



**Expertise in chemistry and catalysis**

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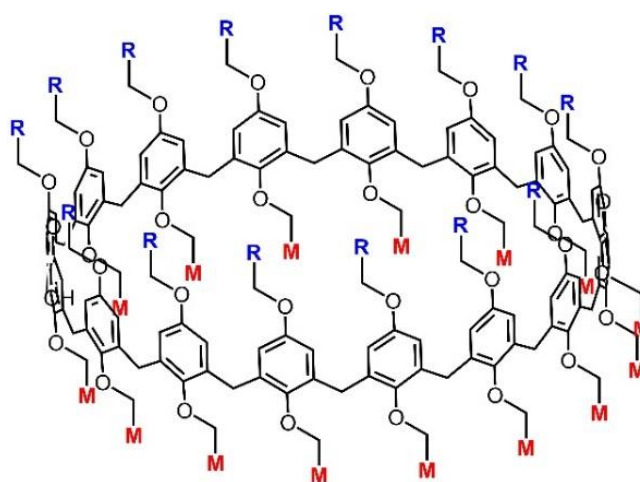
[www.novecal.com/](http://www.novecal.com/)



# Product catalogue – NOVECAL Catalysts and ligands

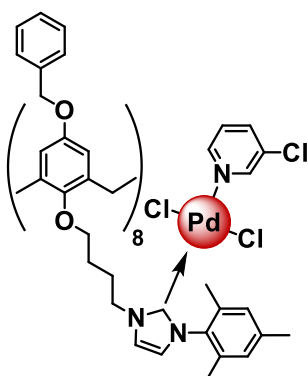


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# Supported catalysts

## Supported Pd-NHC catalyst NOVECOT G1-01

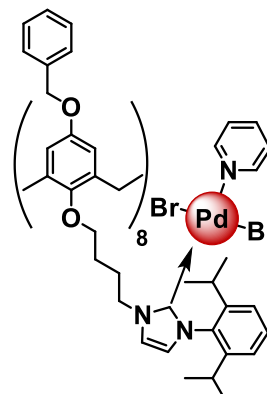


$C_{280}H_{288}Cl_{24}N_{24}O_{16}Pd_8$ ,  $M = 5947.67 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2225985-83-9  
Suzuki coupling

Reference	Packing unit	Price (€)
NOVECOT G1-01	1g	250

Please contact us for larger quantities.

## Supported Pd-NHC catalyst NOVECOT G1-02

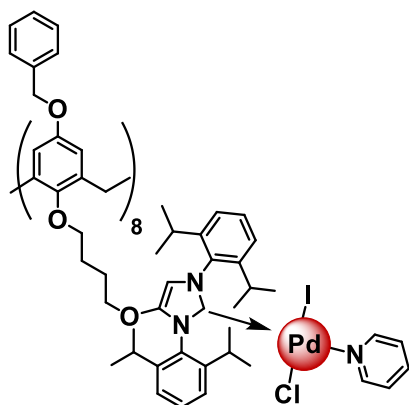


$C_{304}H_{344}Br_{16}N_{24}O_{16}Pd_8$ ,  $M = 6720.07 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2225985-82-8  
Suzuki coupling with bulky substrates

Reference	Packing unit	Price (€)
NOVECOT G1-02	1g	310

Please contact us for larger quantities.

## Supported Pd-NHC catalyst NOVECOT G2-01

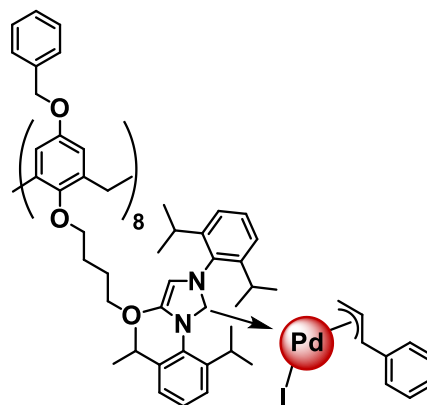


$C_{400}H_{472}N_{24}O_{24}Pd_8Cl_8I_8$ ,  $M = 8150.52 \text{ g}\cdot\text{mol}^{-1}$   
Suzuki coupling with very bulky substrates

Reference	Packing unit	Price (€)
NOVECOT G2-01	1g	430

Please contact us for larger quantities.

## Supported Pd-NHC catalyst NOVECOT G2-02



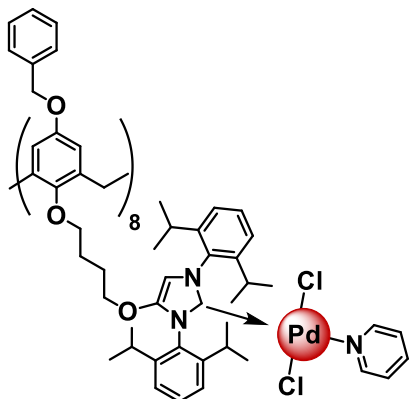
$C_{432}H_{504}Pd_8I_8N_{16}O_{24}$ ,  $M = 8171.47 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2676929-10-3  
Buchwald coupling

Reference	Packing unit	Price (€)
NOVECOT G2-02	1g	450

Please contact us for larger quantities.

# Supported catalysts

## Supported Pd-NHC catalyst NOVECOT G2-03



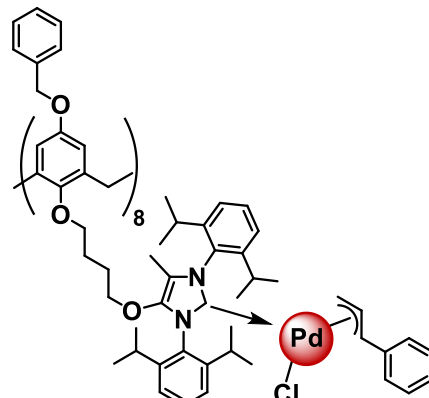
$C_{400}H_{472}N_{24}O_{24}Pd_8Cl_{16}$ ,  $M = 7418.88 \text{ g.mol}^{-1}$   
CAS: 2767563-35-7

Suzuki coupling with challenging aryl halides

Reference	Packing unit	Price (€)
NOVECOT G2-03	1g	470

Please contact us for larger quantities.

## Supported Pd-NHC catalyst NOVECOT G3-01



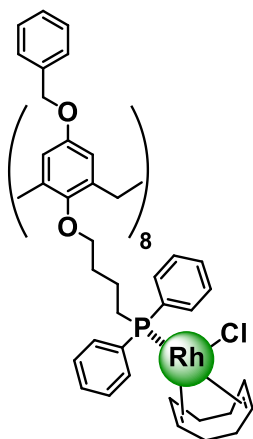
$C_{440}H_{520}N_{16}O_{24}Pd_8Cl_8$ ,  $M = 7552.05 \text{ g.mol}^{-1}$   
CAS: 2676934-90-8

Buchwald coupling with challenging amines

Reference	Packing unit	Price (€)
NOVECOT G3-01	1g	500

Please contact us for larger quantities.

## Supported Rh-phosphine catalyst NOVECOT Rh-01



$C_{304}H_{328}Cl_8O_{16}P_8Rh_8$ ,  $M = 5592.59 \text{ g.mol}^{-1}$   
CAS: 2225985-84-0

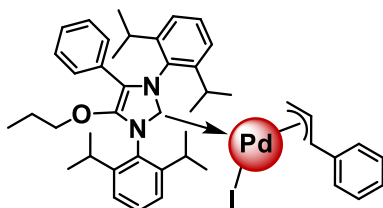
Hydrogenation – in progress

Reference	Packing unit	Price (€)
NOVECOT Rh-01	1g	500

Please contact us for larger quantities.

# Homogeneous catalysts

## Homogeneous Pd-NHC catalyst NOVECAT G4-01

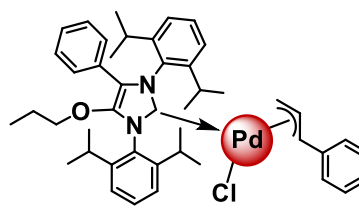


$C_{45}H_{55}N_2OPdI$ ,  $M = 873.27 \text{ g}\cdot\text{mol}^{-1}$   
C-C and C-N couplings at low catalyst loading

Reference	Packing unit	Price (€)
NOVECAT G4-01-1g	1g	245
NOVECAT G4-01-5g	5g	1020

Please contact us for larger quantities.

## Homogeneous Pd-NHC catalyst NOVECAT G4-02

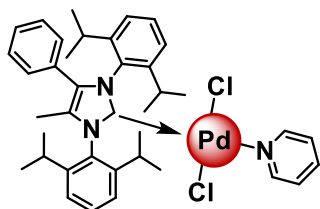


$C_{45}H_{55}N_2OPdCl$ ,  $M = 781.82 \text{ g}\cdot\text{mol}^{-1}$   
C-C and C-N couplings at low catalyst loading

Reference	Packing unit	Price (€)
NOVECAT G4-02-1g	1g	285
NOVECAT G4-02-5g	5g	1110

Please contact us for larger quantities.

## Homogeneous Pd-NHC catalyst NOVECAT G5-03

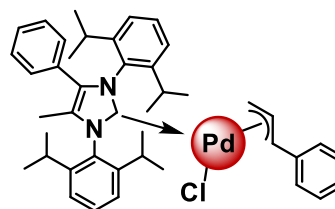


$C_{39}H_{47}N_3PdCl_2$ ,  $M = 735.15 \text{ g}\cdot\text{mol}^{-1}$   
C-C couplings at very low catalyst loading,  
and with highly challenging substrates

Reference	Packing unit	Price (€)
NOVECAT G5-03-1g	1g	295
NOVECAT G5-03-5g	5g	1150

Please contact us for larger quantities

## Homogeneous Pd-NHC catalyst NOVECAT G5-04



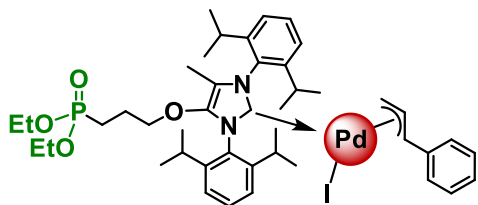
$C_{43}H_{51}N_2PdCl$ ,  $M = 737.77 \text{ g}\cdot\text{mol}^{-1}$   
C-N couplings at very low catalyst loading,  
and with highly challenging substrates

Reference	Packing unit	Price (€)
NOVECAT G5-04-1g	1g	305
NOVECAT G5-04-5g	5g	1190

Please contact us for larger quantities.

# Graftable homogeneous catalyst

## Homogeneous Pd-NHC catalyst NOVECOT G3-PO(OEt)<sub>2</sub>



$C_{44}H_{62}N_2O_4PPdI$ ,  $M = 947.29 \text{ g}\cdot\text{mol}^{-1}$

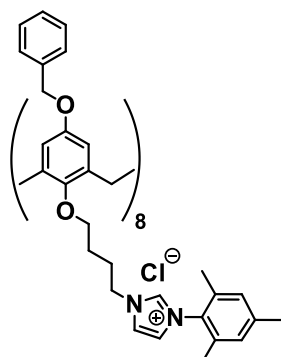
Easy grafting on metal oxides for clean and efficient  
C-C and C-N couplings at low catalyst loading,  
Applications in batch or flow processes

Reference	Packing unit	Price (€)
NOVECOT G3-PO(OEt) <sub>2</sub> -1g	1g	355
NOVECOT G3-PO(OEt) <sub>2</sub> -5g	5g	1555

Please contact us for larger quantities.

## Supported ligands

### Bz-calix[8]-C4- mesitylimidazolium-Cl NOVELIG G1-CL01

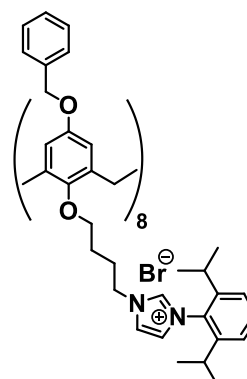


$C_{240}H_{264}Cl_8N_{16}O_{16}$ ,  $M = 3912.45 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2225872-20-6

Reference	Packing unit	Price (€)
CL01-1	1g	180

Please contact us for larger quantities.

### Bz-calix[8]-C4- iPr<sub>2</sub>Ph-imidazolium-Br – NOVELIG G1-CL02

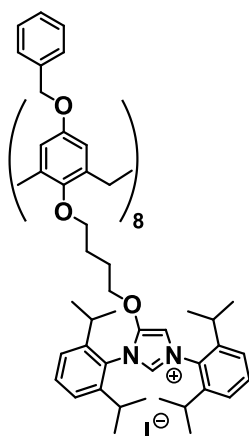


$C_{264}H_{312}Br_8N_{16}O_{16}$ ,  $M = 4604.73 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2225872-23-9

Reference	Packing unit	Price (€)
CL02-1	1g	190

Please contact us for larger quantities.

### Bz-calix[8]-C4- [bis(iPr<sub>2</sub>Ph)-imidazolium-I] NOVELIG G2-CL05

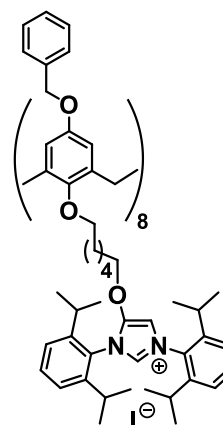


$C_{360}H_{440}I_8N_{16}O_{24}$ ,  $M = 6390.80 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2676928-30-4

Reference	Packing unit	Price (€)
CL05-1	1g	230

Please contact us for larger quantities.

### Bz-calix[8]-C6- [bis(iPr<sub>2</sub>Ph)-imidazolium-I] NOVELIG G2-CL06



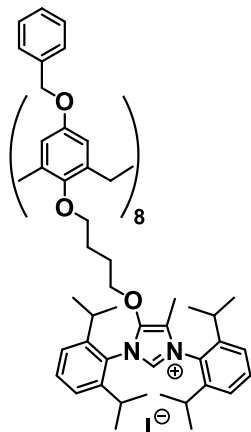
$C_{376}H_{472}I_8N_{16}O_{24}$ ,  $M = 6615.24 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2770427-00-2

Reference	Packing unit	Price (€)
CL06-1	1g	230

Please contact us for larger quantities.

## Supported ligands

### 4-[Bz-calix[8]-C4]-5-methyl- 1,3-[bis(iPr<sub>2</sub>Ph)]-imidazolium-I NOVELIG G3-CL07

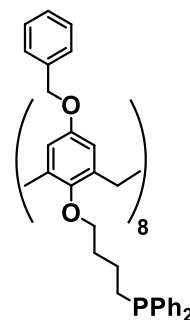


$C_{368}H_{456}I_8N_{16}O_{24}$ ,  $M = 6503.02 \text{ g}\cdot\text{mol}^{-1}$   
CAS: 2676928-84-8

Reference	Packing unit	Price (€)
CL07-1	1g	250

Please contact us for larger quantities.

### Bz-calix[8]-C4-PPh<sub>2</sub> NOVELIG CL04



$C_{240}H_{232}O_{16}P_8$ ,  $M = 3620.27 \text{ g}\cdot\text{mol}^{-1}$

Reference	Packing unit	Price (€)
CL04-1	1g	190
CL04-5	5g	600

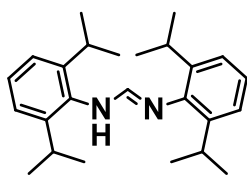
Please contact us for larger quantities.



# Carbene precursors

## Bis(iPr<sub>2</sub>Ph)-formamidine

L10

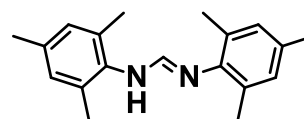


C<sub>25</sub>H<sub>36</sub>N<sub>2</sub>, M= 364.58 g.mol<sup>-1</sup>  
CAS: 581776-24-1

Reference	Packing unit	Price (€)
L10-5	5g	150
L10-25	25g	400
L10-100	100g	830
L10-500	500g	2000

## Bis(mesityl)-formamidine

L11



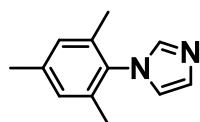
C<sub>19</sub>H<sub>24</sub>N<sub>2</sub>, M= 280.42 g.mol<sup>-1</sup>  
CAS: 75105-48-5

Reference	Packing unit	Price (€)
L11-5	5g	130
L11-25	25g	350
L11-100	100g	780
L11-500	500g	1800

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## Mesitylimidazole

L01

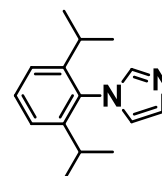


C<sub>12</sub>H<sub>14</sub>N<sub>2</sub>, M= 186.26 g.mol<sup>-1</sup>  
CAS: 25364-44-7

Reference	Packing unit	Price (€)
L01-1	1g	80
L01-5	5g	335
L01-10	10g	575
L01-50	50g	1345

## Diisopropylphenylimidazole

L02

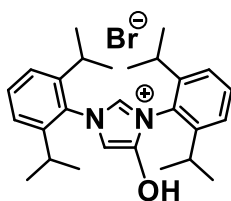


C<sub>15</sub>H<sub>20</sub>N<sub>2</sub>, M= 228.34 g.mol<sup>-1</sup>  
CAS: 25364-47-0

Reference	Packing unit	Price (€)
L02-1	1g	80
L02-5	5g	350
L02-10	10g	580
L02-50	50g	1600

# Carbene precursors

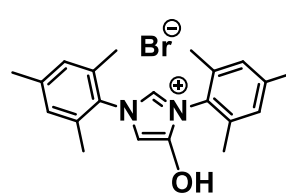
## 4-Hydroxy- bis(iPr<sub>2</sub>Ph)-imidazolium-Br L03



C<sub>27</sub>H<sub>37</sub>BrN<sub>2</sub>O, M= 485.51 g.mol<sup>-1</sup>  
CAS: 2676172-20-4

Reference	Packing unit	Price (€)
L03-1	1g	90
L03-5	5g	300
L03-10	10g	490
L03-50	50g	1560

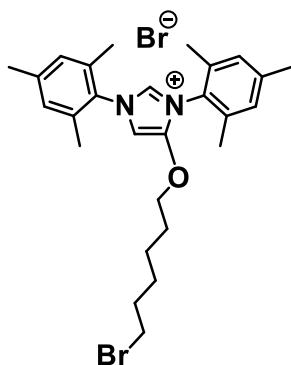
## 4-Hydroxy- bis(mesityl)-imidazolium-Br L04



C<sub>21</sub>H<sub>25</sub>BrN<sub>2</sub>O, M= 401.35 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L04-1	1g	80
L04-5	5g	250
L04-10	10g	450
L04-50	50g	1360

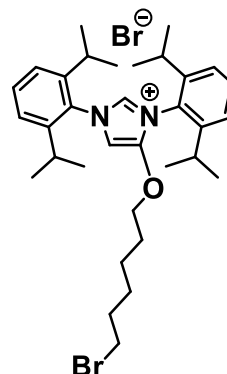
## 4-(6-Bromohexyloxy)- bis(mesityl)-imidazolium-Br L05



C<sub>27</sub>H<sub>36</sub>Br<sub>2</sub>N<sub>2</sub>O, M= 564.41 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L05-1	1g	140
L05-5	5g	490
L05-10	10g	830
L05-50	50g	2310

## 4-(6-Bromohexyloxy)- bis(iPr<sub>2</sub>Ph)-imidazolium-Br L06

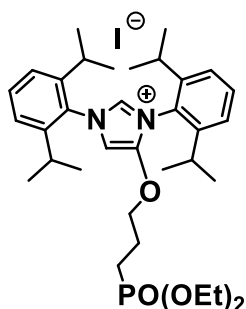


C<sub>33</sub>H<sub>48</sub>Br<sub>2</sub>N<sub>2</sub>O, M= 648.57 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L06-1	1g	130
L06-5	5g	525
L06-10	10g	920
L06-50	50g	2630

# Carbene precursors

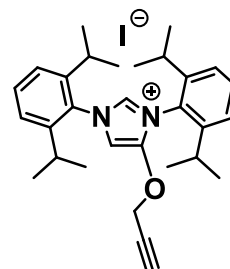
## 4-(3-Diethoxyphosphorylpropoxy)-bis(iPr<sub>2</sub>Ph)-imidazolium-I – L07



C<sub>34</sub>H<sub>52</sub>IN<sub>2</sub>O<sub>4</sub>P, M= 710.68 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L07-1	1g	190
L07-5	5g	655
L07-10	10g	920
L07-50	50g	2215

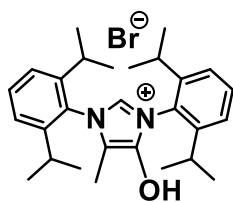
## 4-(Prop-2-ynoxy)-bis(iPr<sub>2</sub>Ph)-imidazolium-I L09



C<sub>30</sub>H<sub>39</sub>IN<sub>2</sub>O, M= 570.56 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L09-1	1g	210
L09-5	5g	670
L09-10	10g	985
L09-50	50g	2375

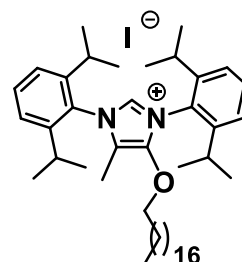
## 4-Hydroxy-5-methyl-bis(iPr<sub>2</sub>Ph)-imidazolium-Br L12



C<sub>28</sub>H<sub>39</sub>BrN<sub>2</sub>O, M= 499.54 g.mol<sup>-1</sup>  
CAS: 2676172-22-6

Reference	Packing unit	Price (€)
L12-1	1g	130
L12-5	5g	430
L12-10	10g	705
L12-50	50g	2240

## 4-(Octadecyloxy)-5-methyl-bis(iPr<sub>2</sub>Ph)-imidazolium-I L13



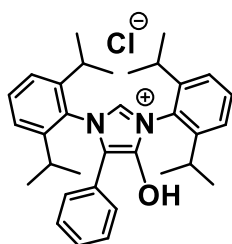
C<sub>46</sub>H<sub>75</sub>IN<sub>2</sub>O, M= 799.02 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L13-1	1g	150
L13-5	5g	490
L13-10	10g	830
L13-50	50g	2150

# Carbene precursors

## 4-Hydroxy-5-phenyl- bis(iPr<sub>2</sub>Ph)-imidazolium-Cl

L14

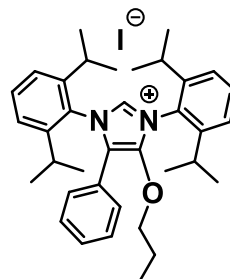


C<sub>33</sub>H<sub>41</sub>ClN<sub>2</sub>O, M= 517.15 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L14-1	1g	160
L14-5	5g	640
L14-10	10g	1060

## 5-Phenyl-4-propyloxy- bis(iPr<sub>2</sub>Ph)-imidazolium-I

L15

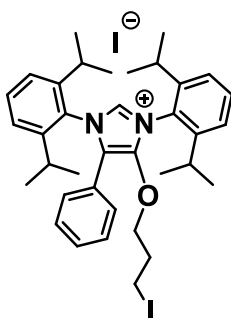


C<sub>36</sub>H<sub>47</sub>IN<sub>2</sub>O, M= 650.69 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L15-1	1g	210
L15-5	5g	830
L15-10	10g	1415

## 5-Phenyl-4-(3-iodopropoxy)- bis(iPr<sub>2</sub>Ph)-imidazolium-I

L16



C<sub>36</sub>H<sub>46</sub>I<sub>2</sub>N<sub>2</sub>O, M= 776.59 g.mol<sup>-1</sup>

Reference	Packing unit	Price (€)
L16-1	1g	225
L16-5	5g	890
L16-10	10g	1515