

Electrophilic Aromatic Substitution Reactions

Royalties	\$\$\$1
Royalties with Patent Set	\$\$\$2
One Journal Royalties	\$\$\$5
Two Journal Royalties	\$\$\$15
Three Journal Royalties	\$\$\$45
Four Journal Royalties	\$\$\$80
Textbook Royalties	\$\$\$125
Journal Cost	\$\$\$25
Textbook Cost	\$\$\$25

Max 12 Carbons
w/ 4 Substituents

Nucleophilic Aromatic Substitution Reactions

Royalties	\$\$\$2
Royalties with Patent Set	\$\$\$4
One Journal Royalties	\$\$\$10
Two Journal Royalties	\$\$\$30
Three Journal Royalties	\$\$\$90
Four Journal Royalties	\$\$\$160
Textbook Royalties	\$\$\$225
Journal Cost	\$\$\$25
Textbook Cost	\$\$\$25

Max 12 Carbons
w/ 4 Substituents

Naming Without Carbonyls

Royalties	\$\$\$18
Royalties with Patent Set	\$\$\$35
One Journal Royalties	\$\$\$83
Two Journal Royalties	\$\$\$250
Three Journal Royalties	\$\$\$550
Four Journal Royalties	\$\$\$650
Textbook Royalties	\$\$\$750
Journal Cost	\$\$\$100
Textbook Cost	\$\$\$100

Max 15 Carbons
w/ 6 Substituents

Naming With Carbonyls

Royalties	\$\$\$25
Royalties with Patent Set	\$\$\$50
One Journal Royalties	\$\$\$100
Two Journal Royalties	\$\$\$300
Three Journal Royalties	\$\$\$700
Four Journal Royalties	\$\$\$850
Textbook Royalties	\$\$\$1000
Journal Cost	\$\$\$100
Textbook Cost	\$\$\$100

Max 15 Carbons
w/ 6 Substituents

**Alkene
Reactions**

Royalties	\$\$\$3
Royalties with Patent Set	\$\$\$6
One Journal Royalties	\$\$\$15
Two Journal Royalties	\$\$\$45
Three Journal Royalties	\$\$\$135
Four Journal Royalties	\$\$\$200
Textbook Royalties	\$\$\$225
Journal Cost	\$\$\$25
Textbook Cost	\$\$\$25

**Max 12 Carbons
w/ 4 Substituents**

**Alkyne
Reactions**

Royalties	\$\$\$3
Royalties with Patent Set	\$\$\$6
One Journal Royalties	\$\$\$15
Two Journal Royalties	\$\$\$45
Three Journal Royalties	\$\$\$135
Four Journal Royalties	\$\$\$200
Textbook Royalties	\$\$\$225
Journal Cost	\$\$\$25
Textbook Cost	\$\$\$25

**Max 12 Carbons
w/ 4 Substituents**

**Alkyne
Reactions**

Royalties	\$\$\$4
Royalties with Patent Set	\$\$\$8
One Journal Royalties	\$\$\$20
Two Journal Royalties	\$\$\$50
Three Journal Royalties	\$\$\$150
Four Journal Royalties	\$\$\$225
Textbook Royalties	\$\$\$300
Journal Cost	\$\$\$25
Textbook Cost	\$\$\$25

**Max 12 Carbons
w/ 4 Substituents**

**Mass
Spec**

One Type Royalties (Mass Spec Only)	\$\$\$10
Two Type Royalties (Up to 2 Different Types)	\$\$\$25
Three Type Royalties (Up to 3 Different Types)	\$\$\$50
Four Type Royalties (Up to All 4 Types)	\$\$\$100

**Max 15 Carbons
w/ 6 Substituents**

Alcohol Reactions

Royalties	\$\$\$5
Royalties with Patent Set	\$\$\$10
One Journal Royalties	\$\$\$25
Two Journal Royalties	\$\$\$75
Three Journal Royalties	\$\$\$225
Four Journal Royalties	\$\$\$313
Textbook Royalties	\$\$\$375
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

Ether Reactions

Royalties	\$\$\$5
Royalties with Patent Set	\$\$\$10
One Journal Royalties	\$\$\$25
Two Journal Royalties	\$\$\$75
Three Journal Royalties	\$\$\$225
Four Journal Royalties	\$\$\$313
Textbook Royalties	\$\$\$375
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

Epoxide Reactions

Royalties	\$\$\$6
Royalties with Patent Set	\$\$\$12
One Journal Royalties	\$\$\$30
Two Journal Royalties	\$\$\$90
Three Journal Royalties	\$\$\$250
Four Journal Royalties	\$\$\$350
Textbook Royalties	\$\$\$450
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

IR Spec

One Type Royalties (IR Spec Only)	\$\$\$10
Two Type Royalties (Up to 2 Different Types)	\$\$\$25
Three Type Royalties (Up to 3 Different Types)	\$\$\$50
Four Type Royalties (Up to All 4 Types)	\$\$\$100

Max 15 Carbons
w/ 6 Substituents

Aldehyde Reactions

Royalties	\$\$\$7
Royalties with Patent Set	\$\$\$14
One Journal Royalties	\$\$\$35
Two Journal Royalties	\$\$\$100
Three Journal Royalties	\$\$\$275
Four Journal Royalties	\$\$\$375
Textbook Royalties	\$\$\$425
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

Ketone Reactions

Royalties	\$\$\$7
Royalties with Patent Set	\$\$\$14
One Journal Royalties	\$\$\$35
Two Journal Royalties	\$\$\$100
Three Journal Royalties	\$\$\$225
Four Journal Royalties	\$\$\$375
Textbook Royalties	\$\$\$425
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

Acid Anhydride Reactions

Royalties	\$\$\$8
Royalties with Patent Set	\$\$\$16
One Journal Royalties	\$\$\$40
Two Journal Royalties	\$\$\$110
Three Journal Royalties	\$\$\$300
Four Journal Royalties	\$\$\$400
Textbook Royalties	\$\$\$500
Journal Cost	\$\$\$50
Textbook Cost	\$\$\$50

Max 12 Carbons
w/ 4 Substituents

H NMR Spec

One Type Royalties (H NMR Spec Only)	\$\$\$10
Two Type Royalties (Up to 2 Different Types)	\$\$\$25
Three Type Royalties (Up to 3 Different Types)	\$\$\$50
Four Type Royalties (Up to All 4 Types)	\$\$\$100

Max 15 Carbons
w/ 6 Substituents

Amine Reactions

Royalties	\$\$\$9
Royalties with Patent Set	\$\$\$18
One Journal Royalties	\$\$\$45
Two Journal Royalties	\$\$\$125
Three Journal Royalties	\$\$\$350
Four Journal Royalties	\$\$\$438
Textbook Royalties	\$\$\$525
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

Radical Reactions

Royalties	\$\$\$9
Royalties with Patent Set	\$\$\$18
One Journal Royalties	\$\$\$45
Two Journal Royalties	\$\$\$125
Three Journal Royalties	\$\$\$350
Four Journal Royalties	\$\$\$438
Textbook Royalties	\$\$\$525
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

Radical Polymer Reactions

Royalties	\$\$\$10
Royalties with Patent Set	\$\$\$20
One Journal Royalties	\$\$\$50
Two Journal Royalties	\$\$\$150
Three Journal Royalties	\$\$\$375
Four Journal Royalties	\$\$\$463
Textbook Royalties	\$\$\$550
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

C NMR Spec

One Type Royalties (C NMR Spec Only)	\$\$\$10
Two Type Royalties (Up to 2 Different Types)	\$\$\$25
Three Type Royalties (Up to 3 Different Types)	\$\$\$50
Four Type Royalties (Up to All 4 Types)	\$\$\$100

Max 15 Carbons
w/ 6 Substituents

Carboxylic Acid Reactions

Royalties	\$\$\$11
Royalties with Patent Set	\$\$\$22
One Journal Royalties	\$\$\$55
Two Journal Royalties	\$\$\$115
Three Journal Royalties	\$\$\$400
Four Journal Royalties	\$\$\$483
Textbook Royalties	\$\$\$575
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

Ester Reactions

Royalties	\$\$\$11
Royalties with Patent Set	\$\$\$22
One Journal Royalties	\$\$\$55
Two Journal Royalties	\$\$\$115
Three Journal Royalties	\$\$\$400
Four Journal Royalties	\$\$\$483
Textbook Royalties	\$\$\$575
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

Amide Reactions

Royalties	\$\$\$12
Royalties with Patent Set	\$\$\$24
One Journal Royalties	\$\$\$60
Two Journal Royalties	\$\$\$180
Three Journal Royalties	\$\$\$425
Four Journal Royalties	\$\$\$513
Textbook Royalties	\$\$\$600
Journal Cost	\$\$\$75
Textbook Cost	\$\$\$75

Max 12 Carbons
w/ 4 Substituents

Stereochemistry I

One Type Royalties
(Five Times 2d6 Roll)
Both Type Royalties
(Ten Times 2d6 Roll)

Max 6 Chirality
Centers

Organometallic Reactions

Royalties	\$\$\$13
Royalties with Patent Set	\$\$\$26
One Journal Royalties	\$\$\$65
Two Journal Royalties	\$\$\$195
Three Journal Royalties	\$\$\$450
Four Journal Royalties	\$\$\$550
Textbook Royalties	\$\$\$638
Journal Cost	\$\$\$100
Textbook Cost	\$\$\$100

Max 12 Carbons
w/ 4 Substituents

Multi-Step Synthesis Reactions

Royalties	\$\$\$13
Royalties with Patent Set	\$\$\$26
One Journal Royalties	\$\$\$65
Two Journal Royalties	\$\$\$195
Three Journal Royalties	\$\$\$450
Four Journal Royalties	\$\$\$550
Textbook Royalties	\$\$\$638
Journal Cost	\$\$\$100
Textbook Cost	\$\$\$100

Max 12 Carbons w/
4 Substituents w/
1 Mid-Product Per Journal

Mutli-Step Retro Synthesis Reactions

Royalties	\$\$\$14
Royalties with Patent Set	\$\$\$28
One Journal Royalties	\$\$\$75
Two Journal Royalties	\$\$\$225
Three Journal Royalties	\$\$\$500
Four Journal Royalties	\$\$\$600
Textbook Royalties	\$\$\$700
Journal Cost	\$\$\$100
Textbook Cost	\$\$\$100

Max 12 Carbons w/
4 Substituents w/
1 Mid-Product Per Journal

Stereochemistry II

One Type Royalties
(Five Times 2d6 Roll)

Both Type Royalties
(Ten Times 2d6 Roll)

Max 6 Chirality
Centers

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**Any type of resonance w/
3-6 resonance forms**

**Any naming w/
a max of 15 carbons
and 6 substituents**

**Any stereochemistry
w/ a max of
6 chirality centers**

**Any spectroscopy w/
a max of 15 carbons
and 6 substituents**

**Any reaction from the
first patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
second patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
third patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
fourth patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
fifth patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
sixth patent set w/
a max of 12 carbons
and 4 substituents**

**Any reaction from the
seventh patent set w/
a max of 12 carbons
and 4 substituents**

**Any concept from the
entire board w/
a max of 12 carbons
and 4 substituents**

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Any concept from the first row w/ a max of 12 carbons and 4 substituents

Any concept from the second row w/ a max of 12 carbons and 4 substituents

Any concept from the third row w/ a max of 12 carbons and 4 substituents

Any concept from the fourth row w/ a max of 12 carbons and 4 substituents

Go to Exam Room w/o passing the Approval Space

Get Out Of Exam Room Free (Keep until used)

Repeat patent work. Pay \$\$\$25 for each Journal and \$\$\$100 for each Textbook

Contamination spreads to other labs. Pay each Researcher \$\$\$50

Heavy analysis week. Advance to nearest Analytical Space and pay double any royalties.

Your work is commonly used. Force one researcher to any patent that you own and collect royalties (Keep until used)

Grant was approved. Proceed to Approval Space and collect \$\$\$200

Collect \$\$\$50 from each researcher for helping them clean during an inspection

**LAB
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**RESEARCH
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**Go to Exam Room
w/o passing the
Approval Space**

**Your work becomes
famous. Proceed to
Nobel Prize Parking and
collect a Nobel token**

**Receive one free
Journal on any
patent you own
(Keep until used)**

**Get out of
Exam Room free
(Keep until used)**

**Your work has potential.
Proceed forward to
nearest unowned patent
or Just Studying space.**

**Heavy polarization week.
Advance to nearest
Stereochem Space and
pay double any royalties.**

**Licensing Fees are due.
Pay \$\$\$40 for each
Journal and \$\$\$115
for each textbook**

**Lab work is delayed.
Move back 1d6 spaces.**

**Assistant works late
in the lab. Get one
free turn w/o
paying any royalties**

**Your work becomes
famous. Proceed to
Nobel Prize Parking and
collect a Nobel token**

**New equipment was
approved. Collect
\$\$\$500 from the
grant director**

**Pay \$\$\$25 to the
center pool for
ordering
chemicals**

**RESEARCH
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**Grant was approved.
Proceed to
Approval Space
and collect \$\$\$200**

**Your work has potential.
Proceed forward to
nearest unowned patent
or Just Studying space.**

**Receive one free
Journal on any
patent you own
(Keep until used)**

**New equipment was
approved. Collect
\$\$\$500 from the
grant director**

**Receive \$\$\$20 for
having the cleanest lab
during an inspection**

**Pay \$\$\$100 for
equipment repairs**

**Lab area is renovated.
Move back 1d6 spaces.**

**Your work is commonly
used. Force one researcher
to any patent that you own
and collect royalties
(Keep until used)**

**Collect \$\$\$10 from
each researcher for
collaboration
consulting fees**

**Receive \$\$\$150 for
peer review work**

**Assistant works through
the holiday. Get one
free turn w/o
paying any royalties**

**Pay \$\$\$25 to the
center pool for
ordering
chemicals**