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**NAME**

MolecularFormula

**SYNOPSIS**

```
use MolecularFormula;

use MolecularFormula qw(:all);
```

**DESCRIPTION**

MolecularFormula module provides the following functions:

CalculateElementalComposition, CalculateExactMass, CalculateMolecularWeight, FormatCompositionInformation, GetElementsAndCount, IsMolecularFormula

**FUNCTIONS****CalculateMolecularWeight**

```
$MolecularWeight = CalculateMolecularWeight($MolecularFormula);
```

Calculates and returns the molecular weight for a specified *MolecularFormula*

**CalculateElementalComposition**

```
($ElementsRef, $ElementCompositionRef) =
    CalculateElementalComposition($MolecularFormula);
```

Calculates the percent composition in a specified *MolecularFormula* and returns references to arrays containing elements and their percent composition

**CalculateExactMass**

```
$ExactMass = CalculateMolecularWeight($MolecularFormula);
```

Calculates and returns the exact mass for a specified *MolecularFormula*

**FormatCompositionInformation**

```
$FormattedString = FormatCompositionInformation($ElementsRef,
    $ElementCompositionRef, [$Precision]);
```

Returns a formatted elemental composition string using references to elements and elemental composition arrays. Precision is an optional parameter; its default value is 2

**GetElementsAndCount**

```
($ElementsRef, $ElementCountRef) = GetElementsAndCount(
    $MolecularFormula);
```

Retrieves elements and their count composition in a specified *MolecularFormula* and returns references to arrays containing elements and their count

**IsMolecularFormula**

```
$Status = IsMolecularFormula($MolecularFormula);
($Status, $ErrorMsg) = IsMolecularFormula($MolecularFormula);
```

Returns 1 or 0 a based on whether it's a valid *MolecularFormula*

**AUTHOR**

Manish Sud <msud@san.rr.com>

**SEE ALSO**

Molecule.pm

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