

# **STARTING SALARIES 1981**

Analysis of the  
American Chemical Society's  
Survey of Graduates in  
Chemistry and Chemical Engineering



Manpower Studies  
American Chemical Society  
Washington, D.C.

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1981 SURVEY REPORT

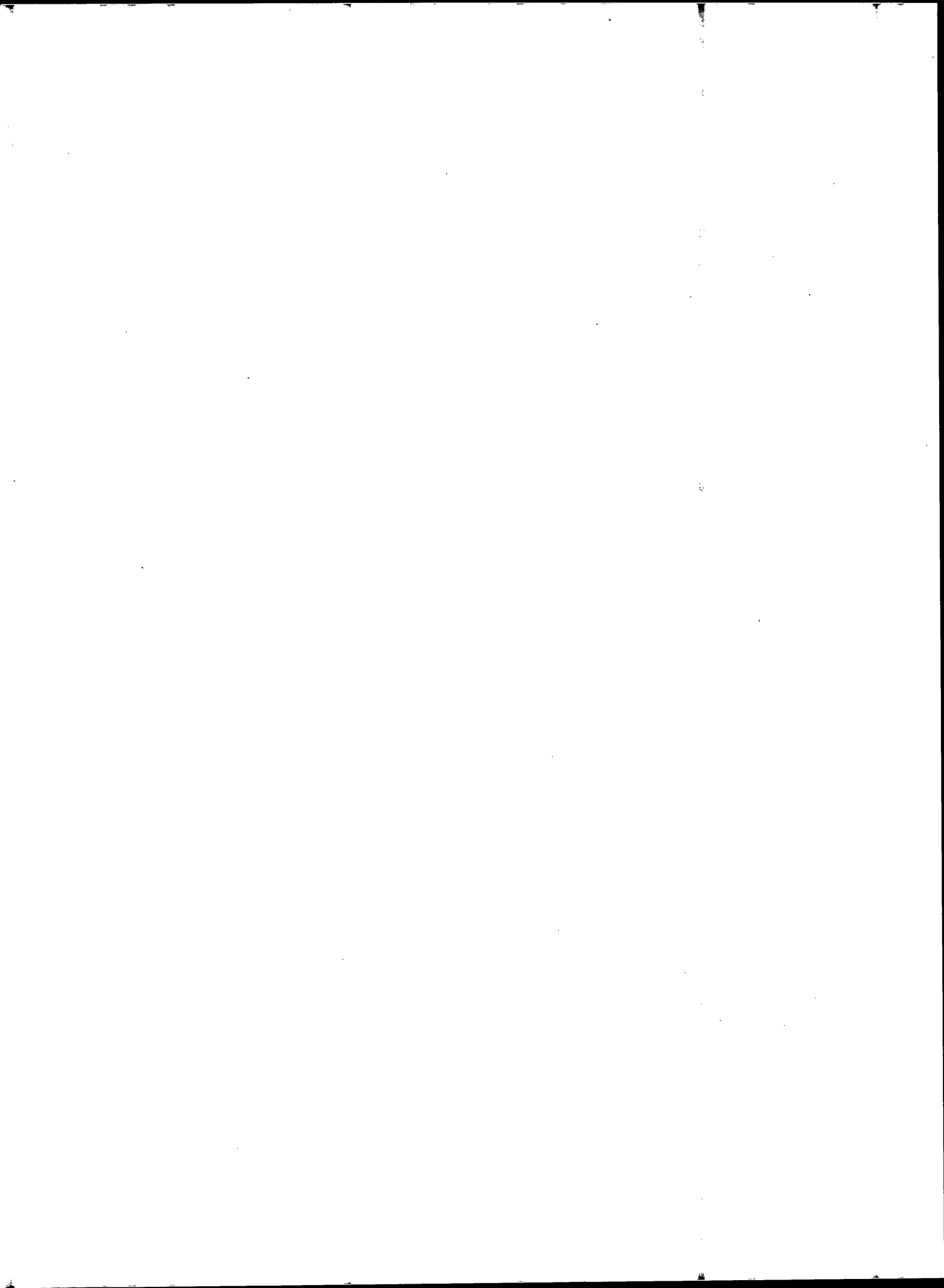
STARTING SALARIES AND EMPLOYMENT STATUS OF  
CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

This report was prepared by the  
ACS Office of Manpower Studies.

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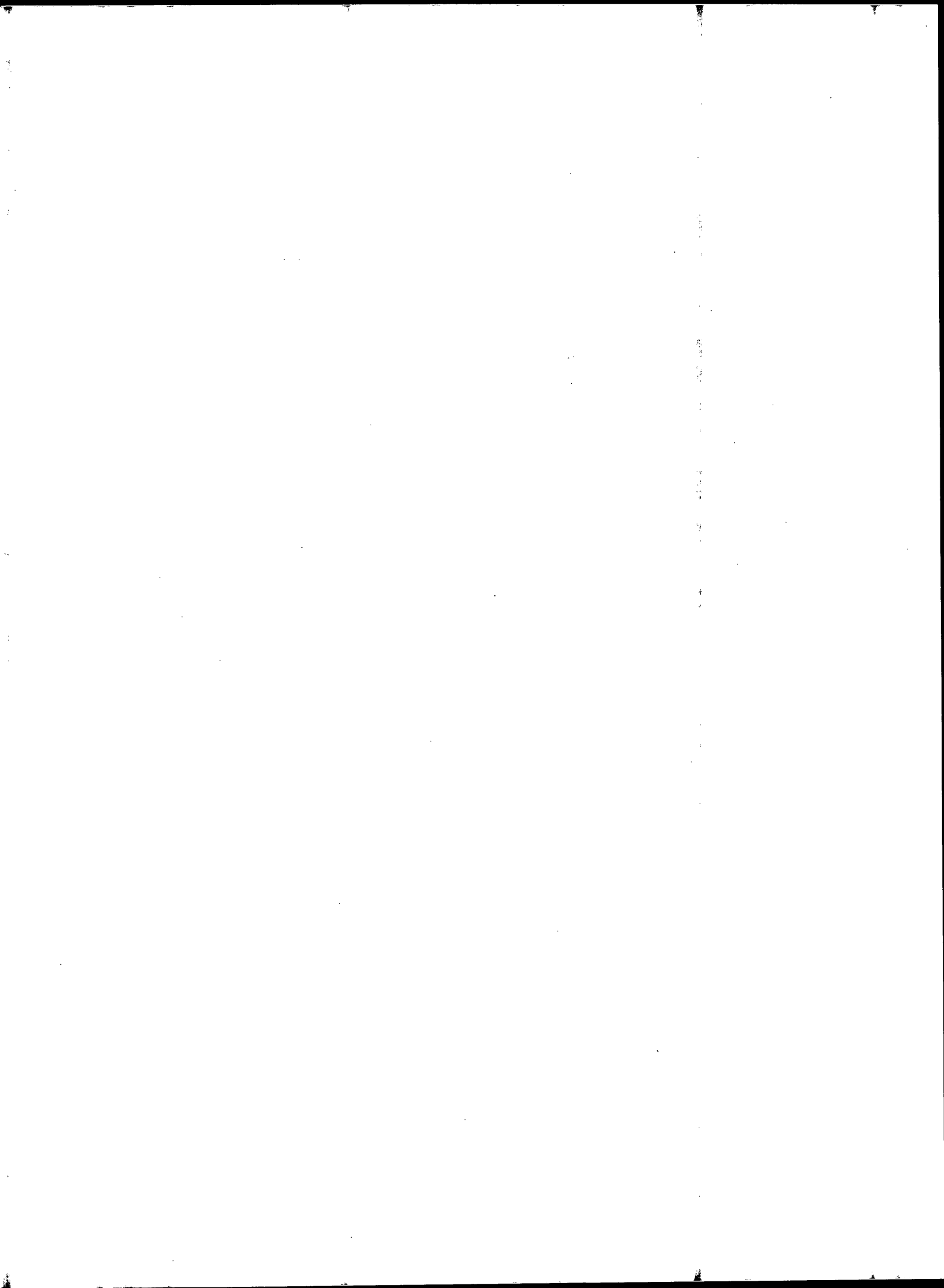
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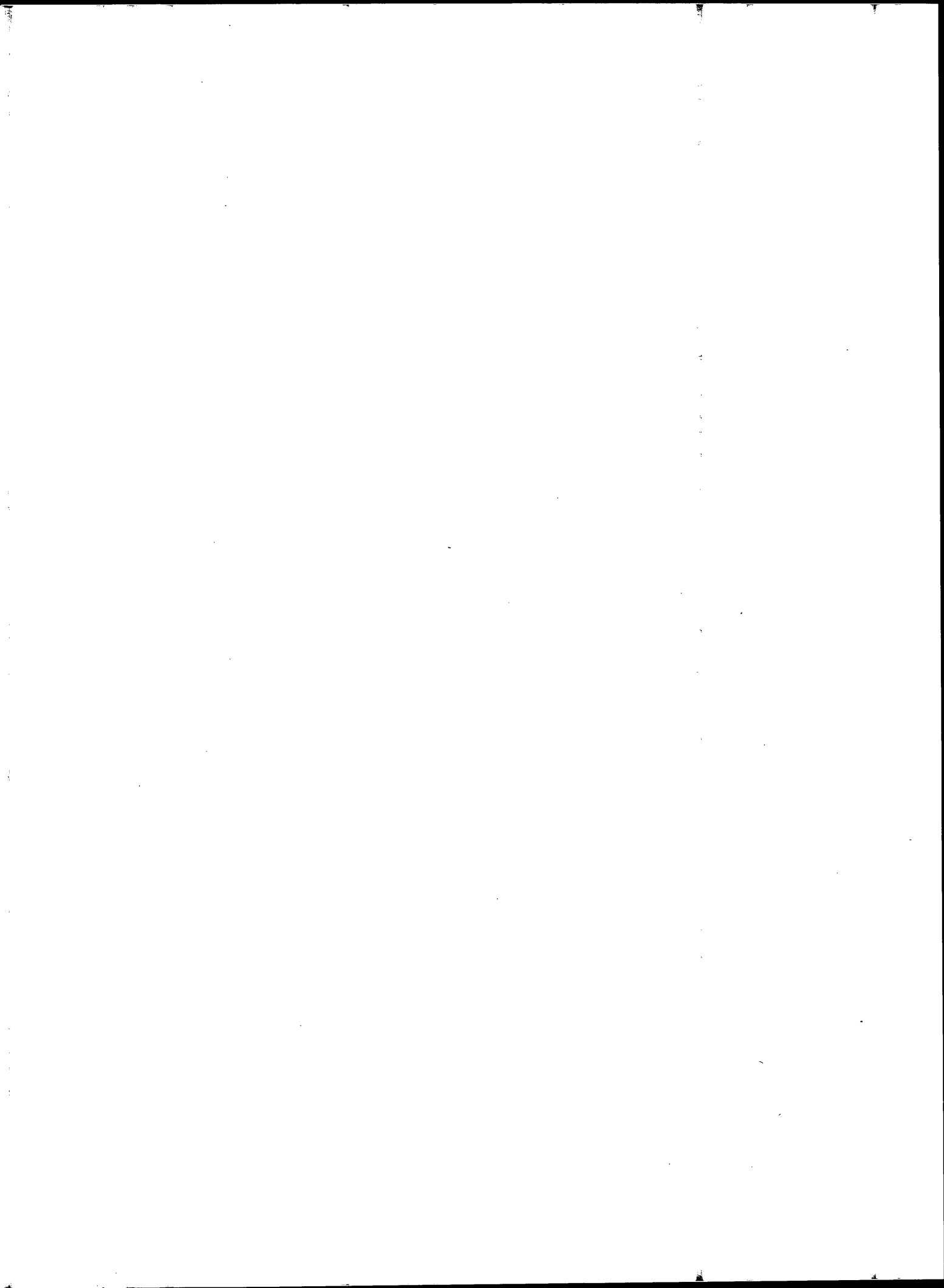
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#### ACKNOWLEDGMENTS

Each year the American Chemical Society surveys chemistry and chemical engineering graduates to determine trends in starting salaries and employment status, at the direction of the Society's Committee on Economic Status. John Robert Jones, Harry Foxwell, Sandy Schowgurow, and Shelley Scott of the Office of Manpower Studies conducted this year's survey and prepared this report.

Robert K. Neuman, Head  
Department of Professional  
Relations and Manpower Studies





## SUMMARY OF FINDINGS

### SALARIES

Mean starting salaries for inexperienced chemists have increased since last year for graduates at all three levels. Mean starting salaries for BS and PhD recipients grew faster than the consumer price index between 1980 and 1981. The 19% increase for BS graduates appears to be very high; however, it is reflective of the low 2.6% change in salary from 1979 to 1980. The increase was 22% over a two year period from 1979 to 1981 for the BS group and is comparable to the salary changes of the other levels. At the MS level, however, the mean starting salary increased by only 4.7%, substantially less than the consumer price index, which increased 10.8% between August 1980 and August 1981. Table 1 shows means and percentiles of starting salaries paid to inexperienced chemistry graduates in 1980 and 1981. The 1981 means were

\$17,357 for the BS, up 19%, or in constant dollars +7.4%  
\$20,097 for the MS, up 4.7%, or in constant dollars -5.6%  
\$28,580 for the PhD, up 13%, or in constant dollars +1.9%

Chemical engineering graduates, especially bachelor's degree recipients, received much larger starting salaries than chemists with similar degrees. At the bachelor's level, the difference between chemists' salaries and chemical engineers' salaries widened. The MS graduates in both fields experienced smaller starting salary increases than the other levels. Table 2 shows means and selected percentiles of starting salaries paid to chemical engineers in 1980 and 1981. The 1981 means were

\$24,322 for the BS, up 13.6%, or in constant dollars +2.4%  
\$26,186 for the MS, up 10.5%, or in constant dollars -0.3%  
\$31,037 for the PhD, up 12.8%, or in constant dollars +1.8%

### POSTGRADUATION STATUS

There were more chemistry graduates employed full-time in their degree field at all levels than last year (see table 3). Consequently, fewer chemists are working outside the field of chemistry. The largest increase in the number of unemployed persons who are seeking full-time employment appears at the MS level.

Fewer chemical engineers work outside their degree field than chemists. However, the number of chemical engineers working in engineering or chemistry has decreased slightly since 1980. The largest decrease was at the MS level where only 63.2% work in chemistry or engineering, down from 80.4% in 1980.

Table 1.

## STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMISTRY GRADUATES

by Degree: Summer 1980 and Summer 1981

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1980	1981	1980	1981	1980	1981
90th Percentile	\$19,200	\$21,600	\$23,700	\$25,200	\$29,400	\$31,960
75th Percentile	17,700	20,000	21,400	22,800	27,700	30,800
50th Percentile	15,000	17,730	20,000	21,300	26,400	29,500
25th Percentile	12,000	13,716	17,200	17,500	24,000	28,000
10th Percentile	10,000	11,713	13,600	12,987	17,500	23,705
Mean	14,580	17,357	19,201	20,097	25,285	28,580
Count	385	346	44	35	94	111
Standard Deviation	3,753	3,588	4,042	4,162	6,050	4,281

Table 2

## STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMICAL ENGINEERING GRADUATES

by Degree: Summer 1980 and Summer 1981

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1980	1981	1980	1981	1980	1981
90th Percentile	\$22,800	\$26,000	\$25,500	\$28,877	\$32,700	\$37,150
75th Percentile	22,200	25,200	24,800	27,450	30,300	34,170
50th Percentile	21,600	24,500	23,900	26,000	28,800	31,500
25th Percentile	21,000	24,000	22,900	24,120	22,800	27,856
10th Percentile	20,000	22,500	21,000	23,754	20,800	22,601
Mean	21,414	24,322	23,689	26,186	27,499	31,037
Count	545	539	44	33	25	18
Standard Deviation	1,927	2,249	1,604	1,995	4,339	4,890

## POSTDOCTORAL FELLOWSHIPS

Since 1975 the percentage of new chemistry PhDs employed as postdoctoral fellows has been declining. This year's survey results suggest that this trend has stabilized. Slightly more than 47% of PhD chemists who responded to this survey in 1975 had postdoctoral fellowships. This percentage decreased in 1977 and again in 1978, when it reached 33%. The increase in postdoctoral fellows to 38% in 1979 became a decrease to 29 percent by 1980, where it remains today.

## ADVANCED STUDY

Nearly 70% of the graduates who received bachelor's degrees in chemistry planned to attend school in the fall at least part-time. Of the chemistry graduates who will study full-time, approximately two-fifths are pursuing advanced degrees in chemistry. Another two-fifths are studying medicine or dentistry.

Among those who received bachelor's degrees in chemical engineering and who are planning to return to school full-time, 68% will continue their studies in chemical engineering, and 14% will study medicine or dentistry. (See tables 4 and 5).

## INTERPRETING SURVEY RESULTS

The numbers contained in these tables are estimates, derived from a sample rather than from a complete census. Thus, although they are the best estimates available, they are imperfect. Reasonable caution will prevent rash interpretations. An example of an estimate that demands caution is the difference between men's and women's salaries. Among inexperienced master's level chemical engineers, women had greater mean salaries than did men, but the difference is small and is not enough to support a statement that the mean for all women, including those not in the sample, is greater than that for all men. The technical notes of this report give some guidance as to the degree of precision associated with various statistics in this report.

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND  
CHEMICAL ENGINEERING GRADUATES: SUMMER 1981

Major and Employment Status	Bachelor's	Master's	Doctorates
<b>CHEMISTRY</b>			
Full-time employed:			
In chemistry or chemical engineering	27.0%	47.6%	65.9%
Outside chemistry or chemical engineering	9.0	5.5	3.4
Postdoctoral/grad. asst./other fellowship	23.6	34.1	29.0
Unemployed and seeking full-time employment	10.6	9.1	0.7
Unemployed and not seeking full-time employment	29.8	3.7	1.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Number of responses	1,781	164	196
<b>CHEMICAL ENGINEERING</b>			
Full-time employed:			
In chemistry or chemical engineering	69.2%	63.2%	92.9%
Outside chemistry or chemical engineering	10.4	3.8	-
Postdoctoral/grad. asst./other fellowship	9.3	20.7	7.1
Unemployed and seeking full-time employment	7.0	5.7	-
Unemployed and not seeking full-time employment	4.1	6.6	-
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Number of responses	992	106	42

Table 4

PLANS FOR ADVANCED FURTHER STUDIES OF B.S. CHEMISTRY  
AND CHEMICAL ENGINEERING GRADUATES: FALL 1981

	Chemistry	Chemical Engineering
Plan further studies	69.9%	35.5%
Full-time	(55.1)	(14.3)
Part-time	(14.8)	(21.2)
Have no plans or no response	30.2	64.4
Total	100.0	100.0
Number of responses	1,831	998

Table 5

FIELD OF ADVANCED FURTHER STUDIES OF B.S. CHEMISTRY AND  
CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES:  
Fall 1981

Field of Study	Chemistry	Chemical Engineering
Full-time		
Chemistry or biochemistry	36.7%	3.5%
Chemical engineering	4.8	68.5
Medicine or dentistry	43.7	14.0
Business or management	1.9	6.3
All others	12.9	7.7
Total	100.0	100.0
Number of responses	1,008	143
Part-time		
Chemistry or biochemistry	40.6%	3.3%
Chemical engineering	7.0	29.2
Medicine or dentistry	17.7	47.2
Business or management	32.1	20.3
All others	2.6	-
Total	100.0	100.0
Number of responses	455	381

## SCOPE AND METHOD

### OBJECTIVES

The 1981 Starting Salary Survey is the 30th in the series of annual surveys now conducted by the Office of Manpower Studies of the American Chemical Society. Summaries of the results of these surveys appear annually in the "Chemical Careers" edition of Chemical and Engineering News, this year published on October 19.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1980-81 academic year. The survey covers bachelor's, master's, and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and minority classification.

### METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry and chemical engineering departments provided names and addresses of students who graduated between July 1, 1980 and June 30, 1981. The cooperating departments were the chemistry departments approved by the ACS, and the chemical engineering departments approved by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development.

During the summer of 1981, the Office of Manpower Studies mailed questionnaires to those graduates who had U.S. addresses and graduation dates from September, 1980 through June, 1981. Summer graduates were excluded from the mailing because many of them had twelve months' experience by the time the survey was conducted.

### EXTENT OF COVERAGE

Survey questionnaires were mailed by bulk mail to 11,027 graduates. Past experience has shown that approximately ten percent of the questionnaires probably were not delivered because the addresses provided were not adequate to assure delivery. The questionnaires were mailed between July 27 and August 21. By the cutoff date of September 29, the Office of Manpower Studies had received 3788 usable responses.

The table below contains estimates of the numbers of chemistry and chemical engineering graduates in 1981.

Projected Numbers of Degrees in  
Chemistry and in Chemical Engineering, 1980-81

	Bachelors	Masters	Doctorate
Chemistry	11,930	1,820	1,560
Chemical Engineering	6,840	1,250	321

The survey respondents represent about 14.0 percent of all 1981 chemistry graduates and about 13.5 percent of all 1981 chemical engineering graduates. No effort was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

#### DEFINITIONS

The questionnaire appears at the end of this report. Responses to questions on post-graduation status were edited to eliminate multiple responses and to reflect as accurately as possible the employment status of the respondent.

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately.

The Technical Notes present methods for estimating sampling error and also explain certain discrepancies among some of the tables.



## GEOGRAPHIC REGIONS

### PACIFIC

Alaska  
California  
Hawaii  
Oregon  
Washington

### MOUNTAIN

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### WEST NORTH CENTRAL

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### WEST SOUTH CENTRAL

Arkansas  
Louisiana  
Oklahoma  
Texas

### EAST NORTH CENTRAL

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### EAST SOUTH CENTRAL

Alabama  
Kentucky  
Mississippi  
Tennessee

### MIDDLE ATLANTIC

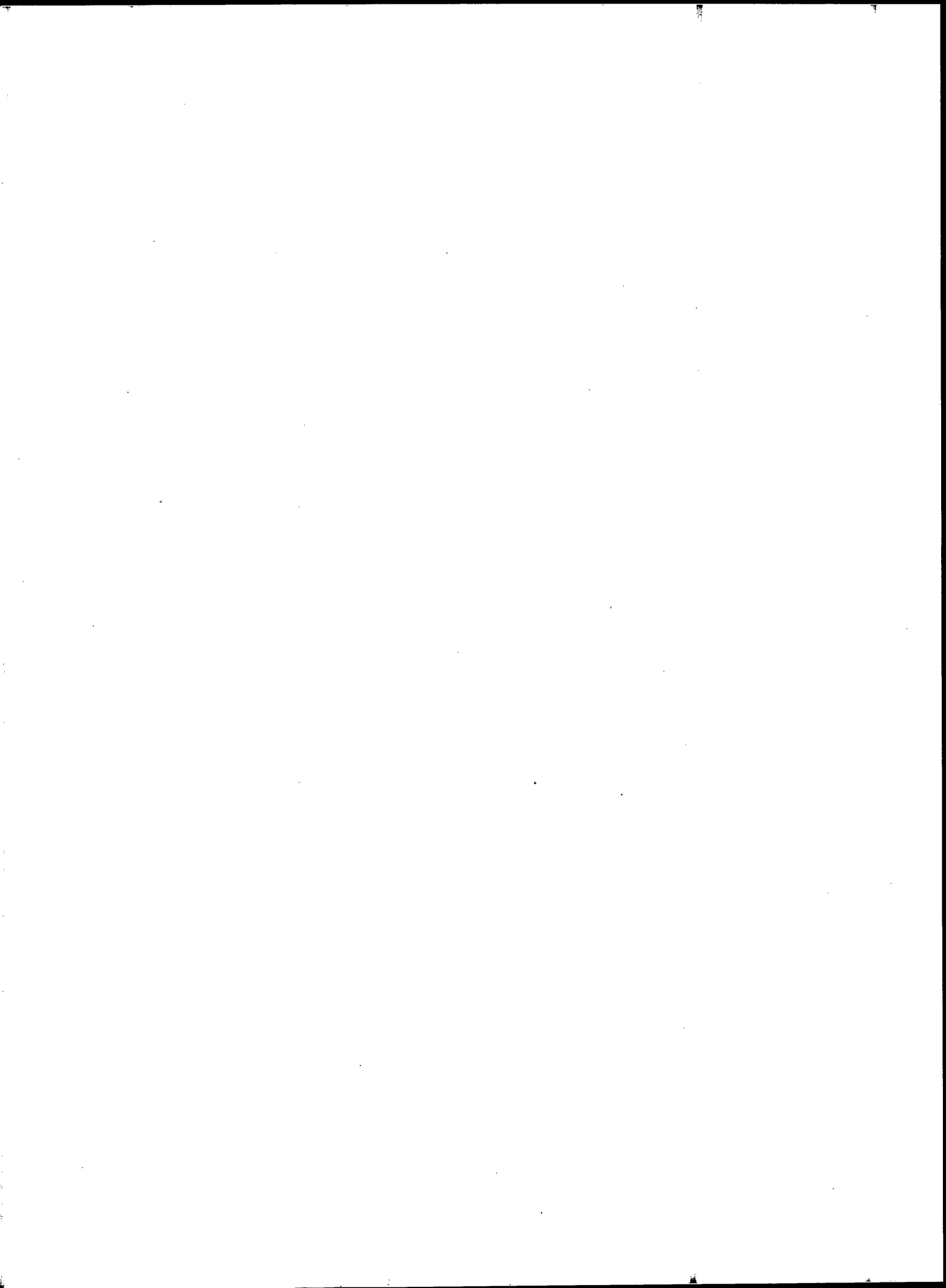
New Jersey  
New York  
Pennsylvania

### SOUTH ATLANTIC

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland  
North Carolina  
South Carolina  
Virginia  
West Virginia

### NEW ENGLAND

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont



## TECHNICAL NOTES

### DISCREPANCIES AMONG TABLES

Some pairs of tables contain totals that should be identical but are not. For example, two tables that present information about PhD respondents should show the same total number of PhDs. They might, however, show different totals. To illustrate, if one table groups the PhDs according to sex and the other groups them according to geographic region, the totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their geographic region.

### ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the cells of the salary tables are sample medians and are therefore subject to sampling error. This error may be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians. Similarly, tables showing the 25th and 75th salary percentiles, and those showing the 10th and 90th salary percentiles, should have at least 25 respondents and 40 respondents respectively.

### COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

Statistical tests of significance may be found in Numerical and Statistical Techniques, by J. H. Pollard, Handbook of Tables for Probability and Statistics, published by the Chemical Rubber Company, and in other similar texts.

### ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How much different? Although this question does not have an exact answer, the table below does provide some guidance. To use the table, find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table.

This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100 the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

n	p= 10% or 90%	p= 20% or 80%	p= 30% or 70%	p= 40% or 60%	p= 50%
50	8.3%	11.1%	12.7%	13.6%	13.9%
100	5.9	7.8	9.0	9.6	9.8
200	4.2	5.5	6.4	6.8	6.9
500	2.6	3.5	4.0	4.3	4.4
1000	1.9	2.5	2.8	3.0	3.1
2000	1.3	1.8	2.0	2.1	2.2
5000	0.8	1.1	1.3	1.4	1.4
10000	0.6	0.8	0.9	1.0	1.0

In Table B-1 (page 32) for example, 191 respondents classified as chemists indicated their highest degree as PhD, and their employment status as employed full-time in chemistry or chemical engineering. The percent of this group who are women is listed as 13.6 percent ( $p=13.6$ ). A "95% confidence interval" for this percent may be approximated by taking  $n$  and  $p$  to be about 200 and 10%. The table shows an approximate sampling error of 4.2%. Hence, the 95% confidence interval is 9.4% and 17.8%. If 100 similar estimates were made at this "level of confidence," about 95 of the true population percents would be contained in their respective intervals.

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## Full-time Employed Inexperienced Chemists

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## MINORITY CLASSIFICATION AND CITIZENSHIP

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Table A-1

SALARIES of FULL-TIME CHEMISTS by Experience and Degree  
1981 Starting Salary Survey

PROFESSIONAL EXPERIENCE	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
<12 Months	17,730	21,300	29,500	16,800	19,000	-Median
	17,357	20,097	28,580	17,114	20,042	-Mean
	3,588	4,162	4,281	5,019	5,986	-Std Dev
	346	35	111	7	499	-Count
12-36 Months	17,200	22,250	30,850	19,000	20,580	
	17,380	22,436	30,000	21,275	21,912	
	3,317	4,125	3,953	9,076	6,803	
	76	14	42	4	136	
>36 Months	20,000	22,800	30,000	18,500	23,535	
	20,577	22,868	29,819	18,500	24,449	
	4,642	4,004	4,935	---	6,106	
	35	26	34	1	96	
No Response	19,500	18,000	29,200	---	19,500	
	18,850	18,000	29,200	---	20,750	
	5,554	---	---	---	6,154	
	3	1	1	0	5	
TOTAL	18,000	22,000	30,000	17,750	19,800	
	17,616	21,448	29,125	18,617	20,967	
	3,734	4,247	4,352	6,341	6,335	
	460	76	188	12	736	



Table A-2

SALARIES of FULL-TIME CHEMICAL ENGINEERS by Experience and Degree  
1981 Starting Salary Survey

PROFESSIONAL EXPERIENCE	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
<12 Months	24,500	26,000	31,500	25,200	24,600	-Median
	24,322	26,186	31,037	24,352	24,620	-Mean
	2,249	1,995	4,890	2,334	2,633	-Std Dev
	539	33	18	25	615	-Count
12-36 Months	24,840	26,400	30,000	24,000	25,000	
	24,403	26,200	29,634	26,500	25,132	
	2,403	2,596	3,783	5,220	3,031	
	120	19	14	3	156	
>36 Months	25,050	27,200	33,000	28,856	27,200	
	25,121	25,346	32,214	28,856	26,938	
	2,891	6,568	3,486	---	5,569	
	10	13	7	1	31	
No Response	25,500	---	---	---	25,500	
	25,500	---	---	---	25,500	
	707	---	---	---	707	
	2	0	0	0	2	
TOTAL	24,540	26,500	31,000	25,200	24,700	
	24,352	26,022	30,744	24,730	24,811	
	2,283	3,477	4,290	2,772	2,908	
	671	65	39	29	804	

Table A-3

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS in PRIVATE INDUSTRY by Sex and Degree  
1981 Starting Salary Survey

SEX	HIGHEST DEGREE				No Response	TOTAL	
	B.S.	M.S.	Ph.D.				
Men	17,200	22,140	29,510	21,750	20,000	-Median	
	17,256	21,252	29,263	21,750	21,248	-Mean	
	3,675	3,654	2,910	1,061	6,428	-Std Dev	
	177	21	88	2	288	-Count	
Women	18,700	20,500	30,500	15,150	18,998		
	18,220	20,167	30,014	16,025	19,231		
	2,990	3,786	2,222	5,103	4,439		
	145	9	14	4	172		
TOTAL	18,000	22,070	29,710	18,900	19,500		
	17,690	20,927	29,366	17,933	20,494		
	3,413	3,663	2,828	4,959	5,842		
	322	30	102	6	460		

Table A-4

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS in PRIVATE INDUSTRY by Sex and Degree  
1981 Starting Salary Survey

SEX	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Men	24,500	26,000	33,500	24,420	24,600	-Median
	24,415	26,205	33,433	24,740	24,729	-Mean
	2,218	1,978	2,855	1,669	2,617	-Std Dev
	414	23	11	15	463	-Count
Women	24,600	26,040	---	25,200	24,720	
	24,421	26,387	---	24,633	24,560	
	1,540	2,276	---	1,540	1,649	
	110	8	0	9	127	
No Response	25,000	---	---	---	25,000	
	25,000	---	---	---	25,000	
	---	---	---	---	---	
	1	0	0	0	1	
TOTAL	24,500	26,000	33,500	25,200	24,600	
	24,418	26,252	33,433	24,700	24,693	
	2,091	2,021	2,855	1,589	2,439	
	525	31	11	24	591	

Table A-5

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS by Degree and Sex  
1981 Starting Salary Survey

HIGHEST DEGREE	SEX		TOTAL	
	Men	Women		
Bachelors	17,000	18,500	17,730	-Median
	16,995	17,803	17,357	-Mean
	3,754	3,329	3,588	-Std Dev
	191	155	346	-Count
Masters	22,000	18,893	21,300	
	20,904	18,549	20,097	
	3,689	4,728	4,162	
	23	12	35	
Doctorate	29,500	29,700	29,500	
	28,503	29,041	28,580	
	4,372	3,786	4,281	
	95	16	111	
No Response	21,750	13,500	16,800	
	21,750	15,260	17,114	
	1,061	4,739	5,019	
	2	5	7	
TOTAL	19,680	18,700	19,000	
	20,830	18,740	20,042	
	6,520	4,712	5,986	
	311	188	499	

Table A-6

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS by Degree and Employer  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE			No Response	TOTAL	
	B.S.	M.S.	Ph.D.			
Manufacturing Industry	18,650	22,000	29,985	21,000	20,000	-Median
	18,276	20,767	29,471	19,320	21,265	-Mean
	3,166	3,808	2,264	4,039	5,667	-Std Dev
	240	23	90	5	358	-Count
Non-manufacturing Industry	18,500	22,680	36,000	---	19,008	
	17,213	22,680	33,840	---	19,619	
	3,407	---	3,741	---	6,616	
	19	1	3	0	23	
College or University	12,000	11,250	16,600	12,200	12,200	
	11,785	11,250	17,157	12,200	13,730	
	1,390	1,061	6,147	---	4,560	
	9	2	7	1	19	
Government	12,933	18,500	26,950	---	15,097	
	13,442	17,695	26,950	---	15,084	
	2,851	1,469	---	---	4,377	
	12	3	1	0	16	
Other	15,000	21,990	27,500	11,000	16,200	
	15,604	21,247	26,833	11,000	17,254	
	3,535	3,628	5,059	---	5,283	
	63	6	9	1	79	
No Response	15,000	---	30,000	---	17,000	
	13,967	---	30,000	---	17,975	
	5,622	---	---	---	9,238	
	3	0	1	0	4	
TOTAL	17,730	21,300	29,500	16,800	19,000	
	17,357	20,097	28,580	17,114	20,042	
	3,588	4,162	4,281	5,019	5,986	
	346	35	111	7	499	

Table A-7

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS by Degree and Employer - Men  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE			No Response	TOTAL	
	B.S.	M.S.	Ph.D.			
Manufacturing Industry	17,900	22,070	29,935	21,750	21,000	-Median
	17,830	20,946	29,371	21,750	22,087	-Mean
	3,582	4,036	2,276	1,061	6,262	-Std Dev
	129	16	78	2	225	-Count
Non-manufacturing Industry	18,980	22,680	36,000	---	20,000	
	17,868	22,680	33,840	---	21,383	
	2,757	---	3,741	---	7,107	
	11	1	3	0	15	
College or University	12,550	---	15,550	---	13,863	
	12,456	---	17,100	---	15,243	
	1,177	---	6,732	---	5,603	
	4	0	6	0	10	
Government	15,000	17,250	---	---	16,000	
	14,281	17,250	---	---	14,940	
	3,154	1,768	---	---	3,093	
	7	2	0	0	9	
Other	14,000	21,990	27,500	---	16,200	
	15,074	22,120	26,100	---	17,269	
	3,481	2,320	5,421	---	5,549	
	37	4	7	0	48	
No Response	15,000	---	30,000	---	17,000	
	13,967	---	30,000	---	17,975	
	5,622	---	---	---	9,238	
	3	0	1	0	4	
TOTAL	17,000	22,000	29,500	21,750	19,680	
	16,995	20,904	28,503	21,750	20,830	
	3,754	3,689	4,372	1,061	6,520	
	191	23	95	2	311	

Table A-8

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS by Degree and Employer - Women  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE			No Response	TOTAL	
	B.S.	M.S.	Ph.D.			
Manufacturing Industry	18,996	20,500	30,500	16,800	19,200	-Median
	18,793	20,357	30,117	17,700	19,873	-Mean
	2,517	3,489	2,170	4,715	4,148	-Std Dev
	111	7	12	3	133	-Count
Non-manufacturing Industry	16,000	---	---	---	16,000	
	16,312	---	---	---	16,312	
	4,170	---	---	---	4,170	
	8	0	0	0	8	
College or University	11,840	11,250	17,500	12,200	12,000	
	11,248	11,250	17,500	12,200	12,049	
	1,419	1,061	---	---	2,329	
	5	2	1	1	9	
Government	12,000	18,585	26,950	---	13,500	
	12,268	18,585	26,950	---	15,268	
	2,116	---	---	---	5,922	
	5	1	1	0	7	
Other	15,750	19,500	29,400	11,000	16,000	
	16,359	19,500	29,400	11,000	17,230	
	3,540	6,364	3,394	---	4,934	
	26	2	2	1	31	
No Response	---	---	---	---	---	
	---	---	---	---	---	
	---	---	---	---	---	
	0	0	0	0	0	
TOTAL	18,500	18,893	29,700	13,500	18,700	
	17,803	18,549	29,041	15,260	18,740	
	3,329	4,728	3,786	4,739	4,712	
	155	12	16	5	188	

SALARIES of INEXPERIENCED FULL-TIME CHEMISTS by Degree and Geographic Region  
1981 Starting Salary Survey

GEOGRAPHIC REGION	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Pacific	18,800	21,350	30,000	---	20,500	-Median
	17,553	20,425	28,151	---	21,110	-Mean
	4,222	3,129	6,037	---	6,683	-Std Dev
	21	4	11	0	36	-Count
Mountain	18,600	---	30,000	16,800	18,700	
	17,291	---	29,967	16,800	20,419	
	3,324	---	58	---	6,340	
	8	0	3	1	12	
West North Central	16,350	---	27,500	---	16,850	
	16,256	---	25,953	---	17,710	
	3,278	---	5,977	---	5,096	
	34	0	6	0	40	
West South Central	19,920	19,200	30,000	22,800	21,000	
	18,438	18,826	29,556	22,800	21,801	
	3,707	4,099	3,511	---	6,197	
	31	7	16	1	55	
East North Central	18,000	21,750	29,000	16,750	18,980	
	17,590	20,583	27,459	16,750	19,342	
	3,388	4,934	4,880	8,132	5,248	
	80	6	17	2	105	
East South Central	19,300	22,000	29,600	---	20,600	
	17,867	22,000	29,600	---	20,933	
	3,606	---	566	---	5,843	
	6	1	2	0	9	
Middle Atlantic	18,300	22,000	29,500	17,250	19,200	
	17,689	19,404	29,443	17,250	20,402	
	3,763	5,547	4,221	5,303	6,275	
	101	9	32	2	144	
South Atlantic	17,000	19,500	28,000	12,200	18,593	
	16,940	20,653	27,609	12,200	20,193	
	3,184	2,527	3,312	---	5,760	
	37	5	17	1	60	
New England	15,420	21,300	30,000	---	17,400	
	15,827	22,167	29,529	---	19,019	
	3,490	3,873	2,720	---	6,429	
	26	3	7	0	36	
No Response	17,550	---	---	---	17,550	
	17,550	---	---	---	17,550	
	4,455	---	---	---	4,455	
	2	0	0	0	2	
TOTAL	17,730	21,300	29,500	16,800	19,000	
	17,357	20,097	28,580	17,114	20,042	
	3,588	4,162	4,281	5,019	5,986	
	346	35	111	7	499	



Table A-10

SALARIES of INEXPERIENCED FULL-TIME B.S. CHEMISTS by Employer and Certification Status  
1981 Starting Salary Survey

EMPLOYER	CERTIFICATION		TOTAL	
	Certi- fied	Non- certi.		
Manufacturing Industry	18,600	18,744	18,650	-Median
	18,133	18,546	18,276	-Mean
	2,981	3,490	3,166	-Std Dev
	157	83	240	-Count
Non-manufacturing Industry	18,980	17,200	18,500	
	17,184	17,323	17,213	
	3,268	4,448	3,407	
	15	4	19	
College or University	12,300	11,840	12,000	
	11,625	11,913	11,785	
	1,854	1,114	1,390	
	4	5	9	
Government	13,500	12,000	12,933	
	13,811	12,336	13,442	
	2,997	2,513	2,851	
	9	3	12	
Other	16,000	14,800	15,000	
	15,911	15,168	15,604	
	3,895	2,967	3,535	
	37	26	63	
No Response	13,450	15,000	15,000	
	13,450	15,000	13,967	
	7,849	---	5,622	
	2	1	3	
TOTAL	18,000	17,500	17,730	
	17,370	17,333	17,357	
	3,462	3,822	3,588	
	224	122	346	

Table A-11

SALARIES of INEXPERIENCED FULL-TIME M.S. and Ph.D. CHEMISTS by Degree Field  
1981 Starting Salary Survey

DEGREE FIELD	HIGHEST DEGREE			
	M.S.	Ph.D.	TOTAL	
Chemistry, General	15,500	29,500	16,000	-Median
	16,750	29,500	18,571	-Mean
	5,411	---	6,901	-Std Dev
	6	1	7	-Count
Biochemistry	---	---	---	
	---	---	---	
	0	0	0	
Agricultural	---	---	---	
	---	---	---	
	0	0	0	
Analytical	22,070	29,510	28,400	
	21,065	29,026	26,903	
	3,636	2,203	4,419	
	8	22	30	
Inorganic	17,400	30,000	29,700	
	17,856	28,182	26,196	
	4,604	6,275	7,219	
	5	21	26	
Organic	20,500	29,200	29,000	
	21,144	28,256	27,071	
	2,266	4,150	4,715	
	9	45	54	
Pharmaceutical	---	---	---	
	---	---	---	
	0	0	0	
Physical	19,500	28,100	28,000	
	20,657	28,421	26,378	
	3,500	4,808	5,635	
	5	14	19	
Theoretical	---	33,150	33,150	
	---	33,150	33,150	
	---	1,909	1,909	
	0	2	2	
Polymer	---	29,300	29,300	
	---	29,300	29,300	
	---	1,838	1,838	
	0	2	2	
Chemistry, other	25,750	29,600	29,100	
	25,750	29,550	28,283	
	354	526	2,010	
	2	4	6	
TOTAL	21,300	29,500	28,650	
	20,097	28,580	26,547	
	4,162	4,281	5,583	
	35	111	146	

Table A-12

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS by Degree and Sex  
1981 Starting Salary Survey

HIGHEST DEGREE	SEX		No Response	TOTAL	
	Men	Women			
Bachelors	24,500	24,550	25,000	24,500	-Median
	24,337	24,258	25,000	24,322	-Mean
	2,371	1,738	----	2,249	-Std Dev
	424	114	1	539	-Count
Masters	26,000	26,040	----	26,000	
	26,121	26,387	----	26,186	
	1,944	2,276	----	1,995	
	25	8	0	33	
Doctorate	31,500	----	----	31,500	
	31,037	----	----	31,037	
	4,890	----	----	4,890	
	18	0	0	18	
No Response	24,410	25,200	----	25,200	
	24,194	24,633	----	24,352	
	2,716	1,540	----	2,334	
	16	9	0	25	
TOTAL	24,600	24,636	25,000	24,600	
	24,674	24,414	25,000	24,620	
	2,815	1,821	----	2,633	
	483	131	1	615	

Table A-13

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS by Degree and Employer  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Manufacturing Industry	24,600	26,400	33,500	25,500	24,600	-Median
	24,497	26,209	33,433	24,980	24,789	-Mean
	2,155	2,157	2,855	1,397	2,519	-Std Dev
	461	25	11	21	518	-Count
Non-manufacturing Industry	24,000	26,000	---	23,610	24,000	
	23,819	26,633	---	23,610	23,970	
	1,430	1,815	---	1,146	1,560	
	48	3	0	2	53	
College or University	---	---	26,750	16,000	24,500	
	---	---	26,517	16,000	25,014	
	---	---	5,265	---	6,237	
	0	0	6	1	7	
Government	19,747	25,155	31,800	---	19,747	
	19,554	25,155	31,800	---	21,117	
	3,271	1,619	---	---	4,601	
	12	2	1	0	15	
Other	24,000	26,000	---	21,000	24,500	
	23,922	26,233	---	21,000	24,123	
	1,507	1,365	---	---	1,800	
	16	3	0	1	20	
No Response	27,750	---	---	---	27,750	
	27,750	---	---	---	27,750	
	3,182	---	---	---	3,182	
	2	0	0	0	2	
TOTAL	24,500	26,000	31,500	25,200	24,600	
	24,322	26,186	31,037	24,352	24,620	
	2,249	1,995	4,890	2,334	2,633	
	539	33	18	25	615	

Table A-14

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS by Degree and Employer - Men  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE			No Response	TOTAL	
	B.S.	M.S.	Ph.D.			
Manufacturing Industry	24,540	26,400	33,500	25,500	24,600	-Median
	24,499	26,125	33,433	24,914	24,824	-Mean
	2,295	2,166	2,855	1,702	2,720	-Std Dev
	363	17	11	13	404	-Count
Non-manufacturing Industry	24,000	26,000	---	23,610	24,000	
	23,783	26,633	---	23,610	23,973	
	1,397	1,815	---	1,146	1,566	
	38	3	0	2	43	
College or University	---	---	26,750	16,000	24,500	
	---	---	26,517	16,000	25,014	
	---	---	5,265	---	6,237	
	0	0	6	1	7	
Government	18,374	25,155	31,800	---	19,747	
	19,438	25,155	31,800	---	21,602	
	4,094	1,619	---	---	5,354	
	8	2	1	0	11	
Other	24,000	26,000	---	---	25,000	
	23,926	26,233	---	---	24,359	
	1,638	1,365	---	---	1,806	
	13	3	0	0	16	
No Response	27,750	---	---	---	27,750	
	27,750	---	---	---	27,750	
	3,182	---	---	---	3,182	
	2	0	0	0	2	
TOTAL	24,500	26,000	31,500	24,410	24,600	
	24,337	26,121	31,037	24,194	24,674	
	2,371	1,944	4,890	2,716	2,815	
	424	25	18	16	483	

Table A-15

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS by Degree and Employer - Women  
1981 Starting Salary Survey

EMPLOYER	HIGHEST DEGREE				No Response	TOTAL	
	B.S.	M.S.	Ph.D.				
Manufacturing Industry	24,700	26,040	----	25,350	24,840	-Median	
	24,485	26,387	----	25,088	24,662	-Mean	
	1,546	2,276	----	768	1,632	-Std Dev	
	97	8	0	8	113	-Count	
Non-manufacturing Industry	24,355	----	----	----	24,355		
	23,957	----	----	----	23,957		
	1,621	----	----	----	1,621		
	10	0	0	0	10		
College or University	----	----	----	----	----		
	----	----	----	----	----		
	----	----	----	----	----		
	0	0	0	0	0		
Government	19,749	----	----	----	19,749		
	19,786	----	----	----	19,786		
	76	----	----	----	76		
	4	0	0	0	4		
Other	23,500	----	----	21,000	23,356		
	23,904	----	----	21,000	23,178		
	960	----	----	----	1,650		
	3	0	0	1	4		
TOTAL	24,550	26,040	----	25,200	24,636		
	24,258	26,387	----	24,633	24,414		
	1,738	2,276	----	1,540	1,821		
	114	8	0	9	131		

SALARIES of INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS by Geographic Region and Degree  
1981 Starting Salary Survey

GEOGRAPHIC REGION	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Pacific	24,570	27,600	31,800	25,600	25,000	-Median
	24,461	26,767	31,800	25,633	24,824	-Mean
	1,832	1,531	---	153	2,091	-Std Dev
	42	3	1	3	49	-Count
Mountain	24,700	---	---	---	24,700	
	24,678	---	---	---	24,678	
	3,001	---	---	---	3,001	
	14	0	0	0	14	
West North Central	24,000	---	29,000	23,000	24,000	
	23,858	---	29,000	23,000	24,144	
	649	---	---	---	1,488	
	13	0	1	1	15	
West South Central	25,000	27,300	34,680	25,500	25,000	
	24,984	26,666	34,793	25,235	25,259	
	1,084	3,075	3,651	1,785	1,903	
	139	7	3	8	157	
East North Central	24,355	25,900	22,000	24,900	24,420	
	23,967	25,075	22,000	24,925	24,043	
	2,124	1,928	---	512	2,076	
	74	4	1	4	83	
East South Central	24,000	24,455	37,000	24,000	24,000	
	24,491	24,455	37,000	24,000	24,876	
	3,902	629	---	---	4,276	
	27	2	1	1	31	
Middle Atlantic	24,500	26,000	31,900	24,420	24,600	
	24,346	26,294	30,487	23,189	24,747	
	2,691	1,926	5,128	3,475	3,180	
	144	11	9	7	171	
South Atlantic	24,000	26,250	30,050	21,000	24,000	
	23,658	26,430	30,050	21,000	23,979	
	1,910	952	636	---	2,244	
	59	4	2	1	66	
New England	23,000	26,500	---	---	23,000	
	22,599	26,500	---	---	22,888	
	2,335	707	---	---	2,477	
	25	2	0	0	27	
No Response	26,100	---	---	---	26,100	
	26,100	---	---	---	26,100	
	3,394	---	---	---	3,394	
	2	0	0	0	2	
TOTAL	24,500	26,000	31,500	25,200	24,600	
	24,322	26,186	31,037	24,352	24,620	
	2,249	1,995	4,890	2,334	2,633	
	539	33	18	25	615	

Table B-1

EMPLOYMENT STATUS OF CHEMISTRY GRADUATES by Degree and Sex  
1981 Starting Salary Survey

EMPLOYMENT STATUS	SEX		Bachelors			Masters			Doctorate			
	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL
Full-time in Chemistry	289	191	0	480	56	22	0	78	165	26	0	191
	60.2%	39.8%	0.0%	100.0%	71.8%	28.2%	0.0%	100.0%	86.4%	13.6%	0.0%	100.0%
	23.4%	32.2%	0.0%	26.2%	45.5%	50.0%	***.%	46.7%	66.3%	60.5%	***.%	65.4%
Full-time in Non-Chemistry	113	48	0	161	9	0	0	9	10	0	0	10
	70.2%	29.8%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
	9.1%	8.1%	0.0%	8.8%	7.3%	0.0%	***.%	5.4%	4.0%	0.0%	***.%	3.4%
Assistantship, Postdoctoral or Other Fellowship	291	129	0	420	42	14	0	56	69	15	0	84
	69.3%	30.7%	0.0%	100.0%	75.0%	25.0%	0.0%	100.0%	82.1%	17.9%	0.0%	100.0%
	23.6%	21.8%	0.0%	22.9%	34.1%	31.8%	***.%	33.5%	27.7%	34.9%	***.%	28.8%
Unemployed and Seeking Employment	118	71	0	189	11	4	0	15	1	1	0	2
	62.4%	37.6%	0.0%	100.0%	73.3%	26.7%	0.0%	100.0%	50.0%	50.0%	0.0%	100.0%
	9.6%	12.0%	0.0%	10.3%	8.9%	9.1%	***.%	9.0%	0.4%	2.3%	***.%	0.7%
Unemployed and Not Seeking Employment	386	144	1	531	4	2	0	6	2	1	0	3
	72.7%	27.1%	0.2%	100.0%	66.7%	33.3%	0.0%	100.0%	66.7%	33.3%	0.0%	100.0%
	31.3%	24.3%	33.3%	29.0%	3.3%	4.5%	***.%	3.6%	0.8%	2.3%	***.%	1.0%
No Response	38	10	2	50	1	2	0	3	2	0	0	2
	76.0%	20.0%	4.0%	100.0%	33.3%	66.7%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
	3.1%	1.7%	66.7%	2.7%	0.8%	4.5%	***.%	1.8%	0.8%	0.0%	***.%	0.7%
TOTAL	1,235	593	3	1,831	123	44	0	167	249	43	0	292
	67.4%	32.4%	0.2%	100.0%	73.7%	26.3%	0.0%	100.0%	85.3%	14.7%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	***.%	100.0%	100.0%	100.0%	***.%	100.0%
ADVANCED STUDY PLANS FALL 1981												
Full-Time	732	274	2	1,008	48	17	0	65	17	3	0	20
	72.6%	27.2%	0.2%	100.0%	73.8%	26.2%	0.0%	100.0%	85.0%	15.0%	0.0%	100.0%
	59.3%	46.2%	66.7%	55.1%	39.0%	38.6%	***.%	38.9%	6.8%	7.0%	***.%	6.8%
Part-Time	173	97	1	271	20	5	0	25	16	2	0	18
	63.8%	35.8%	0.4%	100.0%	80.0%	20.0%	0.0%	100.0%	88.9%	11.1%	0.0%	100.0%
	14.0%	16.4%	33.3%	14.8%	16.3%	11.4%	***.%	15.0%	6.4%	4.7%	***.%	6.2%
No Plans	316	213	0	529	54	20	0	74	213	37	0	250
	59.7%	40.3%	0.0%	100.0%	73.0%	27.0%	0.0%	100.0%	85.2%	14.8%	0.0%	100.0%
	25.6%	35.9%	0.0%	28.9%	43.9%	45.5%	***.%	44.3%	85.5%	86.0%	***.%	85.6%
No Response	14	9	0	23	1	2	0	3	3	1	0	4
	60.9%	39.1%	0.0%	100.0%	33.3%	66.7%	0.0%	100.0%	75.0%	25.0%	0.0%	100.0%
	1.1%	1.5%	0.0%	1.3%	0.8%	4.5%	***.%	1.8%	1.2%	2.3%	***.%	1.4%
TOTAL	1,235	593	3	1,831	123	44	0	167	249	43	0	292
	67.4%	32.4%	0.2%	100.0%	73.7%	26.3%	0.0%	100.0%	85.3%	14.7%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	***.%	100.0%	100.0%	100.0%	***.%	100.0%



EMPLOYMENT STATUS of B.S. CHEMISTRY GRADUATES by Certification Status  
1981 Starting Salary Survey

## CERTIFICATION

EMPLOYMENT STATUS	Certi- fied	Non- Cert.	TOTAL	
Full-time in Chemistry	305 63.5% 26.3%	175 36.5% 26.1%	480 100.0% 26.2%	-Count -% of Row -% of Col
Full-time in Non-Chemistry	100 62.1% 8.6%	61 37.9% 9.1%	161 100.0% 8.8%	
Assistantship, Postdoctoral or Other Fellowship	324 77.1% 27.9%	96 22.9% 14.3%	420 100.0% 22.9%	
Unemployed and Seeking Employment	120 63.5% 10.3%	69 36.5% 10.3%	189 100.0% 10.3%	
Unemployed and Not Seeking Employment	286 53.9% 24.6%	245 46.1% 36.6%	531 100.0% 29.0%	
No Response	26 52.0% 2.2%	24 48.0% 3.6%	50 100.0% 2.7%	
TOTAL	1,161 63.4% 100.0%	670 36.6% 100.0%	1,831 100.0% 100.0%	

ADVANCED STUDY PLANS  
FALL 1981

Full-Time	641 63.6% 55.2%	367 36.4% 54.8%	1,008 100.0% 55.1%	
Part-Time	162 59.8% 14.0%	109 40.2% 16.3%	271 100.0% 14.8%	
No Plans	345 65.2% 29.7%	184 34.8% 27.5%	529 100.0% 28.9%	
No Response	13 56.5% 1.1%	10 43.5% 1.5%	23 100.0% 1.3%	
TOTAL	1,161 63.4% 100.0%	670 36.6% 100.0%	1,831 100.0% 100.0%	

Table B-3

EMPLOYMENT STATUS of M.S. AND Ph.D. CHEMISTRY GRADUATES by Degree Field  
1981 Starting Salary Survey

EMPLOYMENT STATUS	DEGREE FIELD											TOTAL	-Count -% of Row -% of Col	
	General Chem.	Bio-chem.	Agri-cultural	Analytical	In-organic	Organic	Pharm.	Physi-cal	Theore-tical	Polymer	Other Chem			
Masters														
Full-time in Chemistry	19 24.4% 65.5%	0 0.0% ***.*%	0 0.0% ***.*%	17 21.8% 58.6%	6 7.7% 40.0%	21 26.9% 38.9%	0 0.0% ***.*%	8 0.3% 34.8%	0 0.0% 0.0%	2 2.6% 66.7%	5 6.4% 38.5%	78 100.0% 46.7%		
Full-time in Non-Chemistry	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	2 22.2% 6.9%	1 11.1% 6.7%	2 22.2% 3.7%	0 0.0% ***.*%	2 22.2% 8.7%	1 11.1% 100.0%	0 0.0% 0.0%	1 11.1% 7.7%	9 100.0% 5.4%		
Assistantship, Postdoctoral or Other Fellowship	7 12.5% 24.1%	0 0.0% ***.*%	0 0.0% ***.*%	5 8.9% 17.2%	8 14.3% 53.3%	20 35.7% 37.0%	0 0.0% ***.*%	9 16.1% 39.1%	0 0.0% 0.0%	1 1.8% 33.3%	6 10.7% 46.2%	56 100.0% 33.5%		
Unemployed and Seeking Employment	1 6.7% 3.4%	0 0.0% ***.*%	0 0.0% ***.*%	4 26.7% 13.8%	0 0.0% 0.0%	7 46.7% 13.0%	0 0.0% ***.*%	3 20.0% 13.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	15 100.0% 9.0%		
Unemployed and Not Seeking Employment	2 33.3% 6.9%	0 0.0% ***.*%	0 0.0% ***.*%	0 0.0% 0.0%	0 0.0% 0.0%	2 33.3% 3.7%	0 0.0% ***.*%	1 16.7% 4.3%	0 0.0% 0.0%	0 0.0% 0.0%	1 16.7% 7.7%	6 100.0% 3.6%		
No Response	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	1 33.3% 3.4%	0 0.0% 0.0%	2 66.7% 3.7%	0 0.0% ***.*%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	3 100.0% 1.8%		
TOTAL	29 17.4% 100.0%	0 0.0% ***.*%	0 0.0% ***.*%	29 17.4% 100.0%	15 9.0% 100.0%	54 32.3% 100.0%	0 0.0% ***.*%	23 13.8% 100.0%	1 0.6% 100.0%	3 1.8% 100.0%	13 7.8% 100.0%	167 100.0% 100.0%		
Doctorate														
Full-time in Chemistry	3 1.6% 42.9%	0 0.0% ***.*%	0 0.0% ***.*%	40 20.9% 83.3%	31 16.2% 75.6%	74 38.7% 64.9%	0 0.0% 0.0%	20 10.5% 41.7%	2 1.0% 66.7%	7 3.7% 87.5%	14 7.3% 63.6%	191 100.0% 65.4%		
Full-time in Non-Chemistry	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	2 20.0% 4.2%	1 10.0% 2.4%	4 40.0% 3.5%	0 0.0% 0.0%	2 20.0% 4.2%	0 0.0% 0.0%	0 0.0% 0.0%	1 10.0% 4.5%	10 100.0% 3.4%		
Assistantship, Postdoctoral or Other Fellowship	4 4.8% 57.1%	0 0.0% ***.*%	0 0.0% ***.*%	6 7.1% 12.5%	8 9.5% 19.5%	33 39.3% 28.9%	1 1.2% 100.0%	24 28.6% 50.0%	1 1.2% 33.3%	1 1.2% 12.5%	6 7.1% 27.3%	84 100.0% 28.8%		
Unemployed and Seeking Employment	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	0 0.0% 0.0%	1 50.0% 2.4%	1 50.0% 0.9%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	2 100.0% 0.7%		
Unemployed and Not Seeking Employment	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	0 0.0% 0.0%	0 0.0% 0.0%	1 33.3% 0.9%	0 0.0% 0.0%	2 66.7% 4.2%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	3 100.0% .0%		
No Response	0 0.0% 0.0%	0 0.0% ***.*%	0 0.0% ***.*%	0 0.0% 0.0%	0 0.0% 0.0%	1 50.0% 0.9%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	1 50.0% 4.5%	2 100.0% 0.7%		
TOTAL	7 2.4% 100.0%	0 0.0% ***.*%	0 0.0% ***.*%	48 16.4% 100.0%	41 14.0% 100.0%	114 39.0% 100.0%	1 0.3% 100.0%	48 16.4% 100.0%	3 1.0% 100.0%	8 2.7% 100.0%	22 7.5% 100.0%	292 100.0% 100.0%		

Table B-4

EMPLOYMENT STATUS of CHEMISTRY GRADUATES by Citizenship and Degree  
1981 Starting Salary Survey

EMPLOYMENT STATUS	Bachelors				Masters				Doctorate						
	CITIZENSHIP				CITIZENSHIP				CITIZENSHIP						
	US Citizen	Permanent Resident	Other	No Response	TOTAL	US Citizen	Permanent Resident	Other	No Response	TOTAL	US Citizen	Permanent Resident	Other	No Response	TOTAL
Full-time in Chemistry	469 97.7% 26.4%	7 1.5% 24.1%	1 0.2% 7.7%	3 0.6% 30.0%	480 100.0% 26.2%	72 92.3% 50.7%	5 6.4% 55.6%	1 1.3% 6.3%	0 0.0% ***.%	78 100.0% 46.7%	175 92.1% 68.2%	11 5.8% 84.6%	4 2.1% 19.0%	0 0.0% ***.%	191 100.0% 65.4%
Full-time in Non-Chemistry	157 97.5% 8.8%	4 2.5% 13.8%	0 0.0% 0.0%	0 0.0% 0.0%	161 100.0% 8.8%	8 88.9% 5.6%	1 11.1% 11.1%	0 0.0% 0.0%	0 0.0% ***.%	9 100.0% 5.4%	10 100.0% 3.9%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	10 100.0% 3.4%
Assistantship, Postdoctoral or Other Fellowship	409 97.4% 23.0%	5 1.2% 17.2%	3 0.7% 23.1%	3 0.7% 30.0%	420 100.0% 22.9%	45 80.4% 31.7%	0 0.0% 0.0%	11 19.6% 68.8%	0 0.0% ***.%	56 100.0% 33.5%	66 78.6% 25.6%	2 2.4% 15.4%	16 19.0% 76.2%	0 0.0% ***.%	84 100.0% 28.8%
Unemployed and Seeking Employment	185 97.9% 10.4%	3 1.6% 10.3%	1 0.5% 7.7%	0 0.0% 0.0%	189 100.0% 10.3%	9 60.0% 6.3%	2 13.3% 22.2%	4 26.7% 25.0%	0 0.0% ***.%	15 100.0% 9.0%	1 50.0% 0.4%	0 0.0% 0.0%	1 50.0% 4.8%	0 0.0% ***.%	2 100.0% 0.7%
Unemployed and Not Seeking Unemployment	514 96.8% 28.9%	10 1.9% 34.5%	6 1.1% 46.2%	1 0.2% 10.0%	531 100.0% 29.0%	6 100.0% 4.2%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	6 100.0% 3.6%	3 100.0% 1.2%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	3 100.0% 1.0%
No Response	45 90.0% 2.5%	0 0.0% 0.0%	2 4.0% 15.4%	3 6.0% 30.0%	50 100.0% 2.7%	2 66.7% 1.4%	1 33.3% 11.1%	0 0.0% 0.0%	0 0.0% ***.%	3 100.0% 1.8%	2 100.0% 0.8%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	2 100.0% 0.7%
TOTAL	1,779 96.6% 54.7%	29 1.6% 55.2%	13 0.7% 92.3%	10 0.5% 60.0%	1,831 100.0% 100.0%	142 85.0% 36.6%	9 5.4% 11.1%	16 9.6% 75.0%	0 0.0% ***.%	167 100.0% 38.9%	258 88.4% 6.6%	13 4.5% 0.0%	21 7.2% 100.0%	0 0.0% ***.%	292 100.0% 100.0%
Full-Time	974 96.6% 54.7%	16 1.6% 55.2%	12 1.2% 92.3%	6 0.6% 60.0%	1,008 100.0% 55.1%	52 80.0% 36.6%	1 1.5% 11.1%	12 18.5% 75.0%	0 0.0% ***.%	65 100.0% 38.9%	17 85.0% 6.6%	0 0.0% 0.0%	3 15.0% 14.3%	0 0.0% ***.%	20 100.0% 6.8%
Part-Time	263 97.0% 14.8%	7 2.6% 24.1%	0 0.0% 0.0%	1 0.4% 10.0%	271 100.0% 14.8%	21 84.0% 14.8%	2 8.0% 22.2%	2 8.0% 12.5%	0 0.0% ***.%	25 100.0% 15.0%	15 83.3% 5.8%	2 11.1% 15.4%	1 4.8% 4.8%	0 0.0% ***.%	18 100.0% 6.2%
No Plans	519 98.1% 29.2%	6 1.1% 20.7%	1 0.2% 7.7%	3 0.6% 30.0%	529 100.0% 28.9%	66 89.2% 46.5%	6 8.1% 66.7%	2 2.7% 12.5%	0 0.0% ***.%	74 100.0% 44.3%	23 89.2% 86.4%	11 4.4% 84.6%	16 6.4% 76.2%	0 0.0% ***.%	250 100.0% 85.6%
No Response	23 1.3% 1.3%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	23 100.0% 1.3%	3 100.0% 2.1%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	3 100.0% 1.8%	3 75.0% 1.2%	0 0.0% 0.0%	1 25.0% 4.8%	0 0.0% ***.%	4 100.0% 1.4%
TOTAL	1,779 97.2% 100.0%	29 1.6% 100.0%	13 0.7% 100.0%	10 0.5% 100.0%	1,831 100.0% 100.0%	142 85.0% 100.0%	9 5.4% 100.0%	16 9.6% 100.0%	0 0.0% ***.%	167 100.0% 100.0%	258 88.4% 100.0%	13 4.5% 100.0%	21 7.2% 100.0%	0 0.0% ***.%	292 100.0% 100.0%

ADVANCED STUDY PLANS  
FALL 1981

EMPLOYMENT STATUS of MINORITY CHEMISTRY GRADUATES by Degree  
1981 Starting Salary Survey

EMPLOYMENT STATUS	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Full-time in Chemistry	47 61.0% 28.1%	9 11.7% 31.0%	21 27.3% 48.8%	0 0.0% 0.0%	77	-Count 100.0% -% of Row 32.1% -% of Col
Full-time in Non-Chemistry	15 93.8% 9.0%	1 6.3% 3.4%	0 0.0% 0.0%	0 0.0% 0.0%	16	100.0% 6.7%
Assistantship, Postdoctoral or Other Fellowship	22 38.6% 13.2%	14 24.6% 48.3%	21 36.8% 48.8%	0 0.0% 0.0%	57	100.0% 23.8%
Unemployed and Seeking Employment	28 87.5% 16.8%	3 9.4% 10.3%	0 0.0% 0.0%	1 3.1% 100.0%	32	100.0% 13.3%
Unemployed and Not Seeking Employment	49 100.0% 29.3%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	49	100.0% 20.4%
No Response	6 66.7% 3.6%	2 22.2% 6.9%	1 11.1% 2.3%	0 0.0% 0.0%	9	100.0% 3.8%
TOTAL	167 69.6% 100.0%	29 12.1% 100.0%	43 17.9% 100.0%	1 0.4% 100.0%	240	100.0% 100.0%

ADVANCED STUDY PLANS  
FALL 1981

Full-Time	86 81.1% 51.5%	15 14.2% 51.7%	5 4.7% 11.6%	0 0.0% 0.0%	106	100.0% 44.2%
Part-Time	36 80.0% 21.6%	5 11.1% 17.2%	3 6.7% 7.0%	1 2.2% 100.0%	45	100.0% 18.8%
No Plans	41 49.4% 24.6%	8 9.6% 27.6%	34 41.0% 79.1%	0 0.0% 0.0%	83	100.0% 34.6%
No Response	4 66.7% 2.4%	1 16.7% 3.4%	1 16.7% 2.3%	0 0.0% 0.0%	6	100.0% 2.5%
TOTAL	167 69.6% 100.0%	29 12.1% 100.0%	43 17.9% 100.0%	1 0.4% 100.0%	240	100.0% 100.0%

Table B-6

EMPLOYMENT STATUS OF CHEMICAL ENGINEERING GRADUATES by Degree and Sex  
1981 Starting Salary Survey

EMPLOYMENT STATUS	SEX			Bachelors			Masters			Doctorate			
	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	TOTAL
Full-time in Chemistry	532 77.6%	153 22.3%	1 0.1%	50 74.6%	17 25.4%	0 0.0%	67 100.0%	38 97.4%	1 2.6%	0 0.0%	39 100.0%	-Count 90.7%	-% of Row 90.7%
Full-time in Non-Chemistry	91 88.3%	11 10.7%	1 1.0%	3 3.7%	1 25.0%	0 0.0%	4 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Assistantship, Postdoctoral or Other Fellowship	81 88.0%	11 12.0%	0 0.0%	17 77.3%	5 22.7%	0 0.0%	22 100.0%	3 100.0%	0 0.0%	0 0.0%	3 100.0%	3 7.0%	7.0%
Unemployed and Seeking Employment	56 80.0%	14 20.0%	0 0.0%	5 83.3%	1 16.7%	0 0.0%	6 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Unemployed and Not Seeking Employment	35 85.4%	6 14.6%	0 0.0%	6 85.7%	1 14.3%	0 0.0%	7 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
No Response	5 83.3%	1 16.7%	0 0.0%	1 33.3%	2 66.7%	0 0.0%	3 100.0%	1 2.4%	0 0.0%	0 0.0%	1 2.3%	1 2.3%	2.3%
TOTAL	800 80.2%	196 19.6%	2 0.2%	82 75.2%	27 24.8%	0 0.0%	109 100.0%	42 97.7%	1 2.3%	0 0.0%	43 100.0%	43 100.0%	100.0%
ADVANCED STUDY PLANS													
FALL 1981													
Full-Time	122 85.3%	21 14.7%	0 0.0%	23 76.7%	7 23.3%	0 0.0%	30 100.0%	2 100.0%	0 0.0%	0 0.0%	2 100.0%	-Count 100.0%	-% of Row 4.7%
Part-Time	176 83.0%	36 17.0%	0 0.0%	12 75.0%	4 25.0%	0 0.0%	16 100.0%	1 100.0%	0 0.0%	0 0.0%	1 100.0%	1 2.3%	2.3%
No Plans	489 78.0%	136 21.7%	2 0.3%	46 75.4%	15 24.6%	0 0.0%	61 100.0%	38 97.4%	1 2.6%	0 0.0%	39 100.0%	39 100.0%	90.7%
No Response	13 81.3%	3 18.8%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	2 100.0%	1 2.4%	0 0.0%	0 0.0%	1 2.3%	1 2.3%	2.3%
TOTAL	800 80.2%	196 19.6%	2 0.2%	82 75.2%	27 24.8%	0 0.0%	109 100.0%	42 97.7%	1 2.3%	0 0.0%	43 100.0%	43 100.0%	100.0%

Table B-7

EMPLOYMENT STATUS OF CHEMICAL ENGINEERING GRADUATES by Citizenship and Degree  
1981 Starting Salary Survey

CITIZENSHIP

EMPLOYMENT STATUS	Bachelors				Masters				Doctorate				TOTAL	-Count -% of Row	-Count -% of Col
	US Citizen	Perm. Resident	Other	No Response	US Citizen	Perm. Resident	Other	No Response	US Citizen	Perm. Resident	Other	No Response			
Full-time in Chemistry	668 97.4% 69.4%	13 1.9% 59.1%	1 0.1% 14.3%	4 0.6% 66.7%	686 100.0% 68.7%	50 74.6% 61.0%	9 13.4% 64.3%	8 11.9% 61.5%	0 0.0% ***.%	0 0.0% ***.%	7 17.9% 87.5%	0 0.0% ***.%	67 100.0% 61.5%	39 100.0% 90.7%	39 100.0% 90.7%
Full-time in Non-Chemistry	99 96.1% 10.3%	4 3.9% 18.2%	0 0.0% 0.0%	0 0.0% 0.0%	103 100.0% 10.3%	3 75.0% 3.7%	0 0.0% 0.0%	1 25.0% 7.7%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	4 100.0% 3.7%	0 ***.%	0 ***.%
Assistantship, Postdoctoral or Other Fellowship	88 95.7% 9.1%	0 0.0% 0.0%	4 4.3% 57.1%	0 0.0% 0.0%	92 100.0% 9.2%	18 81.8% 22.0%	3 13.6% 21.4%	1 4.5% 7.7%	0 0.0% ***.%	0 0.0% ***.%	1 11.9% 12.5%	0 0.0% ***.%	22 100.0% 20.2%	3 100.0% 7.0%	3 100.0% 7.0%
Unemployed and Seeking Employment	64 91.4% 6.6%	3 4.3% 13.6%	1 1.4% 14.3%	2 2.9% 33.3%	70 100.0% 7.0%	3 50.0% 3.7%	1 16.7% 7.1%	2 33.3% 15.4%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	6 100.0% 5.5%	0 ***.%	0 ***.%
Unemployed and Not Seeking Employment	39 95.1% 4.0%	1 2.4% 4.5%	1 2.4% 14.3%	0 0.0% 0.0%	41 100.0% 4.1%	6 85.7% 7.3%	1 14.3% 7.1%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	7 100.0% 6.4%	0 ***.%	0 ***.%
No Response	5 83.3% 0.5%	1 16.7% 4.5%	0 0.0% 0.0%	0 0.0% 0.0%	6 100.0% 0.6%	2 66.7% 2.4%	0 0.0% 0.0%	0 0.0% 7.7%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	3 100.0% 2.8%	1 100.0% 2.3%	1 100.0% 2.3%
TOTAL	963 96.5% 100.0%	22 2.2% 100.0%	7 0.7% 100.0%	6 0.6% 100.0%	998 100.0% 100.0%	82 75.2% 100.0%	14 12.8% 100.0%	13 11.9% 100.0%	0 0.0% ***.%	0 0.0% ***.%	8 18.6% 100.0%	0 0.0% ***.%	109 100.0% 100.0%	43 100.0% 100.0%	43 100.0% 100.0%

ADVANCED STUDY PLANS  
FALL 1981

EMPLOYMENT STATUS	Bachelors				Masters				Doctorate				TOTAL	-Count -% of Row	-Count -% of Col
	US Citizen	Perm. Resident	Other	No Response	US Citizen	Perm. Resident	Other	No Response	US Citizen	Perm. Resident	Other	No Response			
Full-Time	136 95.1% 14.1%	2 1.4% 9.1%	5 3.5% 71.4%	0 0.0% 0.0%	143 100.0% 14.3%	23 76.7% 28.0%	3 10.0% 21.4%	4 13.3% 30.8%	0 0.0% ***.%	0 0.0% ***.%	1 50.0% 3.4%	0 0.0% ***.%	30 100.0% 21.5%	2 100.0% 4.7%	2 100.0% 4.7%
Part-Time	204 96.2% 21.2%	6 2.8% 27.3%	1 0.5% 14.3%	1 0.5% 16.7%	212 100.0% 21.2%	9 56.3% 11.0%	4 25.0% 28.6%	3 18.8% 23.1%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	16 100.0% 14.7%	1 100.0% 2.5%	1 100.0% 2.5%
No Plans	608 97.0% 63.1%	13 2.1% 59.1%	1 0.2% 14.3%	5 0.8% 83.3%	627 100.0% 62.8%	49 80.3% 59.8%	7 11.5% 50.0%	5 8.2% 38.5%	0 0.0% ***.%	0 0.0% ***.%	6 15.4% 75.0%	0 0.0% ***.%	61 100.0% 56.0%	39 100.0% 90.7%	39 100.0% 90.7%
No Response	15 93.8% 1.6%	1 6.3% 4.5%	0 0.0% 0.0%	0 0.0% 0.0%	16 100.0% 1.6%	1 50.0% 1.2%	0 0.0% 0.0%	1 50.0% 7.7%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	2 100.0% 1.8%	1 100.0% 2.3%	1 100.0% 2.3%
TOTAL	963 96.5% 100.0%	22 2.2% 100.0%	7 0.7% 100.0%	6 0.6% 100.0%	998 100.0% 100.0%	82 75.2% 100.0%	14 12.8% 100.0%	13 11.9% 100.0%	0 0.0% ***.%	0 0.0% ***.%	8 18.6% 100.0%	0 0.0% ***.%	109 100.0% 100.0%	43 100.0% 100.0%	43 100.0% 100.0%

EMPLOYMENT STATUS of MINORITY CHEMICAL ENGINEERING GRADUATES by Degree  
1981 Starting Salary Survey

EMPLOYMENT STATUS	HIGHEST DEGREE				TOTAL	
	B.S.	M.S.	Ph.D.	No Response		
Full-time in Chemistry	33	19	7	2	61	-Count
	54.1%	31.1%	11.5%	3.3%	100.0%	-% of Row
	47.8%	63.3%	87.5%	66.7%	55.5%	-% of Col
Full-time in Non-Chemistry	8	1	0	0	9	
	88.9%	11.1%	0.0%	0.0%	100.0%	
	11.6%	3.3%	0.0%	0.0%	8.2%	
Assistantship, Postdoctoral or Other Fellowship	10	6	1	0	17	
	58.8%	35.3%	5.9%	0.0%	100.0%	
	14.5%	20.0%	12.5%	0.0%	15.5%	
Unemployed and Seeking Employment	6	1	0	1	8	
	75.0%	12.5%	0.0%	12.5%	100.0%	
	8.7%	3.3%	0.0%	33.3%	7.3%	
Unemployed and Not Seeking Employment	10	1	0	0	11	
	90.9%	9.1%	0.0%	0.0%	100.0%	
	14.5%	3.3%	0.0%	0.0%	10.0%	
No Response	2	2	0	0	4	
	50.0%	50.0%	0.0%	0.0%	100.0%	
	2.9%	6.7%	0.0%	0.0%	3.6%	
TOTAL	69	30	8	3	110	
	62.7%	27.3%	7.3%	2.7%	100.0%	
	100.0%	100.0%	100.0%	100.0%	100.0%	

ADVANCED STUDY PLANS  
FALL 1981

Full-Time	24	6	1	2	33	
	72.7%	18.2%	3.0%	6.1%	100.0%	
	34.8%	20.0%	12.5%	66.7%	30.0%	
Part-Time	13	6	1	1	21	
	61.9%	28.6%	4.8%	4.8%	100.0%	
	18.8%	20.0%	12.5%	33.3%	19.1%	
No Plans	30	17	6	0	53	
	56.6%	32.1%	11.3%	0.0%	100.0%	
	43.5%	56.7%	75.0%	0.0%	48.2%	
No Response	2	1	0	0	3	
	66.7%	33.3%	0.0%	0.0%	100.0%	
	2.9%	3.3%	0.0%	0.0%	2.7%	
TOTAL	69	30	8	3	110	
	62.7%	27.3%	7.3%	2.7%	100.0%	
	100.0%	100.0%	100.0%	100.0%	100.0%	

Table C-1

FIELD OF ADVANCED STUDIES OF CHEMISTRY GRADUATES WHO PLAN FULL-TIME or PART-TIME STUDIES in FALL 1981 by DEGREE and SEX  
1981 Starting Salary Survey

STUDY FIELD	SEX			Bachelors			Masters			Doctorate		
	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response
Chemistry	275 70.2% 30.4%	117 29.8% 31.5%	0 0.0% 0.0%	392 100.0% 30.6%	50 73.5% 81.8%	18 26.5% 26.5%	0 0.0% 0.0%	68 100.0% 75.6%	0 0.0% 0.0%	13 86.7% 40.0%	2 13.3% 40.0%	0 0.0% 0.0%
Other Physical Science	21 65.6% 2.3%	11 34.4% 3.0%	0 0.0% 0.0%	32 100.0% 2.5%	1 100.0% 1.5%	0 0.0% 0.0%	0 0.0% 0.0%	1 100.0% 1.1%	0 0.0% 0.0%	2 100.0% 6.1%	0 0.0% 0.0%	0 0.0% 0.0%
Chemical Engineering	52 77.6% 5.7%	15 22.4% 4.0%	0 0.0% 0.0%	67 100.0% 5.2%	3 100.0% 4.4%	0 0.0% 0.0%	0 0.0% 0.0%	3 100.0% 3.3%	0 0.0% 0.0%	2 100.0% 6.1%	0 0.0% 0.0%	0 0.0% 0.0%
Other Engineering	14 73.7% 1.5%	5 26.3% 1.3%	0 0.0% 0.0%	19 100.0% 1.5%	2 100.0% 2.9%	0 0.0% 0.0%	0 0.0% 0.0%	2 100.0% 2.2%	0 0.0% 0.0%	1 100.0% 3.0%	0 0.0% 0.0%	0 0.0% 0.0%
Biochemistry	54 66.7% 6.0%	27 33.3% 7.3%	0 0.0% 0.0%	81 100.0% 6.3%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	1 100.0% 3.0%	0 0.0% 0.0%	0 0.0% 0.0%
Life Science	13 59.1% 1.4%	9 40.9% 2.4%	0 0.0% 0.0%	22 100.0% 1.7%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%
Medicine	279 75.0% 30.8%	91 24.5% 24.5%	2 0.5% 66.7%	372 100.0% 29.1%	1 33.3% 1.5%	2 66.7% 9.1%	0 0.0% 0.0%	3 100.0% 3.3%	0 0.0% 0.0%	2 66.7% 6.1%	1 33.3% 20.0%	0 0.0% 0.0%
Dentistry	65 85.5% 7.2%	11 14.5% 3.0%	0 0.0% 0.0%	76 100.0% 5.9%	1 100.0% 1.5%	0 0.0% 0.0%	0 0.0% 0.0%	1 100.0% 1.1%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%
Pharmacy	12 57.1% 1.3%	9 42.9% 2.4%	0 0.0% 0.0%	21 100.0% 1.6%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%
Business	42 62.7% 4.6%	25 37.3% 6.7%	0 0.0% 0.0%	67 100.0% 5.2%	2 100.0% 2.9%	0 0.0% 0.0%	0 0.0% 0.0%	2 100.0% 2.2%	0 0.0% 0.0%	9 90.0% 27.3%	1 10.0% 20.0%	0 0.0% 0.0%
Education	3 30.0% 0.3%	7 70.0% 1.9%	0 0.0% 0.0%	10 100.0% 0.8%	2 100.0% 2.9%	0 0.0% 0.0%	0 0.0% 0.0%	2 100.0% 2.2%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%
Law	12 80.0% 1.3%	3 20.0% 0.8%	0 0.0% 0.0%	15 100.0% 1.2%	1 100.0% 1.5%	0 0.0% 0.0%	0 0.0% 0.0%	1 100.0% 1.1%	0 0.0% 0.0%	1 100.0% 3.0%	0 0.0% 0.0%	0 0.0% 0.0%
Social Science	2 50.0% 0.2%	2 50.0% 0.5%	0 0.0% 0.0%	4 100.0% 0.3%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%
Other	49 59.8% 5.4%	33 40.2% 8.9%	0 0.0% 0.0%	82 100.0% 6.4%	4 80.0% 5.9%	1 20.0% 4.5%	0 0.0% 0.0%	5 100.0% 5.6%	0 0.0% 0.0%	1 100.0% 3.0%	0 0.0% 0.0%	0 0.0% 0.0%
No Response	12 63.2% 1.3%	6 31.6% 1.6%	1 5.3% 33.3%	19 100.0% 1.5%	1 50.0% 1.5%	1 50.0% 4.5%	0 0.0% 0.0%	2 100.0% 2.2%	0 0.0% 0.0%	1 50.0% 3.0%	1 50.0% 20.0%	0 0.0% 0.0%
TOTAL	905 70.8% 100.0%	371 29.0% 100.0%	3 0.2% 100.0%	1,279 100.0% 100.0%	68 75.6% 100.0%	22 24.4% 100.0%	0 0.0% 0.0%	90 100.0% 100.0%	0 0.0% 0.0%	33 86.8% 100.0%	5 13.2% 100.0%	0 0.0% 0.0%



FIELD of ADVANCED STUDIES of B.S. CHEMISTRY GRADUATES WHO PLAN FULL-TIME or  
PART-TIME STUDIES in FALL 1981 by Certification Status  
1981 Starting Salary Survey

CERTIFICATION				
STUDY FIELD	Certi- fied	Non- Cert.	TOTAL	
Chemistry	304	88	392	-Count
	77.6%	22.4%	100.0%	-% of Row
	37.9%	18.5%	30.6%	-% of Col
Other Physical Science	19	13	32	
	59.4%	40.6%	100.0%	
	2.4%	2.7%	2.5%	
Chemical Engineering	49	18	67	
	73.1%	26.9%	100.0%	
	6.1%	3.8%	5.2%	
Other Engineering	12	7	19	
	63.2%	36.8%	100.0%	
	1.5%	1.5%	1.5%	
Biochemistry	53	28	81	
	65.4%	34.6%	100.0%	
	6.6%	5.9%	6.3%	
Life Science	9	13	22	
	40.9%	59.1%	100.0%	
	1.1%	2.7%	1.7%	
Medicine	198	174	372	
	53.2%	46.8%	100.0%	
	24.7%	36.6%	29.1%	
Dentistry	32	44	76	
	42.1%	57.9%	100.0%	
	4.0%	9.2%	5.9%	
Pharmacy	14	7	21	
	66.7%	33.3%	100.0%	
	1.7%	1.5%	1.6%	
Business	39	28	67	
	58.2%	41.8%	100.0%	
	4.9%	5.9%	5.2%	
Education	3	7	10	
	30.0%	70.0%	100.0%	
	0.4%	1.5%	0.8%	
Law	12	3	15	
	80.0%	20.0%	100.0%	
	1.5%	0.6%	1.2%	
Social Science	1	3	4	
	25.0%	75.0%	100.0%	
	0.1%	0.6%	0.3%	
Other	47	35	82	
	57.3%	42.7%	100.0%	
	5.9%	7.4%	6.4%	
No Response	11	8	19	
	57.9%	42.1%	100.0%	
	1.4%	1.7%	1.5%	
TOTAL	803	476	1,279	
	62.8%	37.2%	100.0%	
	100.0%	100.0%	100.0%	

Table C-3

FIELD of ADVANCED STUDIES of CHEMICAL ENGINEERING GRADUATES WHO PLAN  
FULL-TIME or PART-TIME STUDIES in FALL 1981 by Degree and Sex  
1981 Starting Salary Survey

STUDY FIELD	Bachelors				Masters				TOTAL	-Count -% of Row -% of Col
	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL		
Chemistry	4 50.0% 1.3%	4 50.0% 7.0%	0 0.0% ***. %	8 100.0% 2.3%	1 33.3% 2.9%	2 66.7% 18.2%	0 0.0% ***. %	3 100.0% 6.5%		
Other Physical Science	3 75.0% 1.0%	1 25.0% 1.8%	0 0.0% ***. %	4 100.0% 1.1%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Chemical Engineering	138 86.3% 46.3%	22 13.8% 38.6%	0 0.0% ***. %	160 100.0% 45.1%	23 71.9% 65.7%	9 28.1% 81.8%	0 0.0% ***. %	32 100.0% 69.6%		
Other Engineering	21 95.5% 7.0%	1 4.5% 1.8%	0 0.0% ***. %	22 100.0% 6.2%	1 100.0% 2.9%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 2.2%		
Biochemistry	4 100.0% 1.3%	0 0.0% 0.0%	0 0.0% ***. %	4 100.0% 1.1%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Life Science	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Medicine	15 75.0% 5.0%	5 25.0% 8.8%	0 0.0% ***. %	20 100.0% 5.6%	2 100.0% 5.7%	0 0.0% 0.0%	0 0.0% ***. %	2 100.0% 4.3%		
Dentistry	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Pharmacy	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Business	89 81.7% 29.9%	20 18.3% 35.1%	0 0.0% ***. %	109 100.0% 30.7%	4 100.0% 11.4%	0 0.0% 0.0%	0 0.0% ***. %	4 100.0% 8.7%		
Education	1 100.0% 0.3%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 0.3%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Law	5 83.3% 1.7%	1 16.7% 1.8%	0 0.0% ***. %	6 100.0% 1.7%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Social Science	3 100.0% 1.0%	0 0.0% 0.0%	0 0.0% ***. %	3 100.0% 0.8%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Other	12 92.3% 4.0%	1 7.7% 1.8%	0 0.0% ***. %	13 100.0% 3.7%	4 100.0% 11.4%	0 0.0% 0.0%	0 0.0% ***. %	4 100.0% 8.7%		
No Response	3 60.0% 1.0%	2 40.0% 3.5%	0 0.0% ***. %	5 100.0% 1.4%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
TOTAL	298 83.9% 100.0%	57 16.1% 100.0%	0 0.0% ***. %	355 100.0% 100.0%	35 76.1% 100.0%	11 23.9% 100.0%	0 0.0% ***. %	46 100.0% 100.0%		

Table C-4

FIELD of ADVANCED STUDIES of CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES in FALL 1981 by Degree and Sex  
1981 Starting Salary Survey

STUDY FIELD	Bachelors			Masters			Doctorate					
	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	TOTAL	-Count -% of Row	-Count -% of Col
Chemistry	227 72.3%	87 27.7%	0 0.0%	36 72.0%	14 28.0%	0 0.0%	12 85.7%	2 14.3%	0 0.0%	50 100.0%	14 70.0%	14 70.0%
Other Physical Science	9 52.9%	8 47.1%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%
Chemical Engineering	38 79.2%	10 20.8%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%
Other Engineering	7 77.8%	2 22.2%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%
Biochemistry	39 70.9%	16 29.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Life Science	6 66.7%	3 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Medicine	274 75.1%	89 24.4%	2 0.5%	1 33.3%	2 66.7%	0 0.0%	2 66.7%	1 33.3%	0 0.0%	3 100.0%	3 15.0%	3 15.0%
Dentistry	65 85.5%	11 14.5%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%
Pharmacy	10 58.8%	7 41.2%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Business	15 78.9%	4 21.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Education	1 16.7%	5 83.3%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%
Law	7 70.0%	3 30.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%
Social Science	1 50.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Other	28 52.8%	25 47.2%	0 0.0%	3 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%	0 0.0%	0 0.0%
No Response	5 62.5%	3 37.5%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%
TOTAL	732 100.0%	274 100.0%	2 100.0%	48 100.0%	17 26.2%	0 0.0%	17 85.0%	3 15.0%	0 0.0%	65 100.0%	0 0.0%	20 100.0%

FIELD of ADVANCED STUDIES of B.S. CHEMISTRY GRADUATES WHO PLAN FULL-TIME  
STUDIES in FALL 1981 by Certification Status  
1981 Starting Salary Survey

CERTIFICATION					
STUDY FIELD	Certi- fied	Non- Cert.	TOTAL		
Chemistry	257	57	314	-Count	
	81.8%	18.2%	100.0%	-% of Row	
	40.1%	15.5%	31.2%	-% of Col	
Other Physical Science	13	4	17		
	76.5%	23.5%	100.0%		
	2.0%	1.1%	1.7%		
Chemical Engineering	34	14	48		
	70.8%	29.2%	100.0%		
	5.3%	3.8%	4.8%		
Other Engineering	7	2	9		
	77.8%	22.2%	100.0%		
	1.1%	0.5%	0.9%		
Biochemistry	38	17	55		
	69.1%	30.9%	100.0%		
	5.9%	4.6%	5.5%		
Life Science	2	7	9		
	22.2%	77.8%	100.0%		
	0.3%	1.9%	0.9%		
Medicine	194	171	365		
	53.2%	46.8%	100.0%		
	30.3%	46.6%	36.2%		
Dentistry	32	44	76		
	42.1%	57.9%	100.0%		
	5.0%	12.0%	7.5%		
Pharmacy	13	4	17		
	76.5%	23.5%	100.0%		
	2.0%	1.1%	1.7%		
Business	11	8	19		
	57.9%	42.1%	100.0%		
	1.7%	2.2%	1.9%		
Education	1	5	6		
	16.7%	83.3%	100.0%		
	0.2%	1.4%	0.6%		
Law	8	2	10		
	80.0%	20.0%	100.0%		
	1.2%	0.5%	1.0%		
Social Science	0	2	2		
	0.0%	100.0%	100.0%		
	0.0%	0.5%	0.2%		
Other	26	27	53		
	49.1%	50.9%	100.0%		
	4.1%	7.4%	5.3%		
No Response	5	3	8		
	62.5%	37.5%	100.0%		
	0.8%	0.8%	0.8%		
TOTAL	641	367	1,008		
	63.6%	36.4%	100.0%		
	100.0%	100.0%	100.0%		

Table C-6

FIELD of ADVANCED STUDIES of CHEMICAL ENGINEERING GRADUATES WHO PLAN FULL-TIME  
STUDIES in FALL 1981 by Degree and sex  
1981 Starting Salary Survey

STUDY FIELD	Bachelors				Masters				TOTAL	-Count -% of Row -% of Col
	SEX		No Response	TOTAL	SEX		No Response	TOTAL		
	Men	Women			Men	Women				
Chemistry	1 25.0% 0.8%	3 75.0% 14.3%	0 0.0% ***. %	4 100.0% 2.8%	0 0.0% 0.0%	1 100.0% 14.3%	0 0.0% ***. %	1 100.0% 3.3%		
Other Physical Science	1 100.0% 0.8%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 0.7%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Chemical Engineering	89 90.8% 73.0%	9 9.2% 42.9%	0 0.0% ***. %	98 100.0% 68.5%	19 76.0% 82.6%	6 24.0% 85.7%	0 0.0% ***. %	25 100.0% 83.3%		
Other Engineering	4 80.0% 3.3%	1 20.0% 4.8%	0 0.0% ***. %	5 100.0% 3.5%	1 100.0% 4.3%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 3.3%		
Biochemistry	1 100.0% 0.8%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 0.7%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Life Science	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Medicine	15 75.0% 12.3%	5 25.0% 23.8%	0 0.0% ***. %	20 100.0% 14.0%	2 100.0% 8.7%	0 0.0% 0.0%	0 0.0% ***. %	2 100.0% 6.7%		
Dentistry	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Pharmacy	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Business	8 88.9% 6.6%	1 11.1% 4.8%	0 0.0% ***. %	9 100.0% 6.3%	1 100.0% 4.3%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 3.3%		
Education	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Law	1 50.0% 0.8%	1 50.0% 4.8%	0 0.0% ***. %	2 100.0% 1.4%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Social Science	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
Other	1 50.0% 0.8%	1 50.0% 4.8%	0 0.0% ***. %	2 100.0% 1.4%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
No Response	1 100.0% 0.8%	0 0.0% 0.0%	0 0.0% ***. %	1 100.0% 0.7%	0 ***. % 0.0%	0 ***. % 0.0%	0 ***. % ***. %	0 ***. % 0.0%		
TOTAL	122 85.3% 100.0%	21 14.7% 100.0%	0 0.0% ***. %	143 100.0% 100.0%	23 76.7% 100.0%	7 23.3% 100.0%	0 0.0% ***. %	30 100.0% 100.0%		

TABLE C-7

PLANS FOR FURTHER STUDIES of B.S. CHEMISTRY GRADUATES UNEMPLOYED and  
NOT SEEKING EMPLOYMENT by Sex  
1981 Starting Salary Survey

ADVANCED STUDIES	SEX		No Response	TOTAL	
	Men	Women			
Full-Time	363	131	0	494	-Count
	73.5%	26.5%	0.0%	100.0%	-% of Row
	94.0%	91.0%	0.0%	93.0%	-% of Col.
Part-Time	9	5	1	15	
	60.0%	33.3%	6.7%	100.0%	
	2.3%	3.5%	100.0%	2.8%	
No Plans	9	5	0	14	
	64.3%	35.7%	0.0%	100.0%	
	2.3%	3.5%	0.0%	2.6%	
No Response	5	3	0	8	
	62.5%	37.5%	0.0%	100.0%	
	1.3%	2.1%	0.0%	1.5%	
TOTAL	386	144	1	531	
	72.7%	27.1%	0.2%	100.0%	
	100.0%	100.0%	100.0%	100.0%	

Table C-8

PLANS FOR FURTHER STUDIES of B.S. CHEMICAL ENGINEERING GRADUATES UNEMPLOYED and  
NOT SEEKING EMPLOYMENT by Sex  
1981 Starting Salary Survey

ADVANCED STUDIES	SEX		No Response	TOTAL	
	Men	Women			
Full-Time	33	6	0	39	-Count
	84.6%	15.4%	0.0%	100.0%	-% of Row
	94.3%	100.0%	***.***%	95.1%	-% of Col
Part-Time	1	0	0	1	
	100.0%	0.0%	0.0%	100.0%	
	2.9%	0.0%	***.***%	2.4%	
No Plans	0	0	0	0	
	***.***%	***.***%	***.***%	***.***%	
	0.0%	0.0%	***.***%	0.0%	
No Response	1	0	0	1	
	100.0%	0.0%	0.0%	100.0%	
	2.9%	0.0%	***.***%	2.4%	
TOTAL	35	6	0	41	
	85.4%	14.6%	0.0%	100.0%	
	100.0%	100.0%	***.***%	100.0%	

Table D-1

AGE DISTRIBUTION of B.S. CHEMISTRY and CHEMICAL ENGINEERING GRADUATES by Sex  
1981 Starting Salary Survey

AGE LEVEL	Chemistry				Chemical Engineering				
	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL	
19	1 50.0% 0.1%	1 50.0% 0.2%	0 0.0% 0.0%	2 100.0% 0.1%	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	-Count -% of Row -% of Col
20	15 50.0% 1.2%	15 50.0% 2.5%	0 0.0% 0.0%	30 100.0% 1.6%	4 44.4% 0.5%	5 55.6% 2.6%	0 0.0% 0.0%	9 100.0% 0.9%	
21	208 61.2% 16.8%	132 38.8% 22.3%	0 0.0% 0.0%	340 100.0% 18.6%	125 76.2% 15.6%	38 23.2% 19.4%	1 0.6% 50.0%	164 100.0% 16.4%	
22	640 65.6% 51.8%	335 34.4% 56.5%	0 0.0% 0.0%	975 100.0% 53.2%	378 80.4% 47.3%	92 19.6% 46.9%	0 0.0% 0.0%	470 100.0% 47.1%	
23	156 74.6% 12.6%	52 24.9% 8.8%	1 0.5% 33.3%	209 100.0% 11.4%	187 83.1% 23.4%	37 16.4% 18.9%	1 0.4% 50.0%	225 100.0% 22.5%	
24	64 86.5% 5.2%	10 13.5% 1.7%	0 0.0% 0.0%	74 100.0% 4.0%	46 85.2% 5.8%	8 14.8% 4.1%	0 0.0% 0.0%	54 100.0% 5.4%	
25	31 73.8% 2.5%	11 26.2% 1.9%	0 0.0% 0.0%	42 100.0% 2.3%	19 70.4% 2.4%	8 29.6% 4.1%	0 0.0% 0.0%	27 100.0% 2.7%	
26	23 85.2% 1.9%	4 14.8% 0.7%	0 0.0% 0.0%	27 100.0% 1.5%	12 85.7% 1.5%	2 14.3% 1.0%	0 0.0% 0.0%	14 100.0% 1.4%	
27	32 84.2% 2.6%	6 15.8% 1.0%	0 0.0% 0.0%	38 100.0% 2.1%	2 66.7% 0.3%	1 33.3% 0.5%	0 0.0% 0.0%	3 100.0% 0.3%	
28	12 75.0% 1.0%	4 25.0% 0.7%	0 0.0% 0.0%	16 100.0% 0.9%	5 71.4% 0.6%	2 28.6% 1.0%	0 0.0% 0.0%	7 100.0% 0.7%	
29	8 80.0% 0.6%	2 20.0% 0.3%	0 0.0% 0.0%	10 100.0% 0.5%	6 100.0% 0.8%	0 0.0% 0.0%	0 0.0% 0.0%	6 100.0% 0.6%	
30-34	34 72.3% 2.8%	13 27.7% 2.2%	0 0.0% 0.0%	47 100.0% 2.6%	10 76.9% 1.3%	3 23.1% 1.5%	0 0.0% 0.0%	13 100.0% 1.3%	
35-39	5 62.5% 0.4%	3 37.5% 0.5%	0 0.0% 0.0%	8 100.0% 0.4%	2 100.0% 0.3%	0 0.0% 0.0%	0 0.0% 0.0%	2 100.0% 0.2%	
40-49	1 33.3% 0.1%	2 66.7% 0.3%	0 0.0% 0.0%	3 100.0% 0.2%	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	
50-64	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	0 ***.0% 0.0%	1 100.0% 0.1%	0 0.0% 0.0%	0 0.0% 0.0%	1 100.0% 0.1%	
No Response	5 50.0% 0.4%	3 30.0% 0.5%	2 20.0% 66.7%	10 100.0% 0.5%	3 100.0% 0.4%	0 0.0% 0.0%	0 0.0% 0.0%	3 100.0% 0.3%	
TOTAL	1,235 67.4% 100.0%	593 32.4% 100.0%	3 0.2% 100.0%	1,831 100.0% 100.0%	800 80.2% 100.0%	196 19.6% 100.0%	2 0.2% 100.0%	998 100.0% 100.0%	



TABLE D-2

AGE DISTRIBUTION of M.S. CHEMISTRY and CHEMICAL ENGINEERING GRADUATES by Sex  
1981 Starting Salary Survey

AGE LEVEL	Chemistry				Chemical Engineering				
	SEX			TOTAL	SEX			TOTAL	
	Men	Women	No Response		Men	Women	No Response		
19	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	-Count -% of Row -% of Col
20	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	
21	2 100.0% 1.6%	0 0.0% 0.0%	0 0.0% ***.***%	2 100.0% 1.2%	1 100.0% 1.2%	0 0.0% 0.0%	0 0.0% ***.***%	1 100.0% 0.9%	
22	1 50.0% 0.8%	1 50.0% 2.3%	0 0.0% ***.***%	2 100.0% 1.2%	8 80.0% 9.8%	2 20.0% 7.4%	0 0.0% ***.***%	10 100.0% 9.2%	
23	4 33.3% 3.3%	8 66.7% 18.2%	0 0.0% ***.***%	12 100.0% 7.2%	5 55.6% 6.1%	4 44.4% 14.8%	0 0.0% ***.***%	9 100.0% 8.3%	
24	26 78.8% 21.1%	7 21.2% 15.9%	0 0.0% ***.***%	33 100.0% 19.8%	11 68.8% 13.4%	5 31.3% 18.5%	0 0.0% ***.***%	16 100.0% 14.7%	
25	20 76.9% 16.3%	6 23.1% 13.6%	0 0.0% ***.***%	26 100.0% 15.6%	20 83.3% 24.4%	4 16.7% 14.8%	0 0.0% ***.***%	24 100.0% 22.0%	
26	18 75.0% 14.6%	6 25.0% 13.6%	0 0.0% ***.***%	24 100.0% 14.4%	13 81.3% 15.9%	3 18.8% 11.1%	0 0.0% ***.***%	16 100.0% 14.7%	
27	10 71.4% 8.1%	4 28.6% 9.1%	0 0.0% ***.***%	14 100.0% 8.4%	6 85.7% 7.3%	1 14.3% 3.7%	0 0.0% ***.***%	7 100.0% 6.4%	
28	10 83.3% 8.1%	2 16.7% 4.5%	0 0.0% ***.***%	12 100.0% 7.2%	4 66.7% 4.9%	2 33.3% 7.4%	0 0.0% ***.***%	6 100.0% 5.5%	
29	7 100.0% 5.7%	0 0.0% 0.0%	0 0.0% ***.***%	7 100.0% 4.2%	2 100.0% 2.4%	0 0.0% 0.0%	0 0.0% ***.***%	2 100.0% 1.8%	
30-34	20 80.0% 16.3%	5 20.0% 11.4%	0 0.0% ***.***%	25 100.0% 15.0%	9 64.3% 11.0%	5 35.7% 18.5%	0 0.0% ***.***%	14 100.0% 12.8%	
35-39	3 75.0% 2.4%	1 25.0% 2.3%	0 0.0% ***.***%	4 100.0% 2.4%	3 100.0% 3.7%	0 0.0% 0.0%	0 0.0% ***.***%	3 100.0% 2.8%	
40-49	2 33.3% 1.6%	4 66.7% 9.1%	0 0.0% ***.***%	6 100.0% 3.6%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	
50-64	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	
No Response	0 ***.***% 0.0%	0 ***.***% 0.0%	0 ***.***% ***.***%	0 ***.***% 0.0%	0 0.0% 0.0%	1 100.0% 3.7%	0 0.0% ***.***%	1 100.0% 0.9%	
TOTAL	123 73.7% 100.0%	44 26.3% 100.0%	0 0.0% ***.***%	167 100.0% 100.0%	82 75.2% 100.0%	27 24.8% 100.0%	0 0.0% ***.***%	109 100.0% 100.0%	

Table D-3

AGE DISTRIBUTION of Ph.D. CHEMISTRY and CHEMICAL ENGINEERING GRADUATES by Sex  
1981 Starting Salary Survey

AGE LEVEL	Chemistry				Chemical Engineering				
	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL	
19	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	-Count -% of Row -% of Col
20	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
21	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
22	1 50.0% 0.4%	1 50.0% 2.3%	0 0.0% ***. *%	2 100.0% 0.7%	1 100.0% 2.4%	0 0.0% 0.0%	0 0.0% ***. *%	1 100.0% 2.3%	
23	1 100.0% 0.4%	0 0.0% 0.0%	0 0.0% ***. *%	1 100.0% 0.3%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
24	1 100.0% 0.4%	0 0.0% 0.0%	0 0.0% ***. *%	1 100.0% 0.3%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
25	6 60.0% 2.4%	4 40.0% 9.3%	0 0.0% ***. *%	10 100.0% 3.4%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
26	24 82.8% 9.6%	5 17.2% 11.6%	0 0.0% ***. *%	29 100.0% 9.9%	4 80.0% 9.5%	1 20.0% 100.0%	0 0.0% ***. *%	5 100.0% 11.6%	
27	58 84.1% 23.3%	11 15.9% 25.6%	0 0.0% ***. *%	69 100.0% 23.6%	6 100.0% 14.3%	0 0.0% 0.0%	0 0.0% ***. *%	6 100.0% 14.0%	
28	44 91.7% 17.7%	4 8.3% 9.3%	0 0.0% ***. *%	48 100.0% 16.4%	5 100.0% 11.9%	0 0.0% 0.0%	0 0.0% ***. *%	5 100.0% 11.6%	
29	29 87.9% 11.6%	4 12.1% 9.3%	0 0.0% ***. *%	33 100.0% 11.3%	8 100.0% 19.0%	0 0.0% 0.0%	0 0.0% ***. *%	8 100.0% 18.6%	
30-34	75 87.2% 30.1%	11 12.8% 25.6%	0 0.0% ***. *%	86 100.0% 29.5%	16 100.0% 38.1%	0 0.0% 0.0%	0 0.0% ***. *%	16 100.0% 37.2%	
35-39	7 77.8% 2.8%	2 22.2% 4.7%	0 0.0% ***. *%	9 100.0% 3.1%	2 100.0% 4.8%	0 0.0% 0.0%	0 0.0% ***. *%	2 100.0% 4.7%	
40-49	1 50.0% 0.4%	1 50.0% 2.3%	0 0.0% ***. *%	2 100.0% 0.7%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
50-64	1 100.0% 0.4%	0 0.0% 0.0%	0 0.0% ***. *%	1 100.0% 0.3%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
No Response	1 100.0% 0.4%	0 0.0% 0.0%	0 0.0% ***. *%	1 100.0% 0.3%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	
TOTAL	249 85.3% 100.0%	43 14.7% 100.0%	0 0.0% ***. *%	292 100.0% 100.0%	42 97.7% 100.0%	1 2.3% 100.0%	0 0.0% ***. *%	43 100.0% 100.0%	

Table D-4

AGE DISTRIBUTION of POSTDOCTORAL CHEMISTS by Sex  
1981 Starting Salary Survey

AGE LEVEL	SEX		No Response	TOTAL	
	Men	Women			
23	1	0	0	1	-Count
	100.0%	0.0%	0.0%	100.0%	-% of Row
	1.4%	0.0%	***. *%	1.2%	-% of Col
24	0	0	0	0	
	***. *%	***. *%	***. *%	***. *%	
	0.0%	0.0%	***. *%	0.0%	
25	4	0	0	4	
	100.0%	0.0%	0.0%	100.0%	
	5.8%	0.0%	***. *%	4.8%	
26	8	3	0	11	
	72.7%	27.3%	0.0%	100.0%	
	11.6%	20.0%	***. *%	13.1%	
27	12	4	0	16	
	75.0%	25.0%	0.0%	100.0%	
	17.4%	26.7%	***. *%	19.0%	
28	17	3	0	20	
	85.0%	15.0%	0.0%	100.0%	
	24.6%	20.0%	***. *%	23.8%	
29	10	0	0	10	
	100.0%	0.0%	0.0%	100.0%	
	14.5%	0.0%	***. *%	11.9%	
30-34	17	4	0	21	
	81.0%	19.0%	0.0%	100.0%	
	24.6%	26.7%	***. *%	25.0%	
35-39	0	0	0	0	
	***. *%	***. *%	***. *%	***. *%	
	0.0%	0.0%	***. *%	0.0%	
40-49	0	1	0	1	
	0.0%	100.0%	0.0%	100.0%	
	0.0%	6.7%	***. *%	1.2%	
50-64	0	0	0	0	
	***. *%	***. *%	***. *%	***. *%	
	0.0%	0.0%	***. *%	0.0%	
No Response	0	0	0	0	
	***. *%	***. *%	***. *%	***. *%	
	0.0%	0.0%	***. *%	0.0%	
TOTAL	69	15	0	84	
	82.1%	17.9%	0.0%	100.0%	
	100.0%	100.0%	***. *%	100.0%	

TABLE E-1

NUMBER OF FIRM JOB OFFERS TO FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS by Sex and Degree  
1981 Starting Salary Survey

NUMBER OF JOB OFFERS	SEX		Bachelors				Masters				Doctorate				
	Men	Women	No Response		TOTAL	Men	Women	No Response		TOTAL	Men	Women	No Response		TOTAL
			No	Response				No	Response				No	Response	
0	1 50.0% 0.5%	1 50.0% 0.6%	0 0.0% ***.%	0 0.0% ***.%	2 100.0% 0.6%	1 100.0% 4.3%	0 0.0% 0.0%	0 0.0% ***.%	1 100.0% 2.8%	1 100.0% 85.7% 12.4%	2 14.3% 12.5%	0 0.0% ***.%	0 0.0% ***.%	14 100.0% 12.4%	-Count -% of Row -% of Col
1	3 37.5% 1.5%	5 62.5% 3.1%	0 0.0% ***.%	0 0.0% ***.%	8 100.0% 2.2%	3 75.0% 13.0%	1 25.0% 7.7%	0 0.0% ***.%	4 100.0% 11.1%	4 100.0% 81.0% 17.5%	4 19.0% 25.0%	0 0.0% ***.%	0 0.0% ***.%	21 100.0% 18.6%	
2	24 41.4% 12.3%	34 58.6% 21.0%	0 0.0% ***.%	0 0.0% ***.%	58 100.0% 16.2%	1 100.0% 4.3%	0 0.0% 0.0%	0 0.0% ***.%	1 100.0% 2.8%	1 100.0% 1.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 0.9%	
3	88 46.6% 45.1%	101 53.4% 62.3%	0 0.0% ***.%	0 0.0% ***.%	189 100.0% 52.9%	0 0.0% 0.0%	1 100.0% 7.7%	0 0.0% ***.%	1 100.0% 2.8%	1 100.0% 1.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 0.9%	
4	41 73.2% 21.0%	15 26.8% 9.3%	0 0.0% ***.%	0 0.0% ***.%	56 100.0% 15.7%	0 0.0% 0.0%	2 100.0% 15.4%	0 0.0% ***.%	2 100.0% 5.6%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% 0.0%	
5	20 90.9% 10.3%	2 9.1% 1.2%	0 0.0% ***.%	0 0.0% ***.%	22 100.0% 6.2%	5 62.5% 21.7%	3 37.5% 23.1%	0 0.0% ***.%	8 100.0% 22.2%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% 0.0%	
6-7	3 60.0% 1.5%	2 40.0% 1.2%	0 0.0% ***.%	0 0.0% ***.%	5 100.0% 1.4%	6 75.0% 26.1%	2 25.0% 15.4%	0 0.0% ***.%	8 100.0% 22.2%	2 50.0% 2.1%	2 50.0% 12.5%	0 0.0% ***.%	0 0.0% ***.%	4 100.0% 3.5%	
8-9	4 100.0% 2.1%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	4 100.0% 1.1%	5 62.5% 21.7%	3 37.5% 23.1%	0 0.0% ***.%	8 100.0% 22.2%	11 84.6% 11.3%	2 15.4% 12.5%	0 0.0% ***.%	0 0.0% ***.%	13 100.0% 11.5%	
10 or More	10 83.3% 5.1%	2 16.7% 1.2%	0 0.0% ***.%	0 0.0% ***.%	12 100.0% 3.4%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% 0.0%	32 86.5% 33.0%	5 13.5% 31.3%	0 0.0% ***.%	0 0.0% ***.%	37 100.0% 32.7%	
No Response	1 100.0% 0.5%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 0.3%	2 66.7% 8.7%	1 33.3% 7.7%	0 0.0% ***.%	3 100.0% 8.3%	3 100.0% 21.6%	1 95.5% 21.6%	0 0.0% 6.3%	0 0.0% ***.%	22 100.0% 19.5%	
TOTAL	195 54.6% 100.0%	162 45.4% 100.0%	0 0.0% ***.%	0 0.0% ***.%	357 100.0% 100.0%	23 63.9% 100.0%	13 36.1% 100.0%	0 0.0% ***.%	36 100.0% 100.0%	97 85.8% 100.0%	16 14.2% 100.0%	0 0.0% ***.%	0 0.0% ***.%	113 100.0% 100.0%	

Table E-2

NUMBER OF FIRM JOBS OFFERS TO FULL-TIME EMPLOYED EXPERIENCED CHEMISTS by Sex and Degree  
1981 Starting Salary Survey

NUMBER OF JOB OFFERS	Bachelors			Masters			Doctorate					
	SEX		TOTAL	SEX		TOTAL	SEX		TOTAL			
	Men	Women		Men	Women		Men	Women				
0	2	1	3	2	0	2	0	2	6	2	0	8
	66.7%	33.3%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	75.0%	25.0%	0.0%	100.0%
	2.3%	3.7%	2.6%	6.1%	0.0%	4.9%	0.0%	4.9%	9.0%	20.0%	0.0%	10.4%
1	20	1	21	12	2	14	0	34	34	3	0	37
	95.2%	4.8%	100.0%	85.7%	14.3%	100.0%	0.0%	91.9%	8.1%	0.0%	0.0%	100.0%
	22.7%	3.7%	18.3%	36.4%	25.0%	34.1%	0.0%	50.7%	30.0%	0.0%	0.0%	48.1%
2	3	3	6	1	0	1	0	6	6	2	0	8
	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%	0.0%	75.0%	25.0%	0.0%	0.0%	100.0%
	3.4%	11.1%	5.2%	3.0%	0.0%	2.4%	0.0%	9.0%	20.0%	0.0%	0.0%	10.4%
3	16	14	30	0	2	2	0	1	1	0	0	1
	53.3%	46.7%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
	18.2%	51.9%	26.1%	0.0%	25.0%	4.9%	0.0%	1.5%	0.0%	0.0%	0.0%	1.3%
4	12	4	16	0	0	0	0	1	1	0	0	1
	75.0%	25.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
	13.6%	14.8%	13.9%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	1.3%
5	7	1	8	1	1	2	0	0	0	0	0	0
	87.5%	12.5%	100.0%	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	8.0%	3.7%	7.0%	3.0%	12.5%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
6-7	8	0	8	3	0	3	0	0	0	1	0	1
	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
	9.1%	0.0%	7.0%	9.1%	0.0%	7.3%	0.0%	0.0%	0.0%	10.0%	0.0%	1.3%
8-9	8	0	8	4	3	7	0	4	4	0	0	4
	100.0%	0.0%	100.0%	57.1%	42.9%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
	9.1%	0.0%	7.0%	12.1%	37.5%	17.1%	0.0%	6.0%	0.0%	0.0%	0.0%	5.2%
10 or More	8	1	9	5	0	5	0	9	9	2	0	11
	88.9%	11.1%	100.0%	100.0%	0.0%	100.0%	0.0%	81.8%	18.2%	0.0%	0.0%	100.0%
	9.1%	3.7%	7.8%	15.2%	0.0%	12.2%	0.0%	13.4%	20.0%	0.0%	0.0%	14.3%
No Response	4	2	6	5	0	5	0	6	6	0	0	6
	66.7%	33.3%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
	4.5%	7.4%	5.2%	15.2%	0.0%	12.2%	0.0%	9.0%	0.0%	0.0%	0.0%	7.8%
TOTAL	88	27	115	33	8	41	0	67	67	10	0	77
	76.5%	23.5%	100.0%	80.5%	19.5%	100.0%	0.0%	87.0%	13.0%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	0.0%	100.0%

Table E-3

NUMBER OF FIRM JOB OFFERS TO FULL-TIME EMPLOYED INEXPERIENCED CHEMICAL ENGINEERS by Sex and Degree  
1981 Starting Salary Survey

NUMBER OF JOB OFFERS	SEX		Bachelors				Masters				Doctorate			
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
	No	No	No	No	No	No	No	No	No	No	No	No	No	No
0	11 78.5% 2.6%	2 14.3% 1.7%	1 7.1% 100.0%	14 100.0% 2.6%	4 66.7% 16.0%	2 33.3% 25.0%	0 0.0% ***.***	0 0.0% ***.***	6 100.0% 18.2%	0 0.0% ***.***	1 100.0% 5.6%	0 0.0% ***.***	0 0.0% ***.***	1 100.0% 5.6%
1	59 79.7% 13.7%	15 20.3% 13.0%	0 0.0% 0.0%	74 100.0% 13.5%	7 100.0% 28.0%	0 0.0% 0.0%	0 0.0% ***.***	0 0.0% ***.***	7 100.0% 21.2%	0 0.0% ***.***	2 100.0% 11.1%	0 0.0% ***.***	0 0.0% ***.***	2 100.0% 11.1%
2	70 75.3% 16.2%	23 24.7% 20.0%	0 0.0% 0.0%	93 100.0% 17.0%	4 66.7% 16.0%	2 33.3% 25.0%	0 0.0% ***.***	0 0.0% ***.***	6 100.0% 18.2%	0 0.0% ***.***	4 100.0% 22.2%	0 0.0% ***.***	0 0.0% ***.***	4 100.0% 22.2%
3	86 81.9% 20.0%	19 18.1% 16.5%	0 0.0% 0.0%	105 100.0% 19.2%	2 66.7% 8.0%	1 33.3% 12.5%	0 0.0% ***.***	0 0.0% ***.***	3 100.0% 9.1%	0 0.0% ***.***	1 100.0% 5.6%	0 0.0% ***.***	0 0.0% ***.***	1 100.0% 5.6%
4	59 80.8% 13.7%	14 19.2% 12.2%	0 0.0% 0.0%	73 100.0% 13.3%	1 50.0% 4.0%	1 50.0% 12.5%	0 0.0% ***.***	0 0.0% ***.***	2 100.0% 6.1%	0 0.0% ***.***	1 100.0% 5.6%	0 0.0% ***.***	0 0.0% ***.***	1 100.0% 5.6%
5	49 77.8% 11.4%	14 22.2% 12.2%	0 0.0% 0.0%	63 100.0% 11.5%	2 100.0% 8.0%	0 0.0% 0.0%	0 0.0% ***.***	0 0.0% ***.***	2 100.0% 6.1%	0 0.0% ***.***	2 100.0% 11.1%	0 0.0% ***.***	0 0.0% ***.***	2 100.0% 11.1%
6-7	43 75.4% 10.0%	14 24.6% 12.2%	0 0.0% 0.0%	57 100.0% 10.4%	2 66.7% 8.0%	1 33.3% 12.5%	0 0.0% ***.***	0 0.0% ***.***	3 100.0% 9.1%	0 0.0% ***.***	1 100.0% 5.6%	0 0.0% ***.***	0 0.0% ***.***	1 100.0% 5.6%
8-9	28 87.5% 6.5%	4 12.5% 3.5%	0 0.0% 0.0%	32 100.0% 5.9%	3 75.0% 12.0%	1 25.0% 12.5%	0 0.0% ***.***	0 0.0% ***.***	4 100.0% 12.1%	0 0.0% ***.***	2 100.0% 11.1%	0 0.0% ***.***	0 0.0% ***.***	2 100.0% 11.1%
10 or More	24 72.7% 5.6%	9 27.3% 7.8%	0 0.0% 0.0%	33 100.0% 6.0%	0 ***.*** 0.0%	0 ***.*** 0.0%	0 0.0% ***.***	0 0.0% ***.***	0 ***.*** 0.0%	0 0.0% ***.***	4 100.0% 22.2%	0 0.0% ***.***	0 0.0% ***.***	4 100.0% 22.2%
No Response	2 66.7% 0.5%	1 33.3% 0.9%	0 0.0% 0.0%	3 100.0% 0.5%	0 ***.*** 0.0%	0 ***.*** 0.0%	0 0.0% ***.***	0 0.0% ***.***	0 ***.*** 0.0%	0 ***.*** 0.0%	0 ***.*** 0.0%	0 ***.*** 0.0%	0 ***.*** 0.0%	0 ***.*** 0.0%
TOTAL	431 78.8% 100.0%	115 21.0% 100.0%	1 0.2% 100.0%	547 100.0% 100.0%	25 75.8% 100.0%	8 24.2% 100.0%	0 0.0% ***.***	0 0.0% ***.***	33 100.0% 100.0%	0 0.0% ***.***	18 100.0% 100.0%	0 0.0% ***.***	0 0.0% ***.***	18 100.0% 100.0%

TABLE E-4

NUMBER of FIRM JOB OFFERS TO FULL-TIME EMPLOYED EXPERIENCED CHEMICAL ENGINEERS by Sex and Degree  
1981 Starting Salary Survey

NUMBER OF JOB OFFERS	SEX			Bachelors			Masters			Doctorate			TOTAL	-Count -% of Row -% of Col
	Men		Women	Men		Women	Men		Women	Men		Women		
	No	Response	No	Response	No	Response	No	Response	No	Response	No	Response		
0	11 84.6% 11.3%	2 15.4% 5.4%	0 0.0% ***.%	13 100.0% 9.7%	12 80.0% 48.0%	3 20.0% 33.3%	0 0.0% ***.%	15 100.0% 44.1%	6 100.0% 30.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	6 100.0% 28.6%	6 100.0% 28.6%
1	14 93.3% 14.4%	1 6.7% 2.7%	0 0.0% ***.%	15 100.0% 11.2%	0 0.0% 0.0%	1 100.0% 11.1%	0 0.0% ***.%	1 100.0% 2.9%	2 100.0% 10.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	2 100.0% 9.5%	2 100.0% 9.5%
2	11 61.1% 11.3%	7 38.9% 18.9%	0 0.0% ***.%	18 100.0% 13.4%	3 60.0% 12.0%	2 40.0% 22.2%	0 0.0% ***.%	5 100.0% 14.7%	2 100.0% 10.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	2 100.0% 9.5%	2 100.0% 9.5%
3	13 68.4% 13.4%	6 31.6% 16.2%	0 0.0% ***.%	19 100.0% 14.2%	2 100.0% 8.0%	0 0.0% 0.0%	0 0.0% ***.%	2 100.0% 5.9%	4 80.0% 20.0%	1 20.0% 100.0%	0 0.0% ***.%	0 0.0% ***.%	5 100.0% 23.8%	5 100.0% 23.8%
4	12 80.0% 12.4%	3 20.0% 8.1%	0 0.0% ***.%	15 100.0% 11.2%	3 75.0% 12.0%	1 25.0% 11.1%	0 0.0% ***.%	4 100.0% 11.8%	1 100.0% 5.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 4.8%	1 100.0% 4.8%
5	14 70.0% 14.4%	6 30.0% 16.2%	0 0.0% ***.%	20 100.0% 14.9%	2 66.7% 8.0%	1 33.3% 11.1%	0 0.0% ***.%	3 100.0% 8.8%	1 100.0% 5.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 4.8%	1 100.0% 4.8%
6-7	11 73.3% 11.3%	4 26.7% 10.8%	0 0.0% ***.%	15 100.0% 11.2%	2 100.0% 8.0%	0 0.0% 0.0%	0 0.0% ***.%	2 100.0% 5.9%	1 100.0% 5.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 4.8%	1 100.0% 4.8%
8-9	2 33.3% 2.1%	4 66.7% 10.8%	0 0.0% ***.%	6 100.0% 4.5%	0 0.0% 0.0%	1 100.0% 11.1%	0 0.0% ***.%	1 100.0% 2.9%	2 100.0% 10.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% ***.%	2 100.0% 9.5%	2 100.0% 9.5%
10 or More	9 69.2% 9.3%	4 30.8% 10.8%	0 0.0% ***.%	13 100.0% 9.7%	1 100.0% 4.0%	0 0.0% 0.0%	0 0.0% ***.%	1 100.0% 2.9%	1 100.0% 5.0%	0 0.0% 0.0%	0 0.0% ***.%	0 0.0% ***.%	1 100.0% 4.8%	1 100.0% 4.8%
No Response	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%	0 ***.%
TOTAL	97 72.4% 100.0%	37 27.6% 100.0%	0 0.0% ***.%	134 100.0% 100.0%	25 73.5% 100.0%	9 26.5% 100.0%	0 0.0% ***.%	34 100.0% 100.0%	20 95.2% 100.0%	1 4.8% 100.0%	0 0.0% ***.%	0 0.0% ***.%	21 100.0% 100.0%	21 100.0% 100.0%

Table F-1

MINORITY CLASSIFICATION and CITIZENSHIP or VISA STATUS of CHEMISTRY GRADUATES by Degree  
1981 Starting Salary Survey

CITIZENSHIP	MINORITY CLASSIFICATION						TOTAL	
	Bachelors							
	American Black	Indian	Asian	Hispanic	White	No Response		
US Citizen	48 2.7% 84.2%	8 0.4% 100.0%	49 2.8% 72.1%	31 1.7% 91.2%	1,627 91.5% 98.9%	16 0.9% 84.2%	1,779 100.0% 97.2%	-Count -% of Row -% of Col
Permanent Resident	5 17.2% 8.8%	0 0.0% 0.0%	11 37.9% 16.2%	1 3.4% 2.9%	12 41.4% 0.7%	0 0.0% 0.0%	29 100.0% 1.6%	
Other	2 15.4% 3.5%	0 0.0% 0.0%	7 53.8% 10.3%	1 7.7% 2.9%	2 15.4% 0.1%	1 7.7% 5.3%	13 100.0% 0.7%	
No Response	2 20.0% 3.5%	0 0.0% 0.0%	1 10.0% 1.5%	1 10.0% 2.9%	4 40.0% 0.2%	2 20.0% 10.5%	10 100.0% 0.5%	
TOTAL	57 3.1% 100.0%	8 0.4% 100.0%	68 3.7% 100.0%	34 1.9% 100.0%	1,645 89.8% 100.0%	19 1.0% 100.0%	1,831 100.0% 100.0%	
Masters								
US Citizen	5 3.5% 83.3%	0 0.0% ***.>%	5 3.5% 22.7%	0 0.0% 0.0%	131 92.3% 95.6%	1 0.7% 100.0%	142 100.0% 85.0%	
Permanent Resident	1 11.1% 16.7%	0 0.0% ***.>%	5 55.6% 22.7%	1 11.1% 100.0%	2 22.2% 1.5%	0 0.0% 0.0%	9 100.0% 5.4%	
Other	0 0.0% 0.0%	0 0.0% ***.>%	12 75.0% 54.5%	0 0.0% 0.0%	4 25.0% 2.9%	0 0.0% 0.0%	16 100.0% 9.6%	
No Response	0 ***.>% 0.0%	0 ***.>% ***.>%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	
TOTAL	6 3.6% 100.0%	0 0.0% ***.>%	22 13.2% 100.0%	1 0.6% 100.0%	137 82.0% 100.0%	1 0.6% 100.0%	167 100.0% 100.0%	
Doctorate								
US Citizen	3 1.2% 60.0%	1 0.4% 100.0%	8 3.1% 22.2%	1 0.4% 100.0%	245 95.0% 98.8%	0 0.0% 0.0%	258 100.0% 88.4%	
Permanent Resident	0 0.0% 0.0%	0 0.0% 0.0%	10 76.9% 27.8%	0 0.0% 0.0%	3 23.1% 1.2%	0 0.0% 0.0%	13 100.0% 4.5%	
Other	2 9.5% 40.0%	0 0.0% 0.0%	18 85.7% 50.0%	0 0.0% 0.0%	0 0.0% 0.0%	1 4.8% 100.0%	21 100.0% 7.2%	
No Response	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	0 ***.>% 0.0%	
TOTAL	5 1.7% 100.0%	1 0.3% 100.0%	36 12.3% 100.0%	1 0.3% 100.0%	248 84.9% 100.0%	1 0.3% 100.0%	292 100.0% 100.0%	



Table F-2

 MINORITY CLASSIFICATION of CHEMISTRY GRADUATES by Degree and Sex  
 1981 Starting Salary Survey

MINORITY CLASSIFICATION	SEX			Bachelors			Masters			Doctorate								
	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	Men	Women	No Response	TOTAL	TOTAL	TOTAL	-Count	-% of Row	-% of Col
Black	32	25	0	3	3	0	50.0%	50.0%	0.0%	33	0	0	100.0%	0.0%	0	5	100.0%	1.7%
	56.1%	43.9%	0.0%	2.4%	6.8%	***.***	2.0%	0.0%	***.***	100.0%	0.0%	0.0%	2.0%	0.0%	***.***	100.0%	1.7%	1.7%
American Indian	5	3	0	0	0	0	***.***	***.***	***.***	0	0	0	100.0%	0.0%	0	1	100.0%	0.3%
	62.5%	37.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	***.***	***.***	***.***	0.0%	0.0%	0.0%	***.***	100.0%	0.3%	0.3%
Asian	41	26	1	14	8	0	63.6%	36.4%	0.0%	14	8	0	100.0%	0.0%	0	22	100.0%	0.0%
	60.3%	38.2%	1.5%	11.4%	18.2%	***.***	11.4%	18.2%	***.***	100.0%	0.0%	0.0%	11.4%	0.0%	0.0%	13.2%	100.0%	13.2%
Hispanic	21	13	0	1	0	0	100.0%	0.0%	0.0%	1	0	0	100.0%	0.0%	0	1	100.0%	0.0%
	61.8%	38.2%	0.0%	0.8%	0.0%	***.***	0.8%	0.0%	***.***	100.0%	0.0%	0.0%	0.8%	0.0%	***.***	100.0%	0.3%	0.3%
White	1,123	522	0	104	33	0	75.9%	24.1%	0.0%	104	33	0	84.3%	15.7%	0	248	100.0%	0.0%
	68.3%	31.7%	0.0%	84.6%	75.0%	***.***	84.6%	75.0%	***.***	100.0%	0.0%	0.0%	84.3%	15.7%	0.0%	84.9%	100.0%	84.9%
No Response	13	4	2	1	0	0	100.0%	0.0%	0.0%	1	0	0	100.0%	0.0%	0	1	100.0%	0.0%
	68.4%	21.1%	10.5%	0.8%	0.0%	***.***	0.8%	0.0%	***.***	100.0%	0.0%	0.0%	0.4%	0.0%	***.***	100.0%	0.3%	0.3%
TOTAL	1,235	593	3	123	44	0	73.7%	26.3%	0.0%	123	44	0	85.3%	14.7%	0	292	100.0%	0.0%
	67.4%	32.4%	0.2%	100.0%	100.0%	100.0%	100.0%	100.0%	***.***	100.0%	100.0%	100.0%	100.0%	100.0%	***.***	100.0%	100.0%	100.0%

Table F-3

 CITIZENSHIP of CHEMISTRY GRADUATES by Degree and Sex  
 1981 Starting Salary Survey

CITIZENSHIP	SEX		Bachelors				Masters				Doctorate				
	Men	Women	No Response		TOTAL	Men	Women	No Response		TOTAL	Men	Women	No Response		TOTAL
			Count	% of Row				Count	% of Row				Count	% of Row	
US Citizen	1,205	573	1	0.1%	1,779	106	36	0	0.0%	142	217	41	0	0.0%	258
	67.7%	32.2%	0.1%	33.3%	100.0%	74.6%	25.4%	0.0%	85.0%	84.1%	15.9%	0.0%	0.0%	100.0%	-Count
	97.6%	96.6%	33.3%	97.2%	97.2%	86.2%	81.8%	***.%	85.0%	87.1%	95.3%	***.%	***.%	88.4%	-% of Col
Permanent	18	11	0	0.0%	29	5	4	0	0.0%	9	13	0	0	0.0%	13
	62.1%	37.9%	0.0%	0.0%	100.0%	55.6%	44.4%	0.0%	100.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%
	1.5%	1.9%	0.0%	1.6%	1.6%	4.1%	9.1%	***.%	5.4%	5.2%	0.0%	***.%	***.%	4.5%	4.5%
Other	8	5	0	0.0%	13	12	4	0	0.0%	16	19	2	0	0.0%	21
	61.5%	38.5%	0.0%	0.0%	100.0%	75.0%	25.0%	0.0%	90.0%	100.0%	90.5%	9.5%	0.0%	100.0%	100.0%
	0.6%	0.8%	0.0%	0.7%	0.7%	9.8%	9.1%	***.%	9.6%	7.6%	4.7%	***.%	***.%	7.2%	7.2%
No Response	4	4	2	20.0%	10	0	0	0	0.0%	0	0	0	0	0.0%	0
	40.0%	40.0%	20.0%	66.7%	100.0%	***.%	***.%	***.%	***.%	***.%	***.%	***.%	***.%	***.%	***.%
	0.3%	0.7%	66.7%	0.5%	0.5%	0.0%	0.0%	***.%	0.0%	0.0%	0.0%	0.0%	***.%	0.0%	0.0%
TOTAL	1,235	593	3	0.2%	1,831	123	44	0	0.0%	167	249	43	0	0.0%	292
	67.4%	32.4%	0.2%	100.0%	100.0%	73.7%	26.3%	0.0%	100.0%	100.0%	85.3%	14.7%	0.0%	100.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	***.%	100.0%	100.0%	100.0%	100.0%	***.%	100.0%	100.0%

MINORITY CLASSIFICATION and CITIZENSHIP or VISA STATUS of CHEMICAL ENGINEERING GRADUATES by Degree  
1981 Starting Salary Survey

## Bachelors

CITIZENSHIP	MINORITY CLASSIFICATION					No Response	TOTAL	
	Black	American Indian	Asian	Hispanic	White			
US Citizen	15 1.6% 88.2%	3 0.3% 75.0%	23 2.4% 59.0%	6 0.6% 66.7%	903 93.8% 98.8%	13 1.3% 86.7%	963	-Count 100.0% -% of Row 96.5% -% of Col
Permanent	1 4.5% 5.9%	1 4.5% 25.0%	11 50.0% 28.2%	2 9.1% 22.2%	7 31.8% 0.8%	0 0.0% 0.0%	22	100.0% 2.2%
Other	0 0.0% 0.0%	0 0.0% 0.0%	5 71.4% 12.8%	0 0.0% 0.0%	1 14.3% 0.1%	1 14.3% 6.7%	7	100.0% 0.7%
No Response	1 16.7% 5.9%	0 0.0% 0.0%	0 0.0% 0.0%	1 16.7% 11.1%	3 50.0% 0.3%	1 16.7% 6.7%	6	100.0% 0.6%
TOTAL	17 1.7% 100.0%	4 0.4% 100.0%	39 3.9% 100.0%	9 0.9% 100.0%	914 91.6% 100.0%	15 1.5% 100.0%	998	100.0% 100.0%

## Masters

US Citizen	0 0.0% 0.0%	0 0.0% ***. *%	5 6.1% 20.8%	3 3.7% 100.0%	73 89.0% 93.6%	1 1.2% 100.0%	82	100.0% 75.2%
Permanent	0 0.0% 0.0%	0 0.0% ***. *%	13 92.9% 54.2%	0 0.0% 0.0%	1 7.1% 1.3%	0 0.0% 0.0%	14	100.0% 12.8%
Other	3 23.1% 100.0%	0 0.0% ***. *%	6 46.2% 25.0%	0 0.0% 0.0%	4 30.8% 5.1%	0 0.0% 0.0%	13	100.0% 11.9%
No Response	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% 0.0%	0	***. *% 0.0%
TOTAL	3 2.8% 100.0%	0 0.0% ***. *%	24 22.0% 100.0%	3 2.8% 100.0%	78 71.6% 100.0%	1 0.9% 100.0%	109	100.0% 100.0%

## Doctorate

US Citizen	0 0.0% ***. *%	1 3.4% 100.0%	0 0.0% 0.0%	0 0.0% ***. *%	28 96.6% 82.4%	0 0.0% 0.0%	29	100.0% 67.4%
Permanent	0 0.0% ***. *%	0 0.0% 0.0%	3 50.0% 42.9%	0 0.0% ***. *%	2 33.3% 5.9%	1 16.7% 100.0%	6	100.0% 14.0%
Other	0 0.0% ***. *%	0 0.0% 0.0%	4 50.0% 57.1%	0 0.0% ***. *%	4 50.0% 11.8%	0 0.0% 0.0%	8	100.0% 18.6%
No Response	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0 ***. *% ***. *%	0 ***. *% 0.0%	0 ***. *% 0.0%	0	***. *% 0.0%
TOTAL	0 0.0% ***. *%	1 2.3% 100.0%	7 16.3% 100.0%	0 0.0% ***. *%	34 79.1% 100.0%	1 2.3% 100.0%	43	100.0% 100.0%

Table F-5

 MINORITY CLASSIFICATION OF CHEMICAL ENGINEERING GRADUATES by Degree and Sex  
 1981 Starting Salary Survey

MINORITY CLASSIFICATION	Bachelors			Masters			Doctorate			TOTAL	-Count	-% of Row
	SEX	Men	Women	No Response	TOTAL	Men	Women	No Response	TOTAL			
Black	9	8	0	17	3	0	0	3	0	0	0	0
	52.9%	47.1%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	***.%	***.%	***.%	***.%
	1.1%	4.1%	0.0%	1.7%	3.7%	0.0%	***.%	2.8%	0.0%	0.0%	***.%	0.0%
American Indian	4	0	0	4	0	0	0	0	1	0	0	1
	100.0%	0.0%	0.0%	100.0%	***.%	***.%	***.%	***.%	100.0%	0.0%	0.0%	100.0%
	0.5%	0.0%	0.0%	0.4%	0.0%	0.0%	***.%	0.0%	2.4%	0.0%	***.%	2.3%
Asian	28	11	0	39	14	10	0	24	7	0	0	7
	71.8%	28.2%	0.0%	100.0%	58.3%	41.7%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
	3.5%	5.6%	0.0%	3.9%	17.1%	37.0%	***.%	22.0%	16.7%	0.0%	***.%	16.3%
Hispanic	8	1	0	9	2	1	0	3	0	0	0	0
	88.9%	11.1%	0.0%	100.0%	66.7%	33.3%	0.0%	100.0%	***.%	***.%	***.%	***.%
	1.0%	0.5%	0.0%	0.9%	2.4%	3.7%	***.%	2.8%	0.0%	0.0%	***.%	0.0%
White	742	171	1	914	62	16	0	78	33	1	0	34
	81.2%	18.7%	0.1%	100.0%	79.5%	20.5%	0.0%	100.0%	97.1%	2.9%	0.0%	100.0%
	92.8%	87.2%	50.0%	91.6%	75.6%	59.3%	***.%	71.6%	78.6%	100.0%	***.%	79.1%
No Response	9	5	1	15	1	0	0	1	1	0	0	1
	60.0%	33.3%	6.7%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
	1.1%	2.6%	50.0%	1.5%	1.2%	0.0%	***.%	0.9%	2.4%	0.0%	***.%	2.3%
TOTAL	800	196	2	998	82	27	0	109	42	1	0	43
	80.2%	19.6%	0.2%	100.0%	75.2%	24.8%	0.0%	100.0%	97.7%	2.3%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	***.%	100.0%	100.0%	100.0%	***.%	100.0%

Table F-6

CITIZENSHIP of CHEMICAL ENGINEERING GRADUATES by Degree and Sex  
1981 Starting Salary Survey

CITIZENSHIP	Bachelors						Masters						Doctorate							
	SEX		No Response		TOTAL		SEX		No Response		TOTAL		SEX		No Response		TOTAL			
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women		
US Citizen	774 80.4% 96.8%	187 19.4% 95.4%	2 0.2% 100.0%	963 100.0% 96.5%	61 74.4% 74.4%	21 25.6% 77.8%	0 0.0% ***.%	82 100.0% 75.2%	28 96.6% 66.7%	1 3.4% 100.0%	0 0.0% ***.%	29 100.0% 67.4%	0 0.0% ***.%	29 100.0% 67.4%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	
Permanent	15 68.2% 1.9%	7 31.8% 3.6%	0 0.0% 0.0%	22 100.0% 2.2%	12 85.7% 14.6%	2 14.3% 7.4%	0 0.0% ***.%	14 100.0% 12.8%	6 100.0% 14.3%	0 0.0% 0.0%	0 0.0% ***.%	6 100.0% 14.0%	0 0.0% ***.%	6 100.0% 14.0%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%
Other	6 85.7% 0.8%	1 14.3% 0.5%	0 0.0% 0.0%	7 100.0% 0.7%	9 69.2% 11.0%	4 30.8% 14.8%	0 0.0% ***.%	13 100.0% 11.9%	8 100.0% 19.0%	0 0.0% 0.0%	0 0.0% ***.%	8 100.0% 18.6%	0 0.0% ***.%	8 100.0% 18.6%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%
No Response	5 83.3% 0.6%	1 16.7% 0.5%	0 0.0% 0.0%	6 100.0% 0.6%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% ***.%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%	0 ***.% 0.0%
TOTAL	800 80.2% 100.0%	196 19.6% 100.0%	2 0.2% 100.0%	998 100.0% 100.0%	82 75.2% 100.0%	27 24.8% 100.0%	0 0.0% ***.%	109 100.0% 100.0%	42 97.7% 100.0%	1 2.3% 100.0%	0 0.0% ***.%	43 100.0% 100.0%	0 0.0% ***.%	43 100.0% 100.0%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%	0 0.0% ***.%



## American Chemical Society

OFFICE OF THE  
EXECUTIVE DIRECTOR

1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
Phone (202) 872-4455

Raymond P. Mariella, *Executive Director*

Summer 1981

Dear Colleague:

For many years the American Chemical Society has been gathering information about starting salaries in chemistry and chemical engineering, by means of an annual mail survey of both member and nonmember graduates. We believe the data gathered has been very useful to chemists and chemical engineers, particularly as they start their careers, and that the publication of such data has a beneficial effect on salary levels. Also, the surveys provide information on the employment status of recent graduates. These surveys by the Society have gained a reputation for reliability and usefulness.

We urge you to participate in this survey as a service to your colleagues and profession. Please take a few moments now to fill out the enclosed questionnaire. No personal identification is required; the returns should be anonymous.

Please complete as many items in the questionnaire as possible, whether or not you have already accepted employment, and return it as soon as you can. We have enclosed a postage-paid envelope for this purpose.

A report on last year's starting salary survey was published in the CHEMICAL AND ENGINEERING NEWS Careers Issue (October 20, 1980, pp. 67-68). CHEMICAL AND ENGINEERING NEWS will publish a similar report in the fall of this year.

We thank you for your help and extend our very best wishes for every success in your professional pursuits.

Sincerely yours,

A handwritten signature in cursive script that reads "Raymond P. Mariella".

Raymond P. Mariella

RPM/ss

Enclosures

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of  
1981 Chemistry and Chemical Engineering Graduates

- A. Highest degree earned (Check one.):  
 Bachelors 1[]                      Masters 2[]                      Doctorate 3[]
- B. Field of highest degree (Check one.):
- |                                      |     |  |      |
|--------------------------------------|-----|--|------|
| Chemical engineering . . . . .       | 1[] | Organic chemistry. . . . .                           | 7[]  |
| Chemistry, general . . . . .         | 2[] | Pharmaceutical/medicinal/clinical chemistry. . . . . | 8[]  |
| Biochemistry . . . . .               | 3[] | Physical chemistry . . . . .                         | 9[]  |
| Agricultural/food chemistry. . . . . | 4[] | Theoretical chemistry. . . . .                       | 10[] |
| Analytical chemistry . . . . .       | 5[] | Polymer/macromolecular chemistry . . . . .           | 11[] |
| Inorganic chemistry. . . . .         | 6[] | Chemistry, other (specify) _____                     | 12[] |
|                                      |     | Non-chemical (specify) _____                         | 13[] |
- C. Do you plan further advanced studies in fall 1981? (Check one.)  
 Yes, full time 1[]                      Yes, part-time 2[]                      No 3[] → Go to Question E.
- D. Field of further studies (Check one):
- |  |     |   |      |
|--|-----|---|------|
| Chemistry. . . . .                       | 1[] | Dentistry . . . . .                     | 8[]  |
| Other physical science, or math. . . . . | 2[] | Pharmacy, pharmacology. . . . .         | 9[]  |
| Chemical engineering . . . . .           | 3[] | Business management . . . . .           | 10[] |
| Other engineering . . . . .              | 4[] | Education . . . . .                     | 11[] |
| Biochemistry . . . . .                   | 5[] | Law . . . . .                           | 12[] |
| Life science . . . . .                   | 6[] | Social science, or humanities . . . . . | 13[] |
| Medicine . . . . .                       | 7[] | Other (specify) _____                   | 14[] |
- E. Age: \_\_\_\_\_
- F. Sex:                      Male 1[]                      Female 2[]
- G. Citizenship or visa status (Check one.):  
 U.S. citizen 1[]                      U.S. permanent resident visa 2[]                      Other visa (specify)                      3[]
- H. Racial or ethnic group:
- |   |     |
|---|-----|
| Black (not of Hispanic origin). . . . .   | 1[] |
| American Indian or Alaskan Native . . . . .   | 2[] |
| Asian or Pacific Islander (of Chinese, Japanese, Korean, Filipino, or Subcontinental Indian origin) . . . . . | 3[] |
| Hispanic (of Mexican, Puerto Rican, Cuban, or Spanish origin) . . . . .                                       | 4[] |
| White (not of Hispanic origin). . . . .   | 5[] |
- I. Post-graduation employment status (Check one.):
- Accepted or continued full-time employment (excluding summer employment):
- |   |     |
|---|-----|
| in a field of chemistry or chemical engineering . . . . .         | 1[] |
| in a field other than chemistry or chemical engineering . . . . . | 2[] |
- Accepted a graduate assistantship or a postdoctoral or other fellowship . . . . . 3[]
- Not employed (or employed part-time or for the summer):
- |  |     |   |
|--|-----|---|
| and seeking full-time employment . . . . .     | 4[] | → Please stop. Return the questionnaire in envelope provided. |
| and not seeking full-time employment . . . . . | 5[] |   |
- J. Professional or technical work experience prior to graduation (Check one.):  
 Less than 12 months (or none). 1[]                      12 to 36 months. 2[]                      More than 36 months. 3[]
- K. How long have you been working for your current employer?  
 12 months or less. 1[]                      More than 12 months. 2[] → Go to question M.
- L. How many firm offers of employment did you receive in a field of chemistry or chemical engineering? Specify number \_\_\_\_\_
- M. Employer classification (Check the one category which best describes your employer.):
- |   |      |
|---|------|
| Private industry or business:   |      |
| Manufacturing   |      |
| Chemicals . . . . .   | 1[]  |
| Coatings . . . . .  | 2[]  |
| Food . . . . .  | 3[]  |
| Metals, minerals . . . . .  | 4[]  |
| Paper . . . . .   | 5[]  |
| Petroleum . . . . .   | 6[]  |
| Pharmaceuticals, personal care. . . . .                                 | 7[]  |
| Rubber . . . . .  | 8[]  |
| Other manufactures . . . . .  | 9[]  |
| Non-manufacturing (e.g. mining, utilities, construction, etc.). . . . . | 10[] |
| University granting a doctorate in chemical science . . . . .           | 11[] |
| Other college or university . . . . .                                   | 12[] |
| High School or other school . . . . .                                   | 13[] |
| Federal government (civilians only) . . . . .                           | 14[] |
| State and local government . . . . .                                    | 15[] |
| Hospital or independent laboratory . . . . .                            | 16[] |
| Other non-profit organization or research institute . . . . .           | 17[] |
| Other (specify) . . . . .   | 18[] |
- N. Annual salary: \$ \_\_\_\_\_ per year
- O. Geographic location of employment: State \_\_\_\_\_

Please return within 7 days to the American Chemical Society  
 Room 312, 1155 Sixteenth St. N.W., Washington, D.C. 20036  
 Thank you.

