

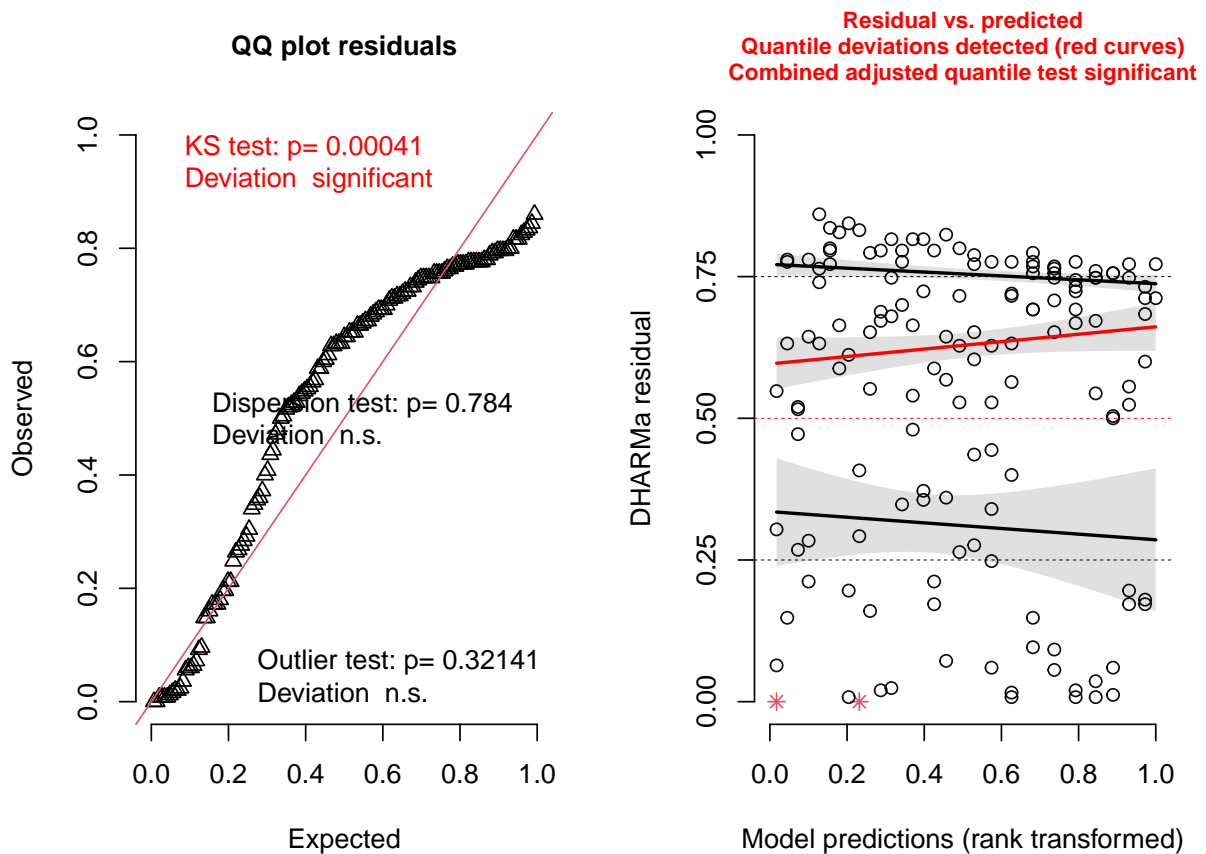
# SBC LTE model residuals

Model structure:

$$\text{deltacontinual} \sim \text{timesinceend} + (1|\text{site})$$

```
DHARMa::simulateResiduals(lm_kelp_during_lmer, plot = T)
```

DHARMa residual



Object of Class DHARMA with simulated residuals based on 250 simulations with refit = FALSE  
Scaled residual values: 0.772 0.672 0.712 0.712 0.684 0.18 0.668 0.732 0.172 0.692 0.6 0.172

Model code:

```
lm_kelp_during_lme_ar4_season <- nlme::lme(  
  delta_continual ~ time_since_end + quarter + time_since_end*quarter, random = ~1|site,  
  data = delta_continual %>% filter(exp_dates == "during"),  
  na.action = na.pass,  
  correlation = corARMA(p = 4, q = 0))
```

Diagnostic plots (from performance, because DHARMA doesn't allow correlation structures)

```
check_model(lm_kelp_during_lme_ar4_season)
```

Variable `Component` is not in your data frame :/

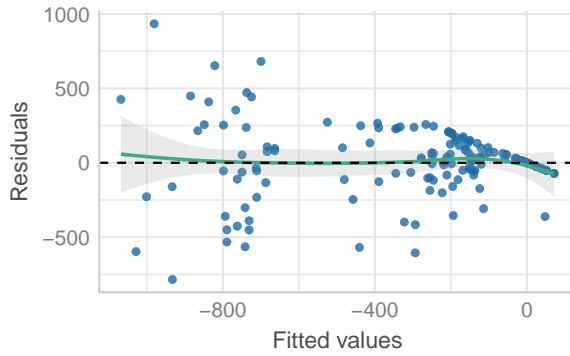
Could not compute standard errors from random effects for diagnostic plot.

Homogeneity of variance could not be computed. Cannot extract residual variance from objects of class 'lme'.

Converting missing values (`NA`) into regular values currently not possible for variables of class `NULL`.

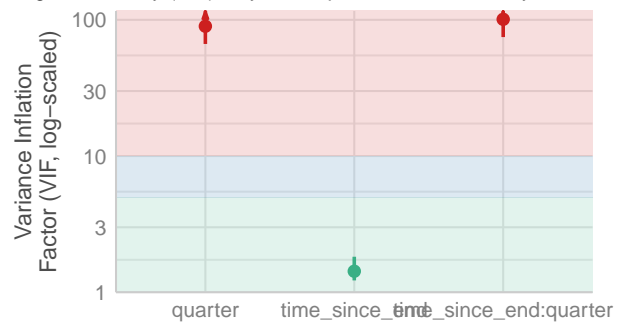
### Linearity

Reference line should be flat and horizontal



### Collinearity

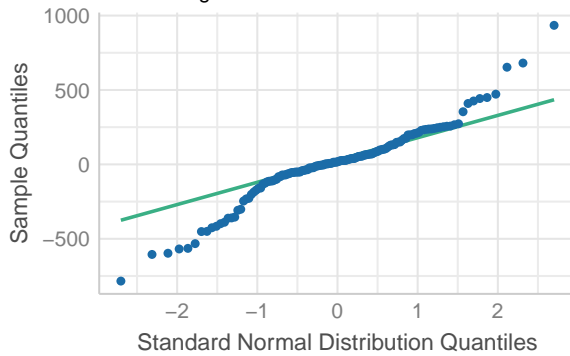
High collinearity (VIF) may inflate parameter uncertainty



● Low (< 5) ● High (... 10)

### Normality of Residuals

Dots should fall along the line



### Normality of Residuals

Distribution should be close to the normal curve

