

INDEX**A**

Aldehyde Hydrate -----	1, 7, 37, 57
α -Amino Radical -----	4
Aminonitrile -----	4, 14, 15, 17, 20, 27, 206, 207, 221
Ammonium Cerium(IV) Nitrate -----	58, 59, 60, 113, 115, 116, 213, 221
Antitumor Antibiotic -----	1, 2, 4, 7, 28

B

Baeyer-Villiger Oxidation -----	39
Biological Activity -----	4, 5, 6, 7, 16, 28, 66
Biosynthesis -----	2, 3, 4, 10, 11, 19, 20, 28
Bioxalomycin -----	15, 16, 18

C

Carbinolamine ----- 4, 10, 15, 20, 23, 37, 57, 207, 221

Chiral Auxiliary ----- 23, 38, 44, 63, 222-226, 227

Crystal Structure ----- 14, 50-51, 54-55, 89-92, 102-106, 210-211, 234-238

Cyanocycline A ----- 1, 3, 14-27, 28, 50, 206-260

D

Diastereoselective Reduction ----- 38, 46, 49-50, 65, 208-210, 214, 217-218

Dipolar Cycloaddition ----- 37, 42, 43-45, 46, 63-64, 65, 207,
208, 209, 214, 216, 222-226, 227

DNA ----- 4, 8, 9, 10, 17, 18

E

Ecteinasidin ----- 1, 3, 4, 7

G

Glycine ----- 10, 13, 19

Glycothiohexides ----- 7

H

HETCOR ----- 220-221

Hetero-Diels-Alder ----- 39, 68

Hydroquinone ----- 8, 9, 18

Hydroxyl Radical ----- 10

L

Lactam Activation ----- 53

Lemonomycin ----- 1, 3, 5-13, 14, 28, 37-130, 206, 207, 208, 209, 215

Lemonose ----- 7, 10, 31, 37, 38-39, 52, 54-56, 65, 66, 208

M

Microbial Resistance ----- 6, 66

Mode of Action ----- 4, 7, 8-10, 17-19

N

Nagata Reaction ----- 51

Naphthyridinomycin ----- 2, 3, 10, 15-20

Negishi Coupling ----- 38, 39-41, 65

O

Oppolzer's Sultam ----- 44, 45, 224, 224

Oxazolidine ----- 1, 14, 15, 17, 27, 54, 55, 206, 207, 209, 213, 214, 218, 219, 221

Oxazoline ----- 65, 214-222, 226

Oxidopyrazinium ----- 42, 43, 45, 63, 209, 216, 222, 225

P

π Acid ----- 63-64, 218-219

Pictet-Spengler Cyclization ----- 26, 37, 46, 50, 51, 52, 53-54, 56,
57, 65, 66, 207, 208, 212, 214

Pyrazinone ----- 42, 43, 209

Q

Quinocarcin ----- 1, 3, 6, 7

Quinone ----- 1, 2, 4, 5, 6, 13, 14, 17, 19, 37, 58, 59, 206

R

Reductive Amination ----- 55, 56, 207, 209, 211

Reductive Cyclization ----- 214, 217

Renieramycin ----- 1, 3

Retrosynthetic Analysis ----- 37-39, 46-47, 52-53, 54, 207-209, 214-215

S

Saccharocarbins ----- 7

Saframycin ----- 1-4, 6-10

Semiquinone ----- 4, 10

Serine ----- 19

Stille Coupling ----- 211-212, 213, 217, 226

Structural Elucidation ----- 6, 14, 16, 28, 220-221

Sulfonyl Transfer ----- 41, 42

Superoxide ----- 4, 10

Suzuki Coupling ----- 47-49, 65, 211, 258

T

Tetrahydroisoquinoline ----- 1-4, 7, 10, 13, 14, 28, 50, 52, 53, 56, 57, 206, 207, 212, 221

Threonine ----- 38, 54-55, 65

Tyrosine ----- 2, 3, 10, 19

ABOUT THE AUTHOR

Eric Robert Ashley was born in Helena, Montana, on August 20th, 1977, a time when cows still grazed on the lawn outside Saint Peter's Hospital. He is the child of Sandi and David, and the younger brother by two years of Laurie. After a brief stint in Lawrence, Kansas, the Ashley family raised Eric in Montana for his childhood and teenage years. During that time he learned to love the wilderness, hiking, and skiing. Eric became an avid soccer player and an earnest, if ungifted, clarinetist. Eric attended Helena High School and graduated as the salutatorian of his class in the spring of 1996.

Eric then traveled cross-country to Cambridge, Massachusetts, where he attended Harvard College. Eric rowed for the freshman and Winthrop House crews, was an active member of the Catholic Students Association and the Environmental Action Committee, and co-founded the Harvard Chapter of the Sierra Club. After considering a concentration in Folklore and Mythology, Eric chose to study chemistry with a focus on organic synthesis and chemical biology. Eric conducted research on peptide nucleic acids under the advisement of Professor David Liu. He also spent a summer synthesizing petromyzonol sulfate congeners at Cayman Chemical in Ann Arbor, Michigan. Eric graduated Magna cum Laude in June of 2000 with an Arts Baccalaureate in chemistry.

In the late summer of 2000, Eric moved to Pasadena, California, where he began doctoral research with Professor Brian Stoltz at the California Institute of Technology. In July of 2004, Eric married Olivia Ann Tudor. Eric completed his research on the synthesis of tetrahydroisoquinoline natural products in the autumn of 2005, and will receive his Ph.D. at commencement in 2006. Eric will begin postdoctoral studies with Professor Eric Jacobsen at Harvard University in January of 2006.