

photobiologyFilters Version 0.1.8

Catalogue of filters

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1 Introduction

```
library(ggplot2)
library(photobiologyFilters)

## Loading required package: photobiology
## Loading required package: data.table
## Loading required package: lubridate
##
## Attaching package: 'lubridate'
##
## The following objects are masked from 'package:data.table':
##
##   hour, mday, month, quarter, wday, week, yday, year
## Warning: replacing previous import by 'lubridate::hour' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::mday' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::month' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::quarter' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::wday' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::week' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::yday' when loading 'photobiology'
## Warning: replacing previous import by 'lubridate::year' when loading 'photobiology'

library(photobiologygg)

## Loading required package: proto
## Loading required package: spls2R
## Loading required package: plyr
##
## Attaching package: 'plyr'
##
## The following object is masked from 'package:lubridate':
##
##   here

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.out=TRUE)
```

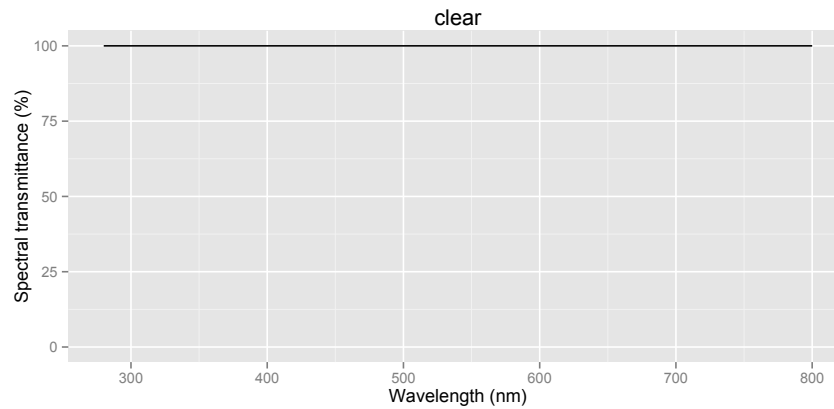
```

fig_linear <- ggplot(aes(x=w.length, y=transmittance), data=spectrum.data) +
  labs(x="Wavelength (nm)", y=ylabel, 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)
}

```

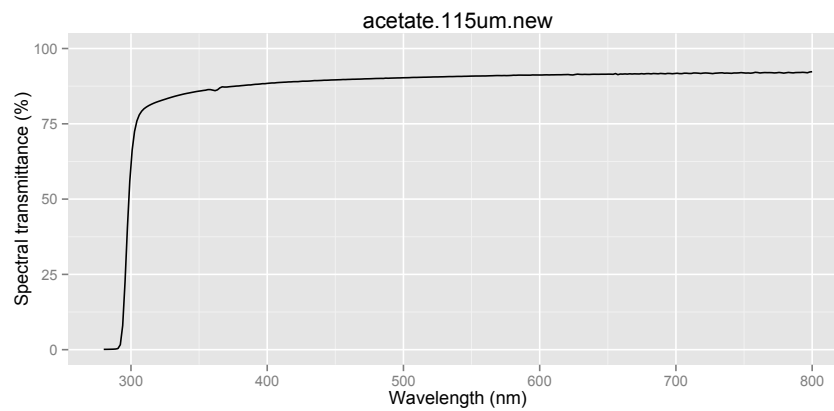
2 Clear filter

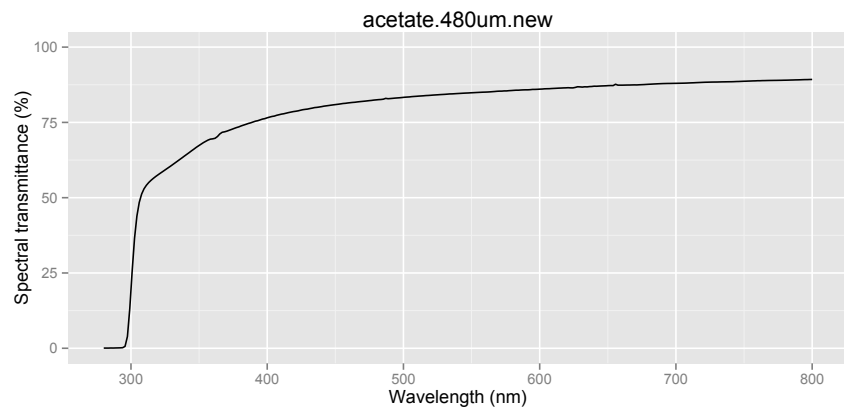
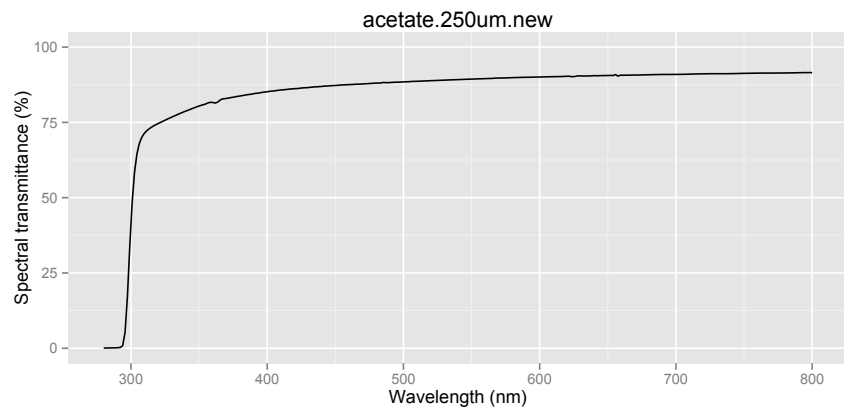
```
filter.plotter("clear")
```



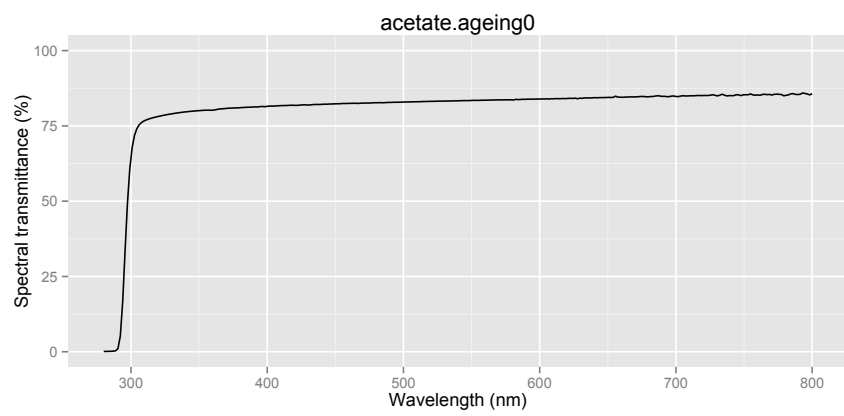
3 Cellulose diacetate

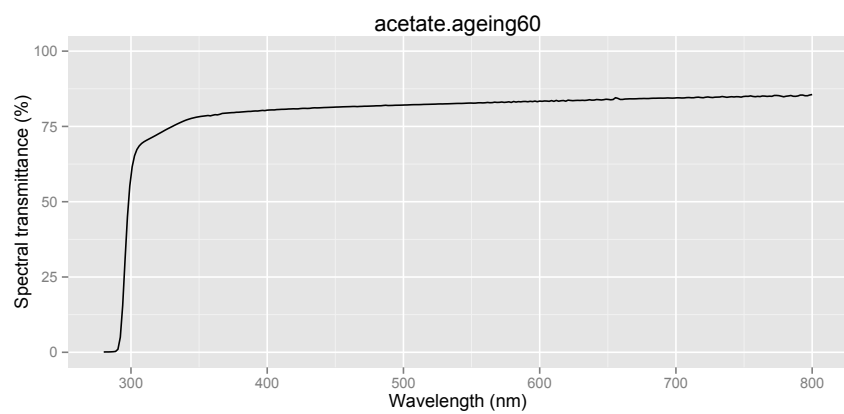
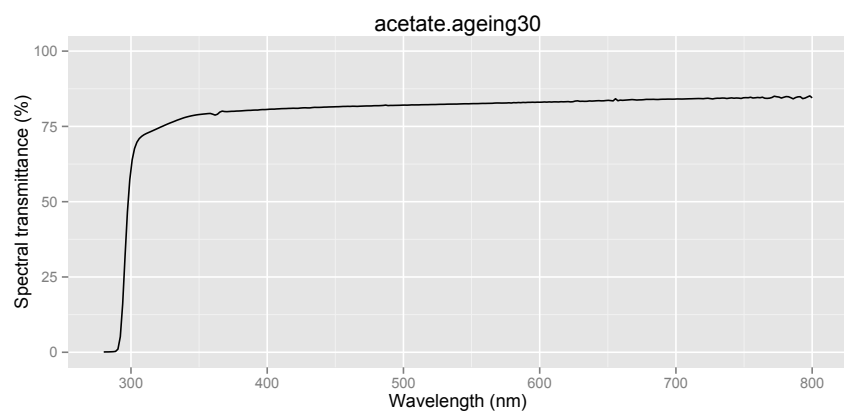
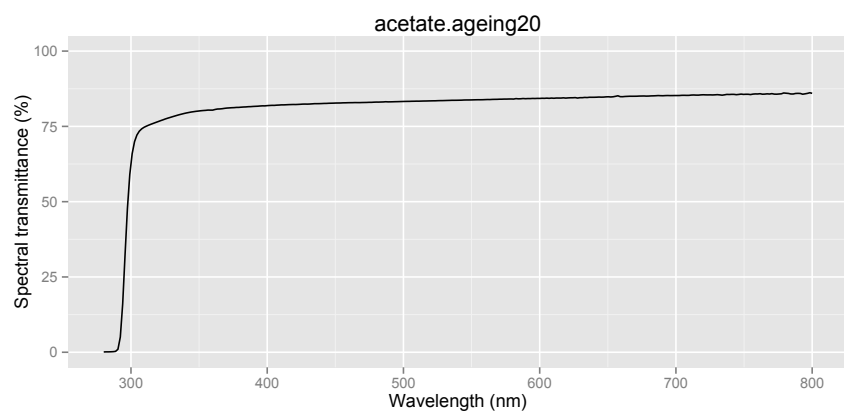
```
for (filter in c("acetate.115um.new", "acetate.250um.new", "acetate.480um.new")) {  
  filter.plotter(filter)  
}
```

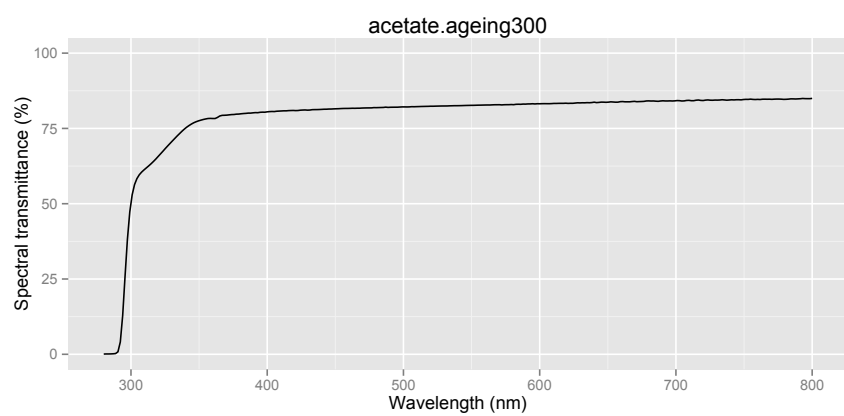
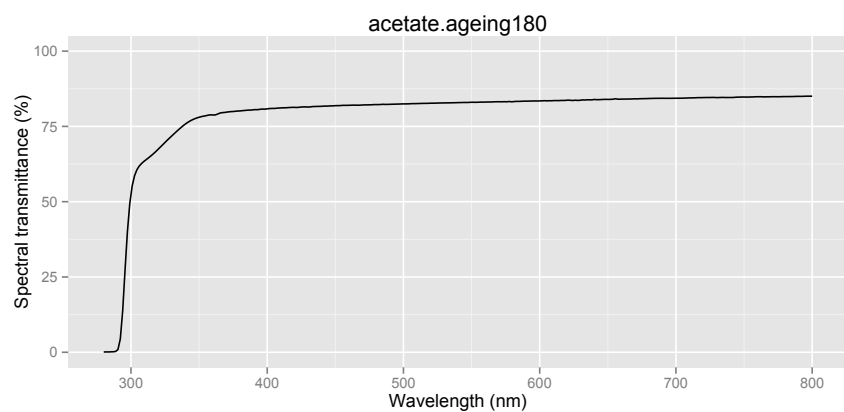
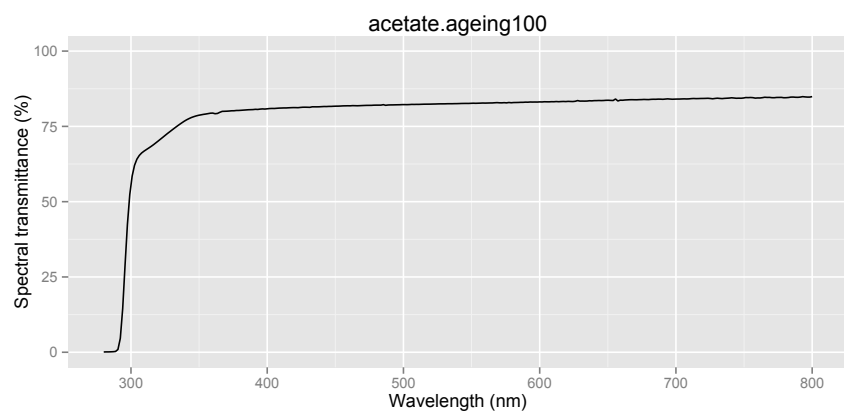




```
for (filter in c("acetate.ageing0", "acetate.ageing20", "acetate.ageing30", "acetate.ageing60", "acetate.ageing100")) {  
  filter.plotter(filter)  
}
```

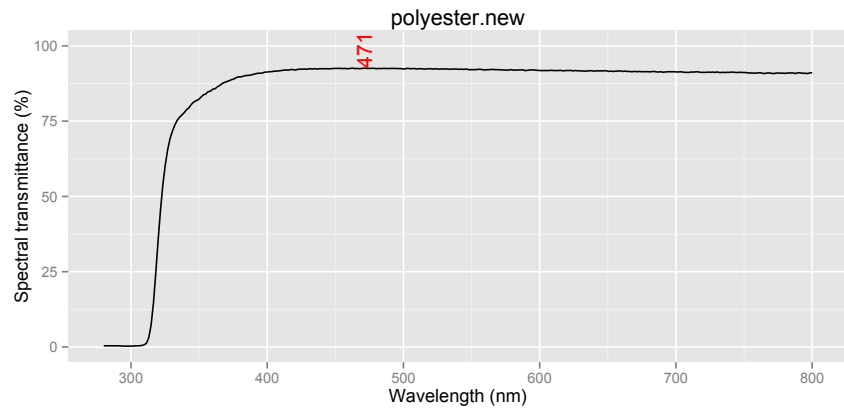






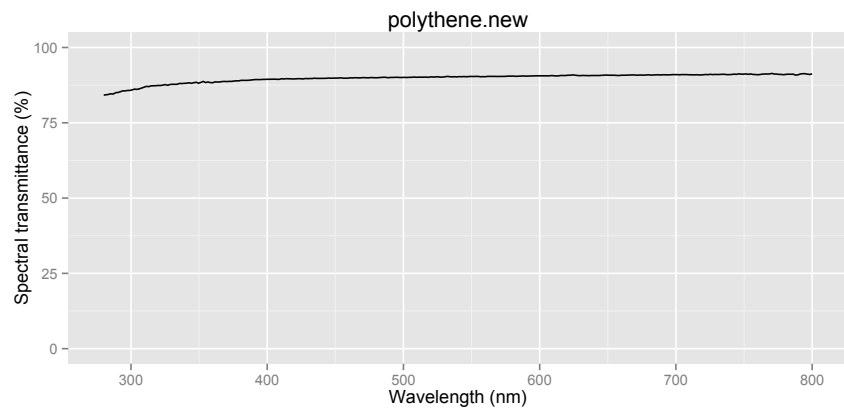
4 Polyester

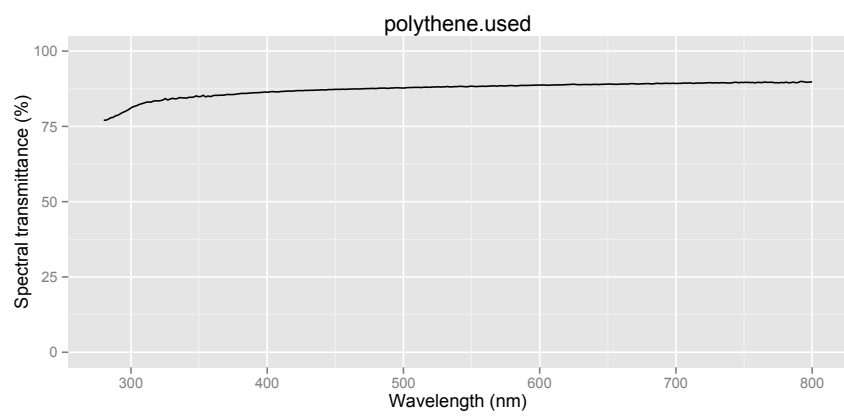
```
filter.plotter("polyester.new")
```



5 Polythene

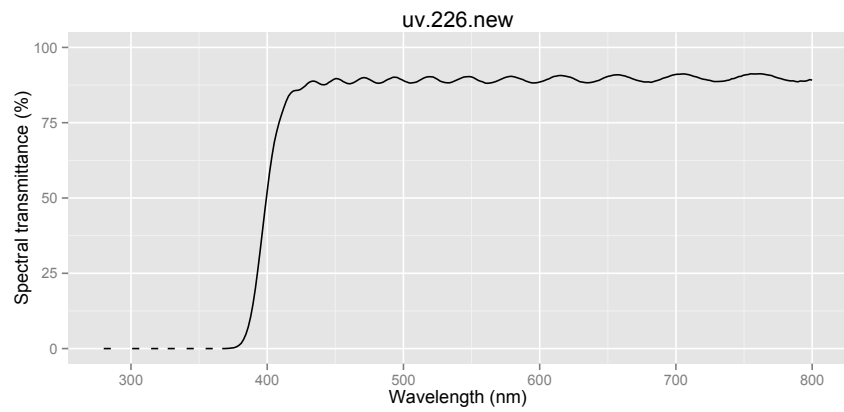
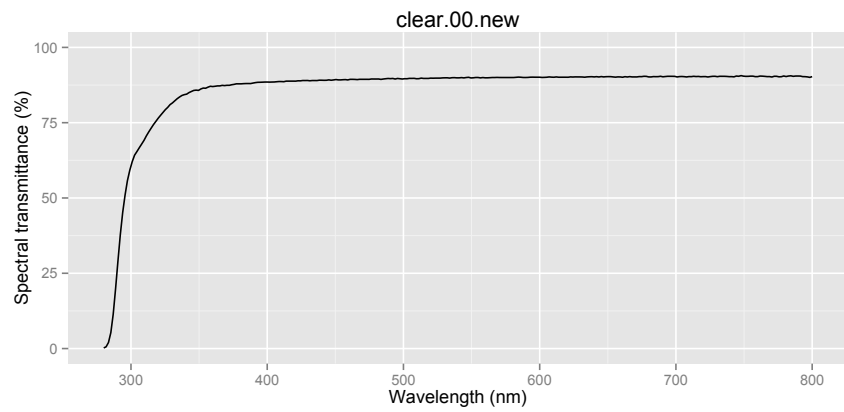
```
filter.plotter("polythene.new")  
filter.plotter("polythene.used")
```

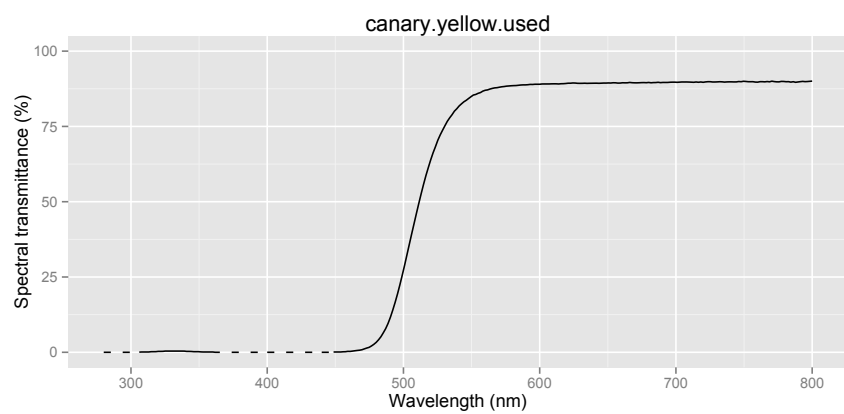
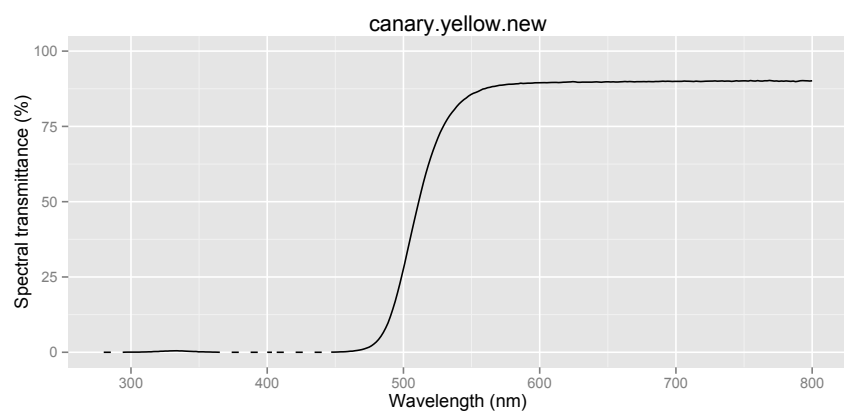
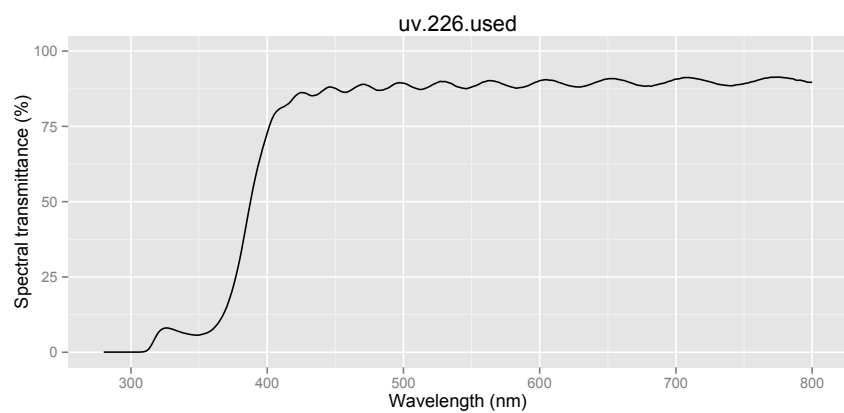


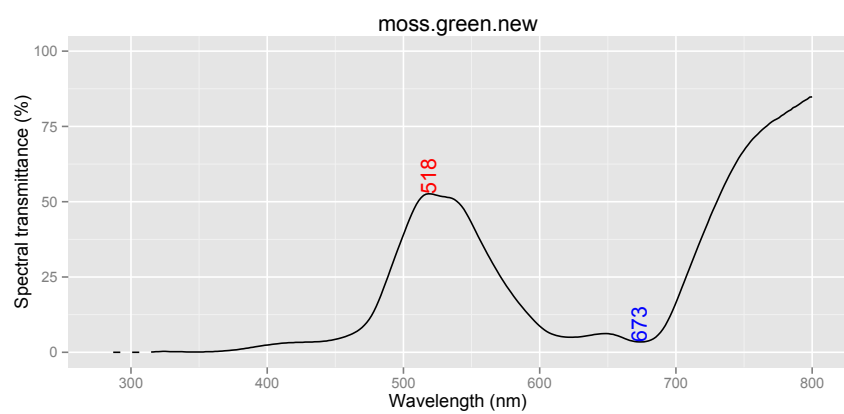
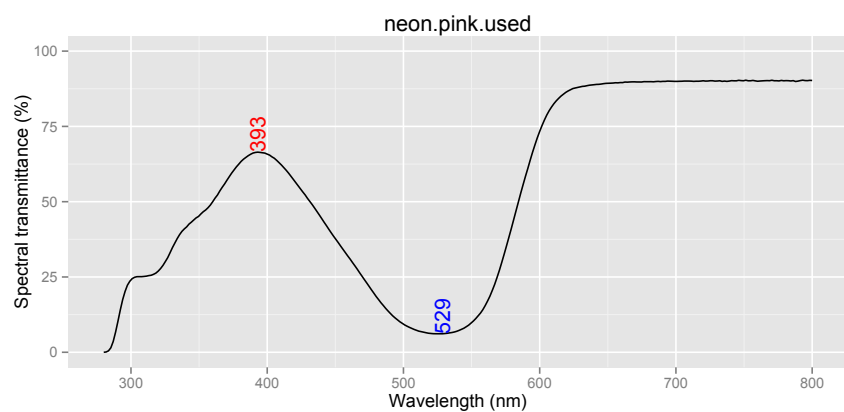
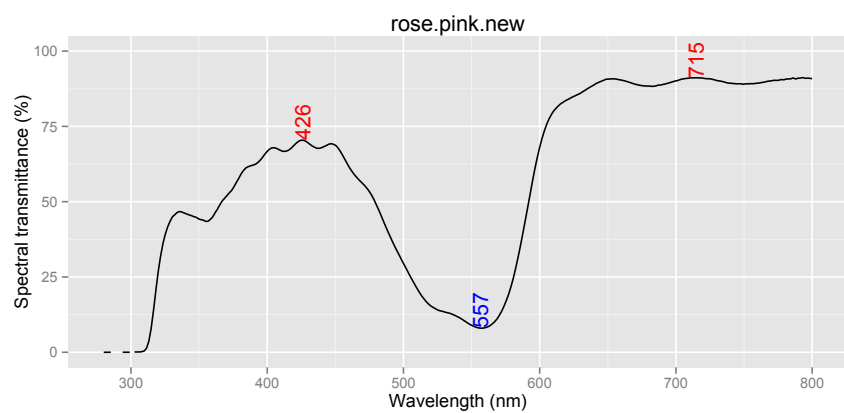


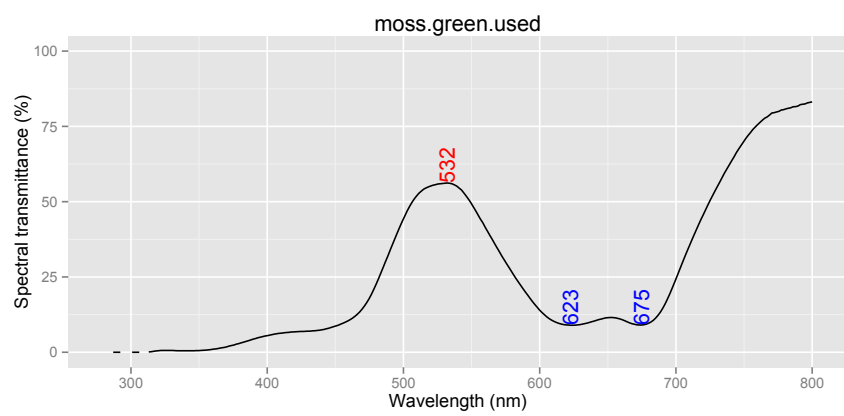
6 Rosco filters

```
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)  
}
```



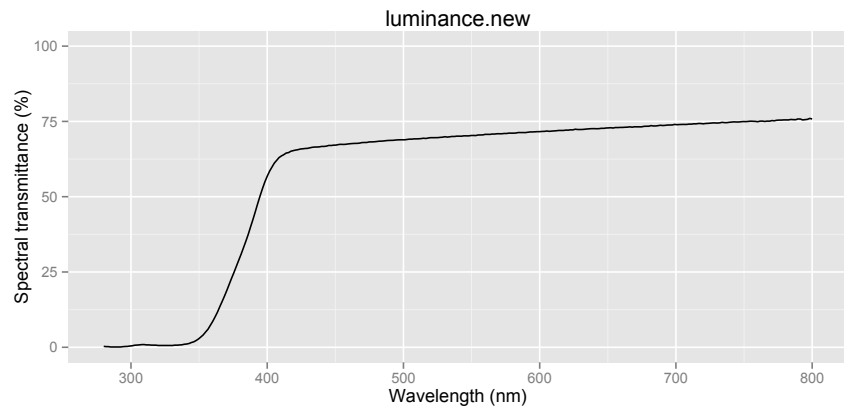
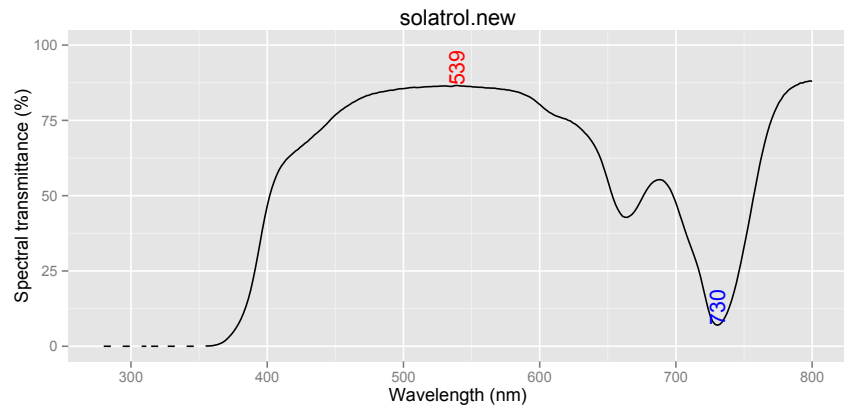






7 BPI AGri Visqueen

```
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)  
}
```

