

photobiologyFilters Version 0.1.7

Catalogue of filters

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1 Introduction

```
library(ggplot2)
library(photobiologyFilters)

## Loading required package: photobiology
##
## Attaching package: 'photobiologyFilters'
##
## The following object is masked from 'package:photobiology':
##
##   calc_filter_multipliers

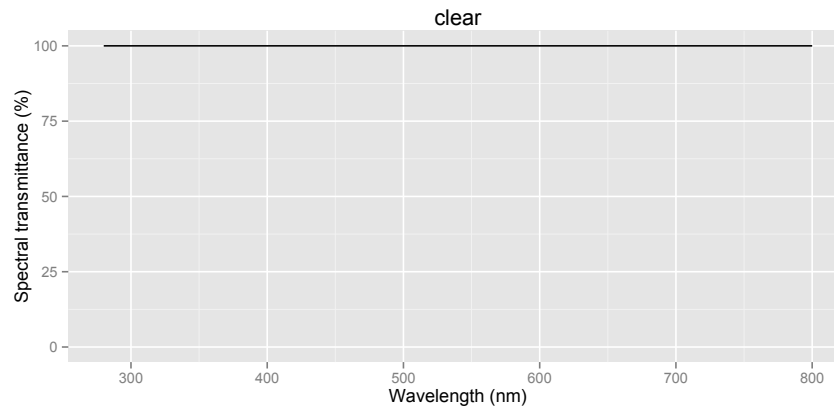
library(photobiologygg)

## Loading required package: proto
## Loading required package: spls2R
## Loading required package: plyr

filter.plotter <- function(filter_name, w.low = 280, w.high = 800, ylab = "Spectral transmittance (%)") {
  spectrum.data <- data.frame(w.length = seq(280, 800, length.out = 300))
  spectrum.data$transmittance <- calc_filter_multipliers(spectrum.data$w.length,
    filter_name, pc = TRUE)
  fig_linear <- ggplot(aes(x = w.length, y = transmittance), data = spectrum.data) +
    labs(x = "Wavelength (nm)", y = ylab, title = filter_name) + ylim(0,
    100) + 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)
}
```

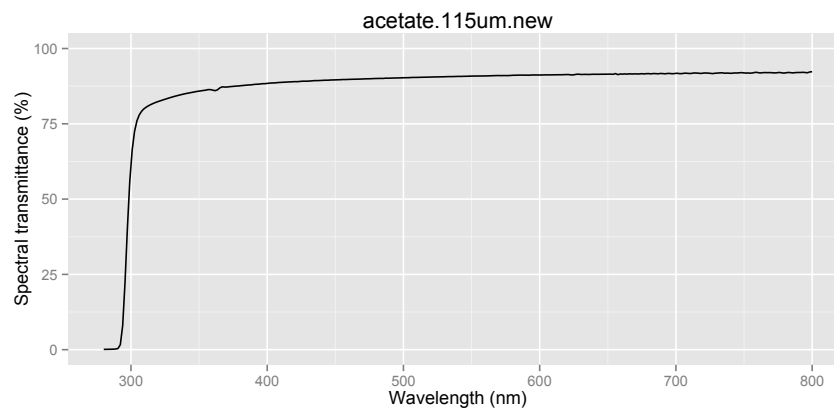
2 Clear filter

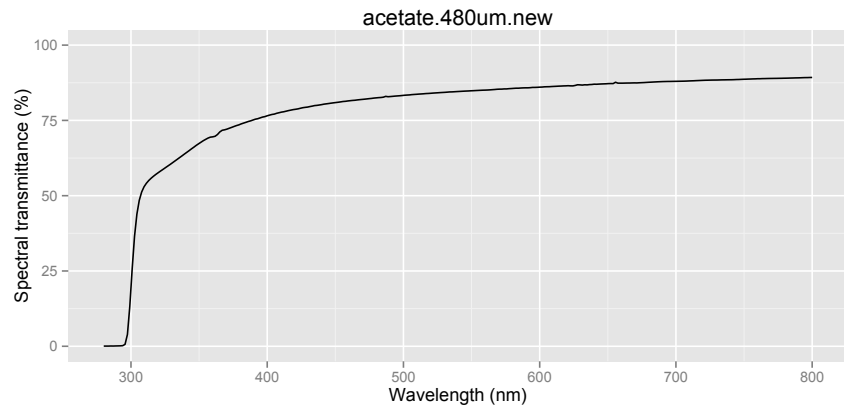
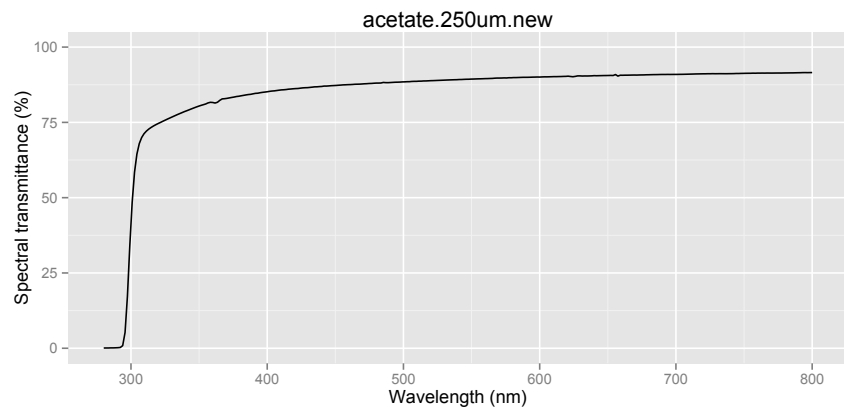
```
filter.plotter("clear")
```



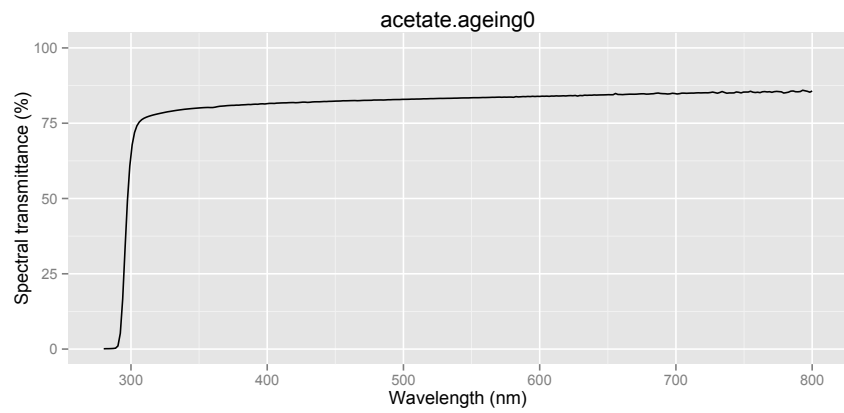
3 Cellulose diacetate

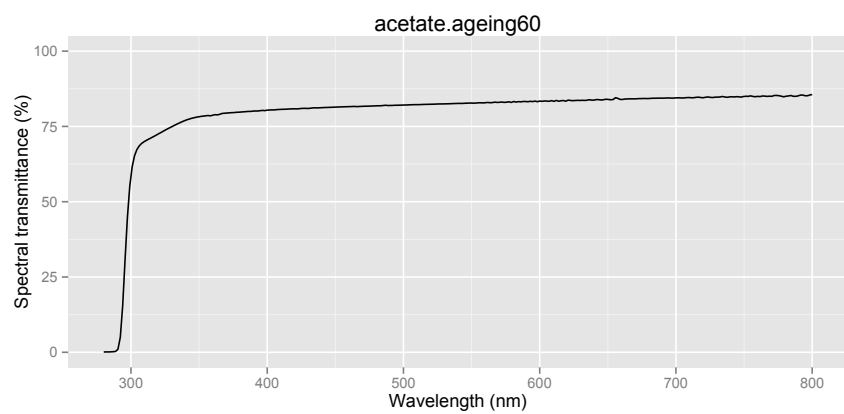
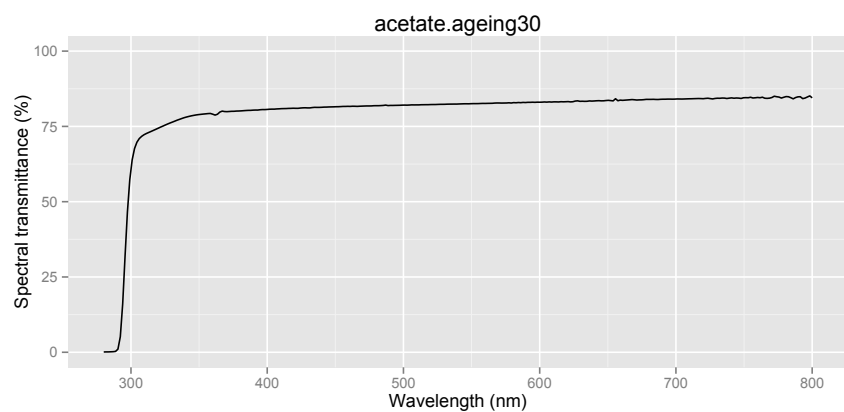
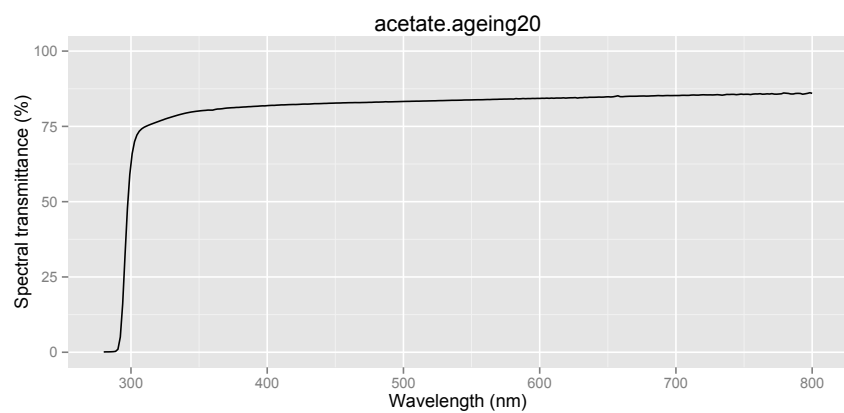
```
for (filter in c("acetate.115um.new", "acetate.250um.new", "acetate.480um.new")) {  
  filter.plotter(filter)  
}
```

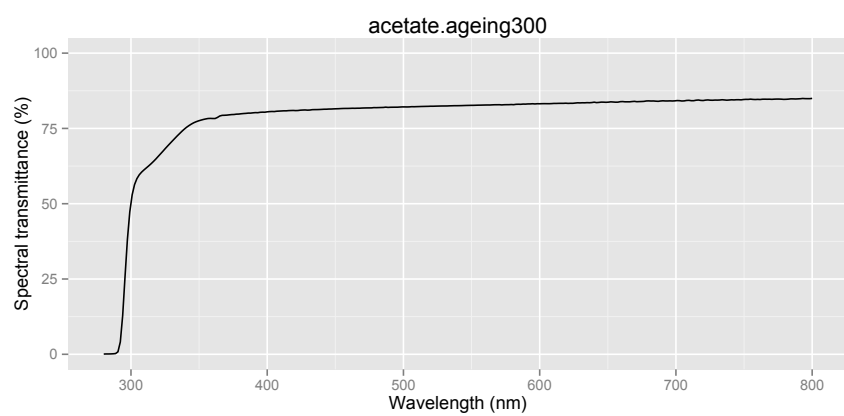
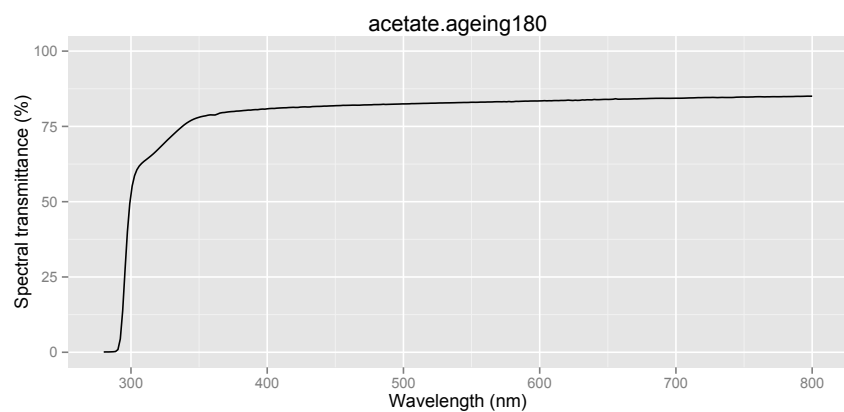
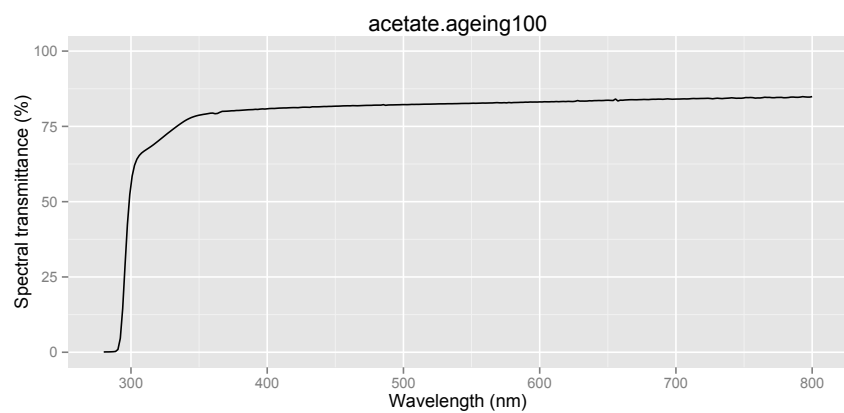




```
for (filter in c("acetate.ageing0", "acetate.ageing20", "acetate.ageing30",  
"acetate.ageing60", "acetate.ageing100", "acetate.ageing180", "acetate.ageing300")) {  
  filter.plotter(filter)  
}
```

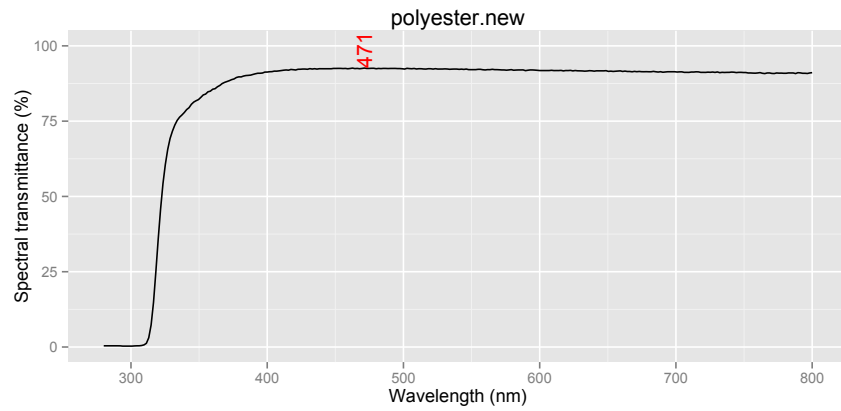






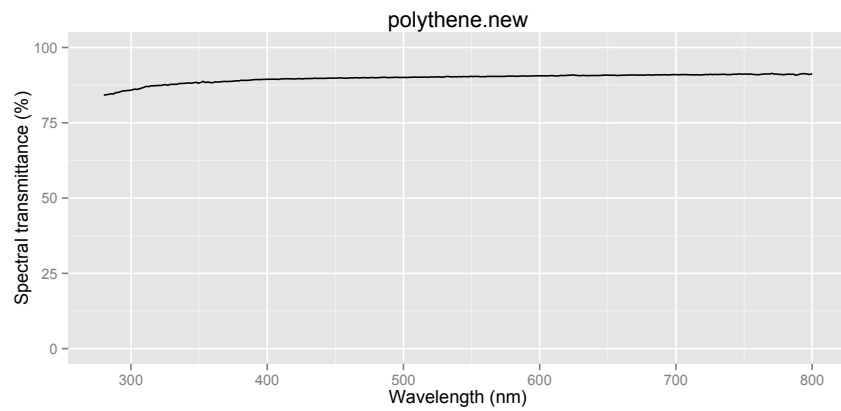
4 Polyester

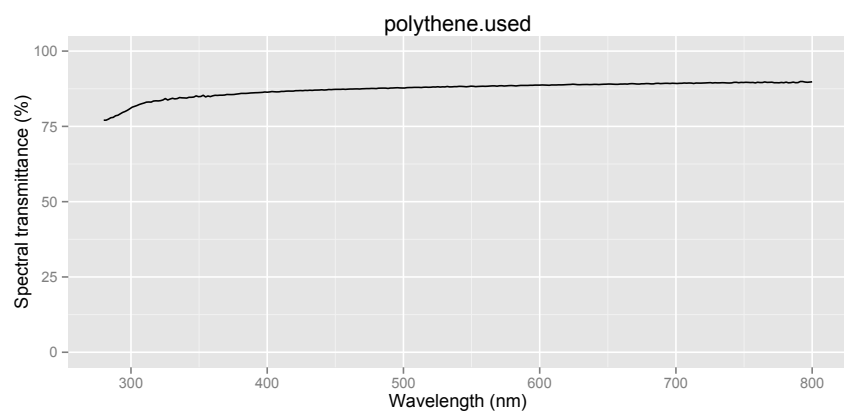
```
filter.plotter("polyester.new")
```



5 Polythene

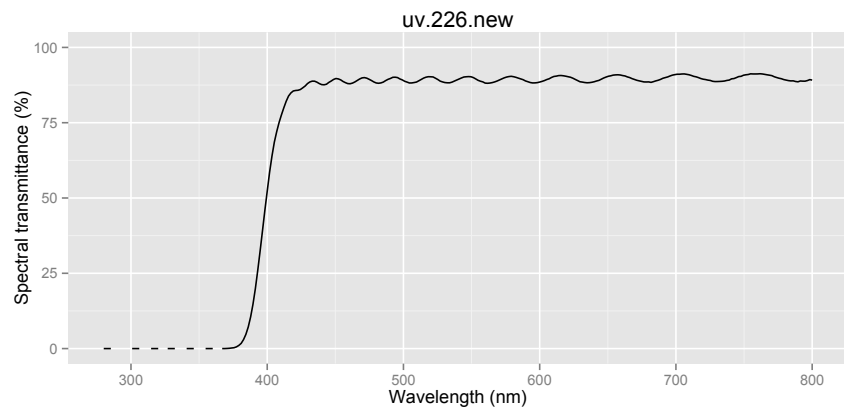
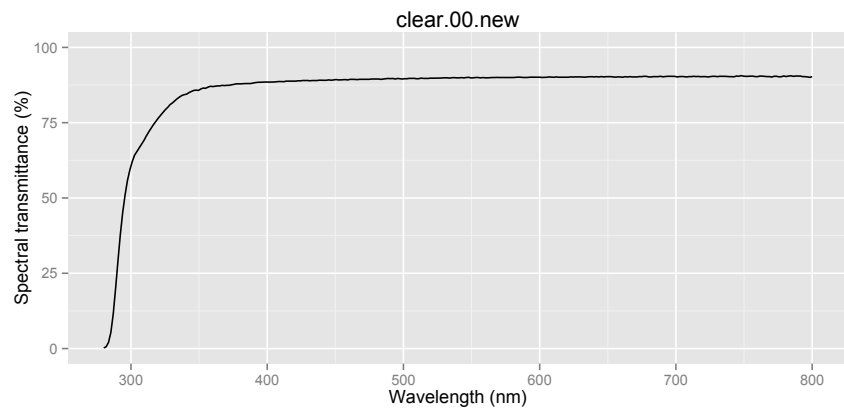
```
filter.plotter("polythene.new")  
filter.plotter("polythene.used")
```

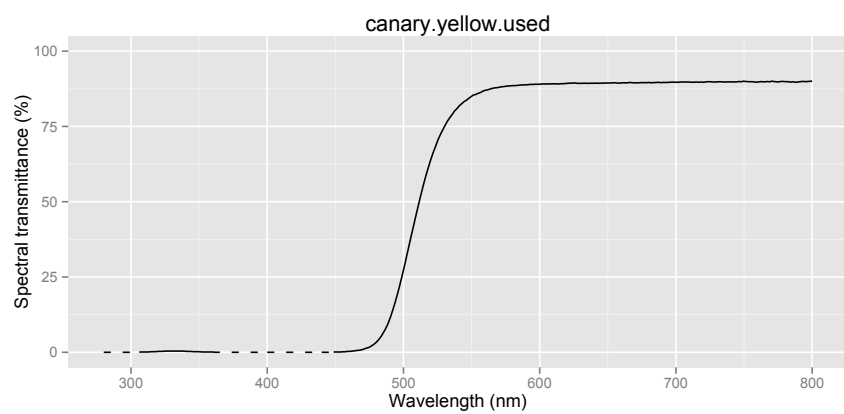
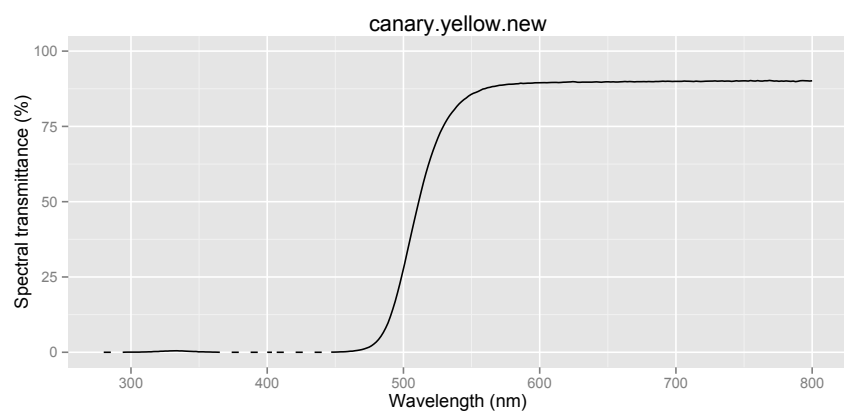
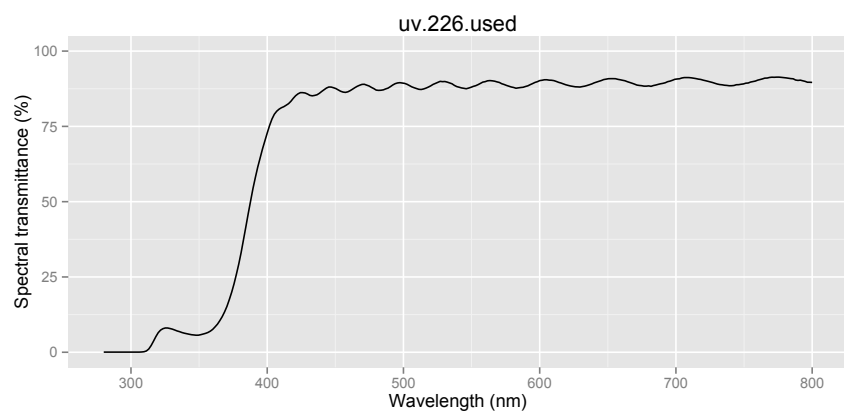


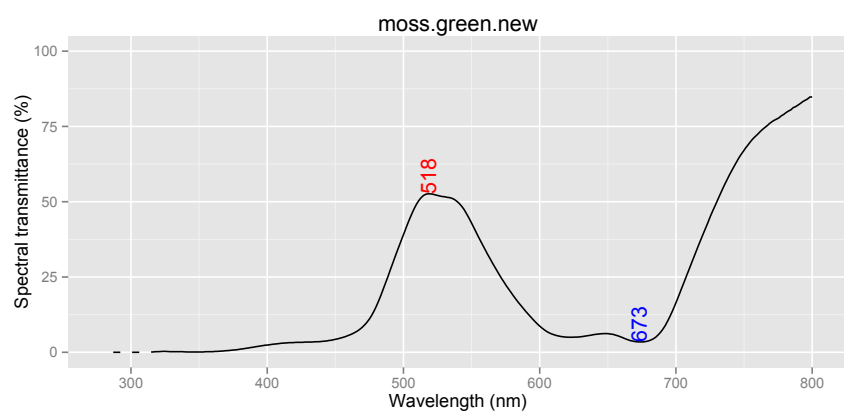
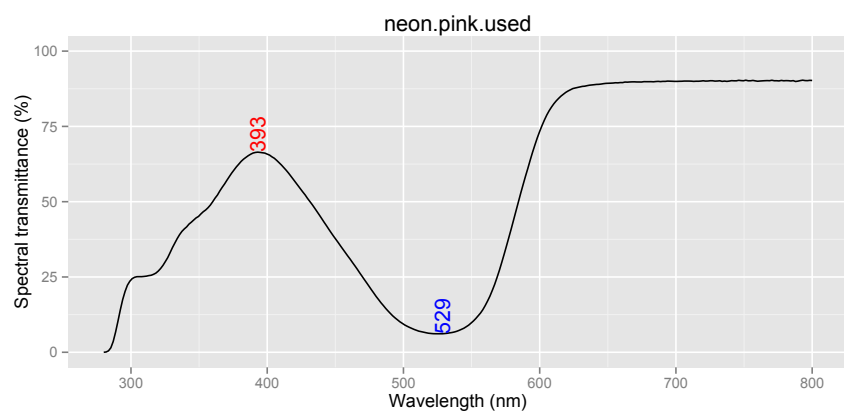
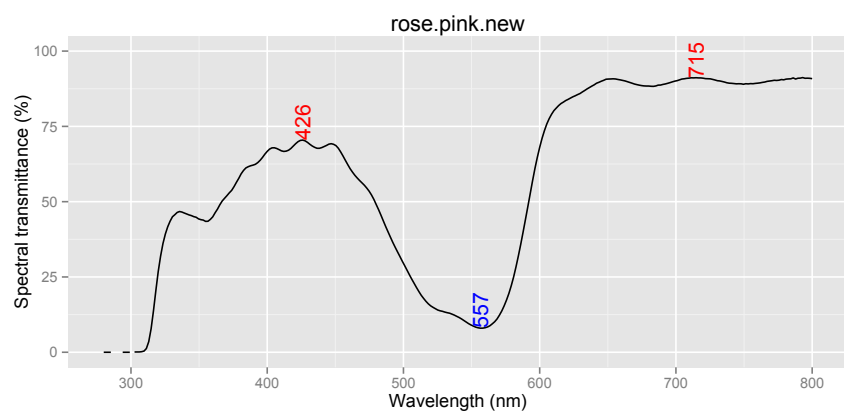


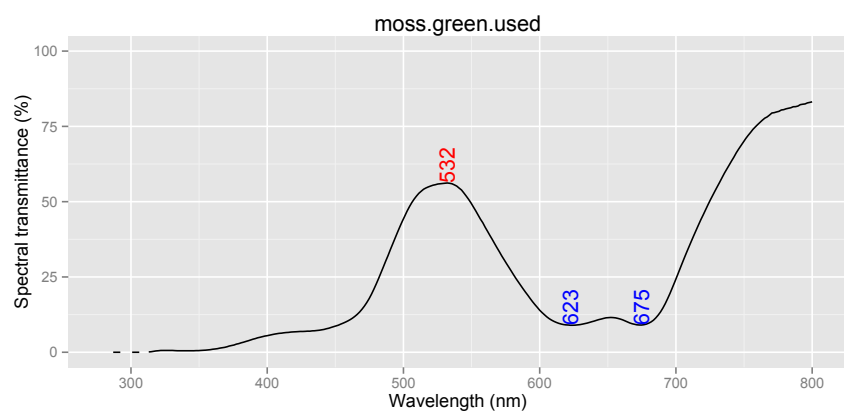
6 Rosco filters

```
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)  
}
```



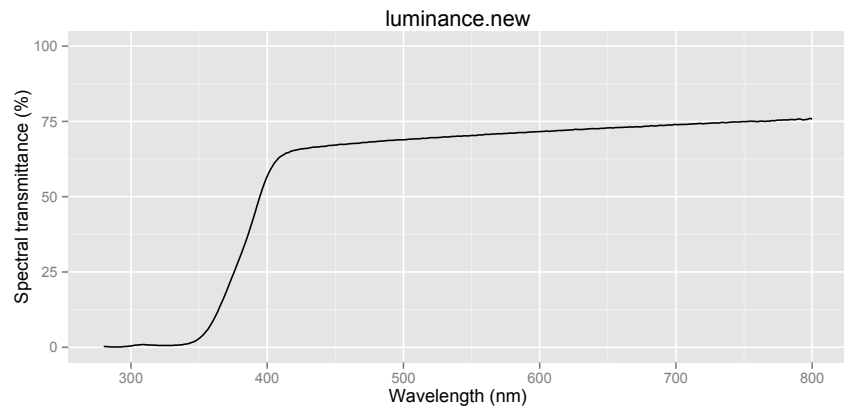
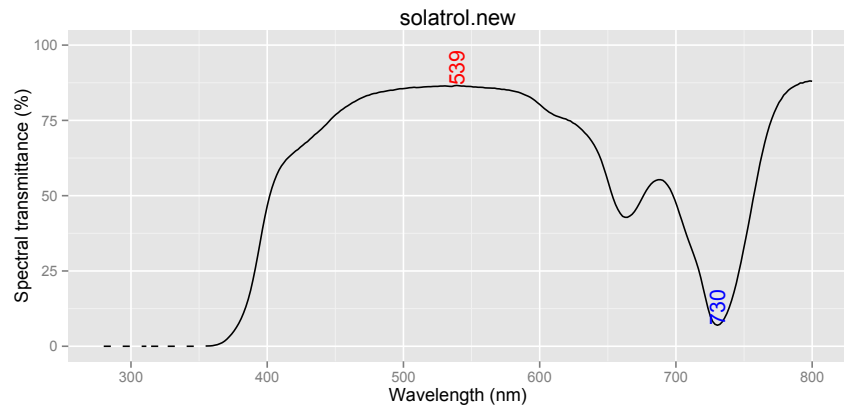






7 BPI AGri Visqueen

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



8 Schott optical glass filters

```
for (filter in c("UG1", "UG11")) {  
  filter.plotter(filter)  
}
```

