Package ‘PCL’

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**pcl**  
*Create a Proximal Causal Learning Object*

**Description**
Create a proximal causal learning object, usually used as a variable in a model function. Argument matching

**Usage**
```
pcl(outcome, trt, trt_pxy, out_pxy, covariates)
```

**Arguments**
- **outcome**: the outcome variable
- **trt**: the binary treatment variable
- **trt_pxy**: the treatment-inducing proxies
- **out_pxy**: the outcome-inducing proxies
- **covariates**: the observed confounders

**Value**
pcl returns an object of class "pcl", which wraps the treatment, outcome, treatment inducing confounding proxies, outcome inducing confounding proxies and other covariates

**Examples**
```
n <- 100
outcome <- rnorm(n, 0, 1)
trt <- rbinom(n, 1, 0.5)
trt_pxy <- rnorm(n, 0, 1)
out_pxy <- rnorm(n, 0, 1)
covariates <- rnorm(n, 0, 1)
pcl_object <- pcl(outcome, trt, trt_pxy, out_pxy, covariates)
```

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**pclf**  
*Fit a Proximal Causal Learning Model*

**Description**
Fit a proximal causal learning model

**Usage**
```
pclf(pcl_object, method = "POR")
```
**Arguments**

- **pcl_object**: an pcl object
- **method**: method used to fit

**Value**

returns the average causal effect

**Examples**

```r
n <- 100
outcome <- rnorm(n, 0, 1)
trt <- rbinom(n, 1, 0.5)
trt_pxy <- matrix(rnorm(n, 0, 1), ncol = 1)
out_pxy <- matrix(rnorm(n, 0, 1), ncol = 1)
covariates <- matrix(rnorm(n, 0, 1), ncol = 1)
pcl_object <- pcl(outcome, trt, trt_pxy, out_pxy, covariates)
fit <- pclfit(pcl_object)
```
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