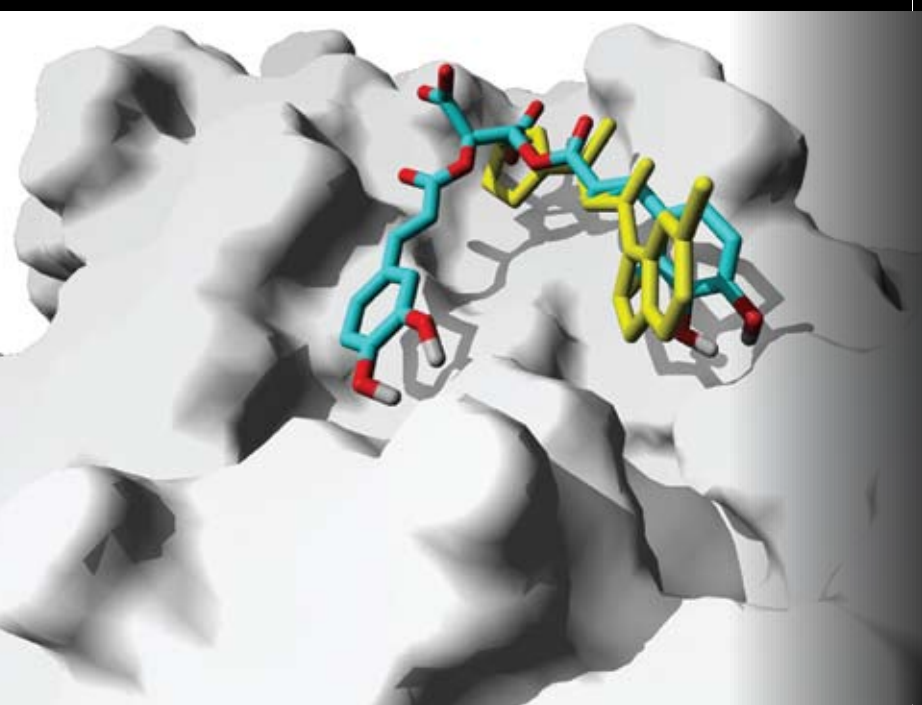
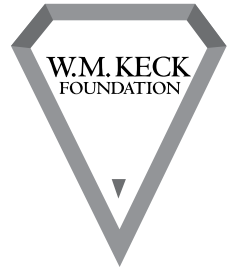
Discovering Collaboratively

Working Together to Understand HIV

At St. Edward's University in Austin, Texas, students experience the excitement of collaborative discovery. Science majors and non-majors work on projects that blend research and education across the disciplines. Three student-faculty teams work on the problem of emerging HIV drug resistance. Each team approaches the work from one of three perspectives - modeling, molecular biology, or bioinformatics. Just two years into the project, the students have already published their findings. In conjunction with their intense periods of summer research, the teams are also developing discovery-based curricular modules that are gradually being integrated into the general science curriculum. Once this model is proven, the research focus will shift to other diseases to create a signature, self-sustaining collaborative program for undergraduate education.



A small molecule drug candidate l-chicoric acid docks with HIV-1 integrase, blockings its ability to integrate HIV's viral DNA into the host genome.



THE W. M. KECK FOUNDATION

550 SOUTH HOPE STREET, SUITE 2500, LOS ANGELES, CALIFORNIA 90071

TEL: 213.680.3833

www.wmkeck.org

ACKNOWLEDGEMENTS

Page 5 and 6: W. M. Keck Observatory and Christian Marois et al.

Page 6: Images provided by Peter Carlton, Department of Biochemistry and Biophysics, UCSF

Page 7: Images provided by Yuri Gogotsi, Materials Science and Engineering, Drexel University

Page 8: Images provided by David Cocker, Chemical and Environmental Engineering, UCR

Page 9: Images provided by R. John Davenport, Bio-Med Institute for Brain Science, Brown University

Page 11: Image provided by Eamonn Healy, Department of Chemistry, St. Edward's University

Page 12: Image courtesy of Akishi Onishi, laboratory of Seth Blackshaw

Page 13: Image courtesy of Elisa Kannegaard, laboratory of Wallace Marshall

Page 14: Image courtesy of Todd Blankenship and Jennifer Zallen

Page 15 image courtesy of Matthew Klassen and Kang Shen

Page 16: 3D structure of *glmS* determined by Daniel Klein and Adrian Ferré-D'Amaré

Also, we offer our appreciation for the assistance of

John Agard

John Donoghue

Eamonn Healy

Yuri Gogotsi

Sr. Fay Hagen

Edward Stone

in preparing this report.

Design: THE JEFFERIES ASSOCIATION

PPrinting: COLORGRAPHICS

Printed on Recycled Paper