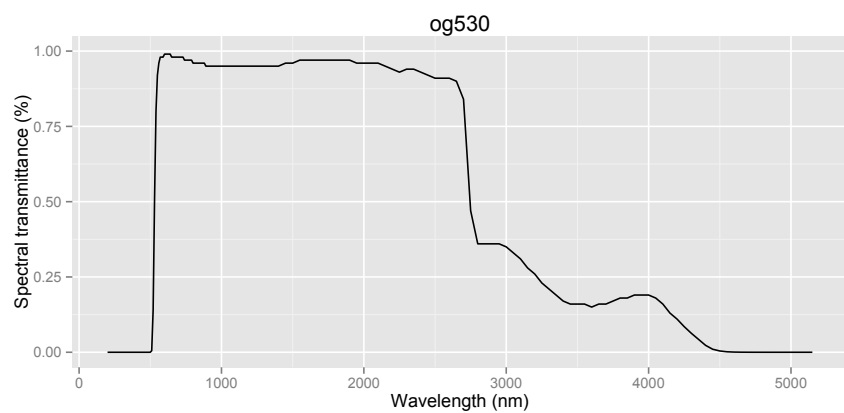
```
for (filter in c("n_wg280", "n_wg295", "n_wg305", "n_wg320")) {  
  filter.plotter(filter)  
}
```

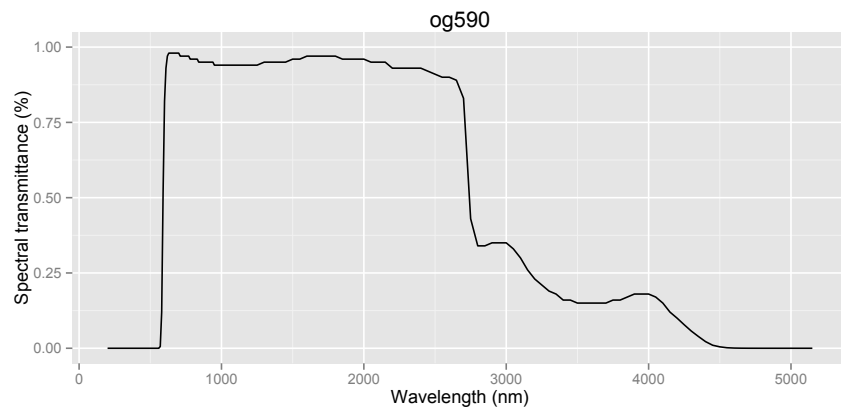




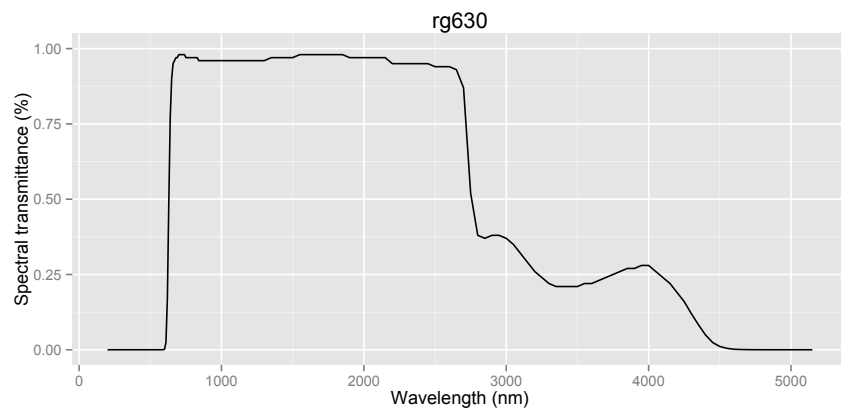
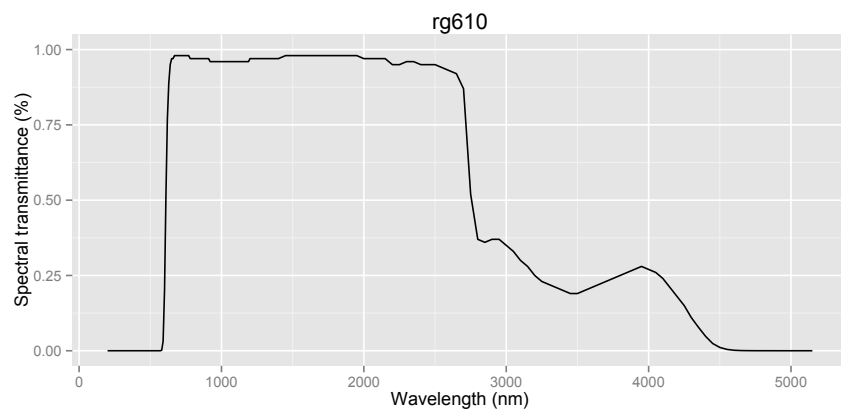
```
for (filter in c("og515", "og530", "og550", "og570", "og590")) {  
  filter.plotter(filter)  
}
```

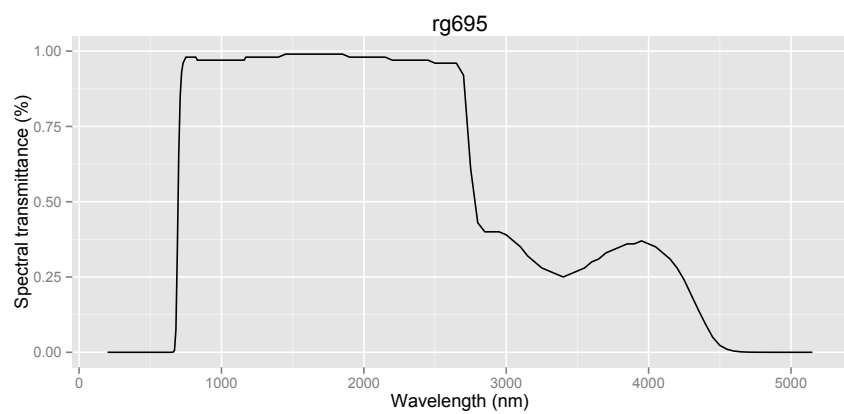
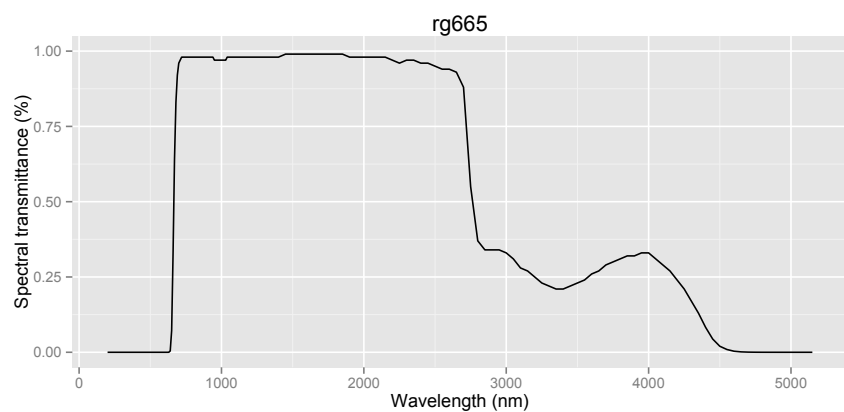
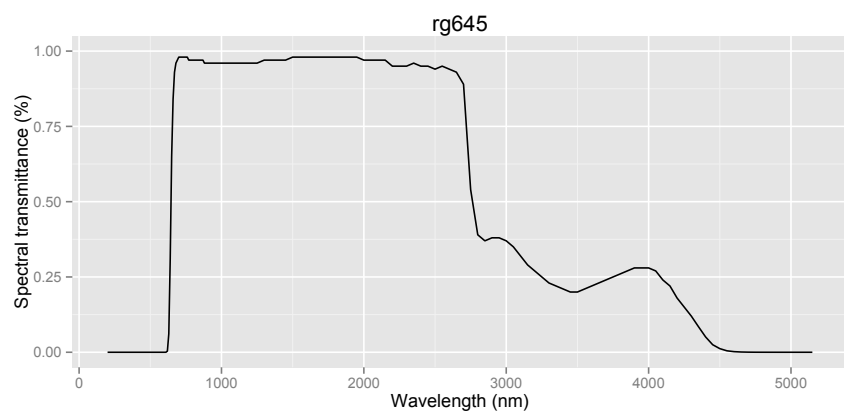


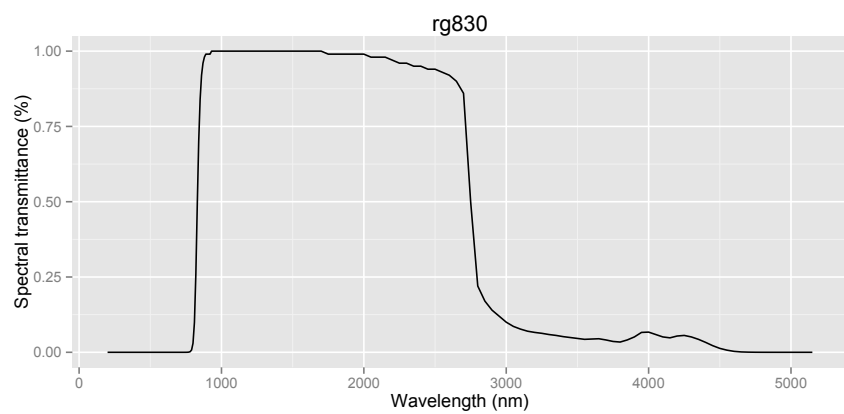
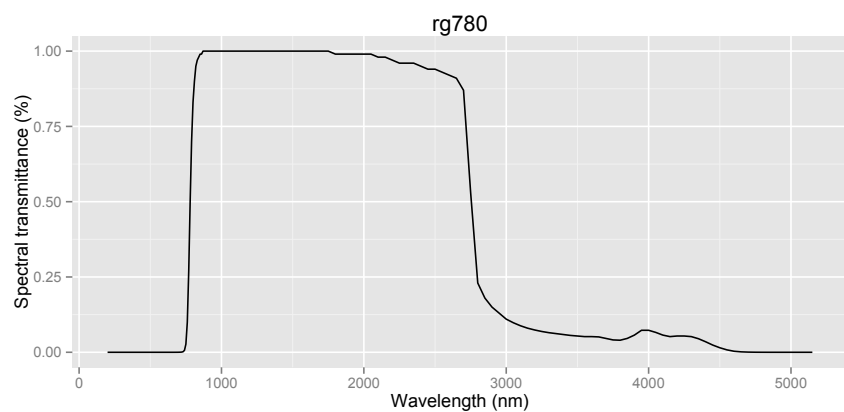
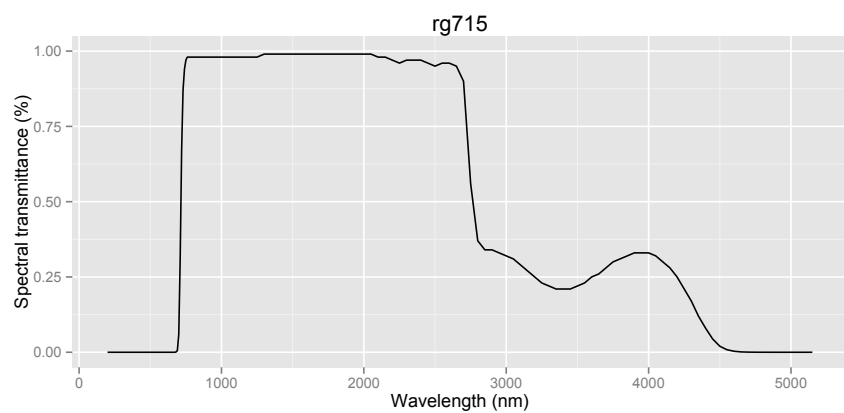


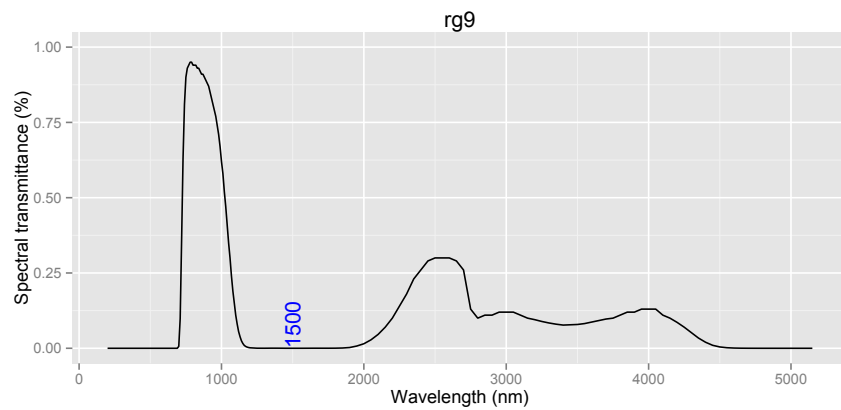
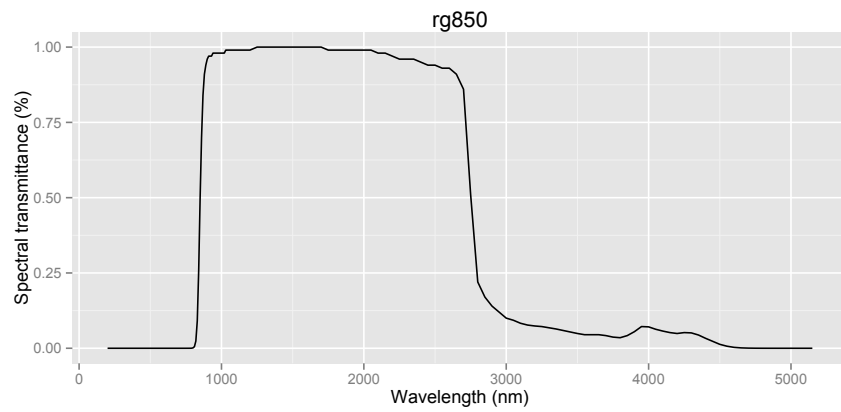


```
for (filter in c("rg610", "rg630", "rg645", "rg665", "rg695", "rg715", "rg780", "rg830", "rg850", "rg9")) {  
  filter.plotter(filter)  
}
```









5.2 Schott band-pass filters

```
for (filter in c("ug1", "ug5", "ug11")) {  
  filter.plotter(filter)  
}
```

