

```

 $\mathbb{O}_i$  [poly_] := PP0@Total[
    CoefficientRules [poly, #i & /@ $PBWGens] /.
    (p_ → c_) := c Ui @@ Flatten@MapThread [ConstantArray, {$PBWGens, p}]
];

```

```

 $\mathbb{O}_{i,is}$  [poly_] :=  $\mathbb{O}_i$  [ $\mathbb{O}_{is}$  [poly]];

```

```

 $\mathbb{P}_i$  [ε_] := ε /. Ui [xs____] := Times @@ (#i & /@ {xs});

```

```

 $\mathbb{P}_{i,is}$  [poly_] :=  $\mathbb{P}_i$  [ $\mathbb{P}_{is}$  [poly]];

```