STARTING $ALARIE$

Of Chemists

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

1994

STARTING SALARIES OF CHEMISTS

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American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036

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CONTENTS

ACKNOWLEDGMENTS

Each year, at the direction of its Council Committee on Economic and Professional Affairs, the American Chemical Society (ACS) surveys recent chemistry graduates to determine trends in starting salaries and employment status. This report presents detailed results of the 1994 Starting Salary Survey. A summary of the survey findings was published in the October 24 issue of *Chemical & Engineering News*.

Joan Burrelli and Corinne Marasco of the Department of Career Services conducted this year's survey and prepared this report. Ms. Marasco wrote the summary and comment on the following pages. Special thanks go to the more than 3,000 graduates who took the time to respond to this year's survey.

Mary L. Funke, Head
Department of Career Services

SUMMARY OF FINDINGS

SALARIES

This year's starting salaries remained the same for new BS chemistry graduates. The median salary for inexperienced BS chemists was $24,000 this year, the same as the last two years. The mean starting salary was $24,603 this year, slightly less than last year's $24,626. Starting salaries for bachelor's chemistry graduates have been relatively stagnant for the past few years. After adjusting for inflation, mean salaries decreased 2.9% this year.

The news on starting salaries for MS and PhD chemists is mixed this year. The mean starting salary for MS chemists dropped 1.8% this year to $32,348 while the mean starting salary for PhD chemists rose 1.7% this year to $45,965. Inflation-adjusted salaries for MS and PhD chemists were down 4.5% and 1.2%, respectively.

Table 1 shows average starting salaries paid to inexperienced chemistry graduates for 1993 and 1994, and gives additional information concerning the variation among salaries within each group.

For inexperienced chemists (those with less than 12 months of experience), 1994 mean starting salaries were:

$24,603 for the	BS,	down	.1%,	or in constant dollars down	2.9%
$32,348 for the	MS,	down	1.8%,	or in constant dollars down	4.5%
$45,965 for the	PhD,	up	1.7%,	or in constant dollars down	1.2%

The Consumer Price Index decreased 2.9% from August 1993 to August 1994. The trends in median starting salaries from 1983 to the present for inexperienced chemists are shown in Figure 1.

Salaries vary by the type and characteristics of the employer as well as the educational background of the graduates. Salaries are highest in private industry and lowest in colleges or universities. The median salary for new chemistry PhDs was $54,000 for those employed in industry and $31,500 for those employed in colleges or universities (see Table A-4).

Larger employers generally pay more than smaller ones. Bachelor's chemists employed in larger firms (25,000 or more employees) make about $5,000 more than those employed in small firms (less than 500 employees) (see Table A-8). New bachelor's chemists are more likely to be employed in small firms than large firms. Only 14% of new bachelor's chemists are employed in firms with 25,000 or more employees while 47% are employed in firms with less than 500 employees. With larger firms cutting back, the proportion of chemistry graduates who found employment in smaller firms increased this year (last year 42% of new bachelor's chemists found employment in firms with less than 500 employees).

Salaries for new BS chemistry graduates are highest in the New England region ($26,500) and lowest in the West South Central and Mountain regions ($21,000). (See page 13 for a list of the states included in each geographic region.)

Table 1

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMISTRY GRADUATES

by Degree: 1993 and 1994

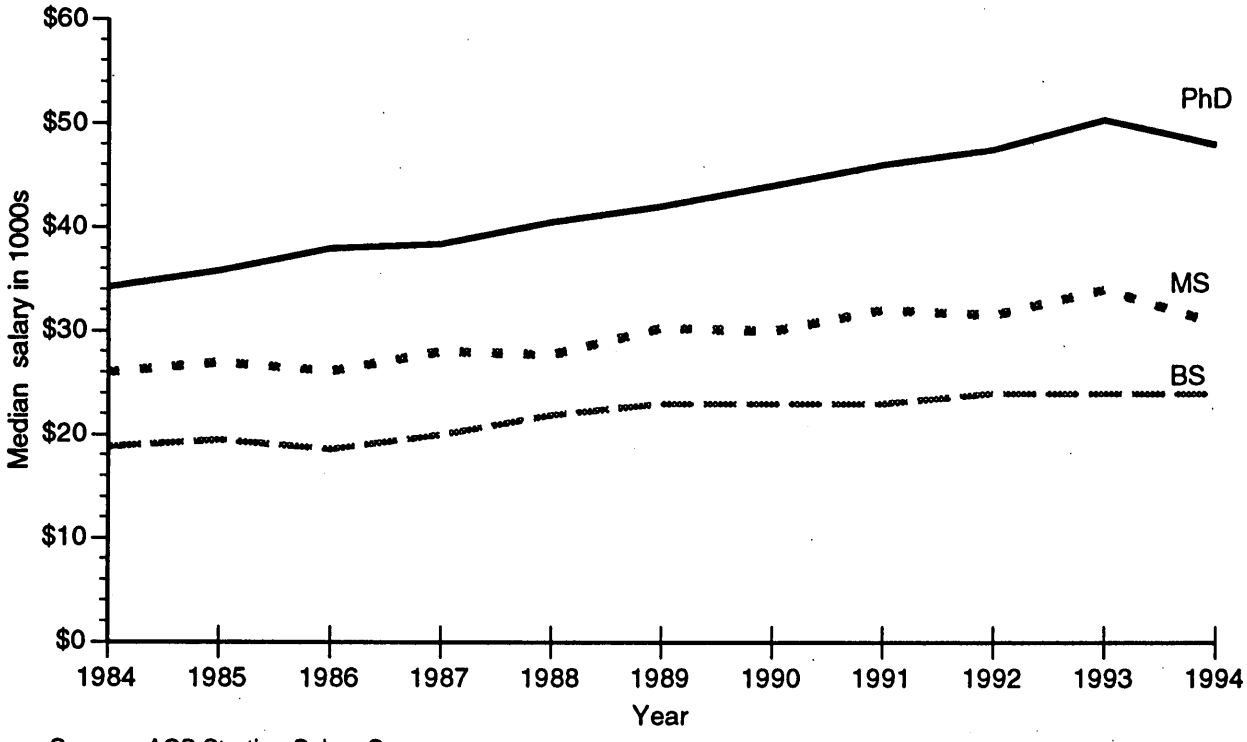
	DEGREE LEVEL					
Salaries	Bachelor's		Master's		Doctorate	
	1993	1994	1993	1994	1993	1994
90th Percentile	$32,000	32,500	40,500	42,900	56,600	60,000
75th Percentile	28,000	28,740	37,800	38,000	54,000	56,000
50th Percentile	24,000	24,000	34,000	30,750	50,400	48,000
25th Percentile	21,000	20,000	28,500	25,000	35,000	35,600
10th Percentile	18,000	17,208	23,000	23,000	26,000	27,000
Mean	24,626	24,603	32,933	32,348	45,209	45,965
Count	335	243	43	42	88	78
Standard Deviation	5,243	6,354	7,182	8,243	12,411	12,778

Generally speaking, bachelor's chemists receive higher starting salaries if they have participated in co-op programs, or if they had a high grade point average in their major. For example, the median starting salary of bachelor's chemists who did not participate in a coop program is $25,000, for those who did, it is $29,000. The median starting salary of a bachelor's chemist with a 'C' average is $24,500; with a 'B+' average, it is $28,370.

Bachelor's and master's graduates who are on graduate assistantships or fellowships typically receive about $14,000. Stipends for postdoctoral fellowships average about $23,500 for chemistry postdocs.

Figure 1

Median Starting Salaries of Inexperienced Chemists (in current dollars)



Source: ACS Starting Salary Surveys

Median Starting Salaries of Inexperienced Chemists* (in current dollars)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BS	18.8	19.5	18.6	20.0	21.9	23.0	23.0	23.0	24.0	24.0	24.0
MS	26.0	27.0	26.1	28.0	27.7	30.3	30.0	32.0	31.5	34.0	30.8
PhD	34.2	35.8	38.0	38.4	40.5	42.0	44.0	46.0	47.5	50.4	48.0

*Base annual salary in thousands of dollars

Source: ACS Starting Salary Surveys

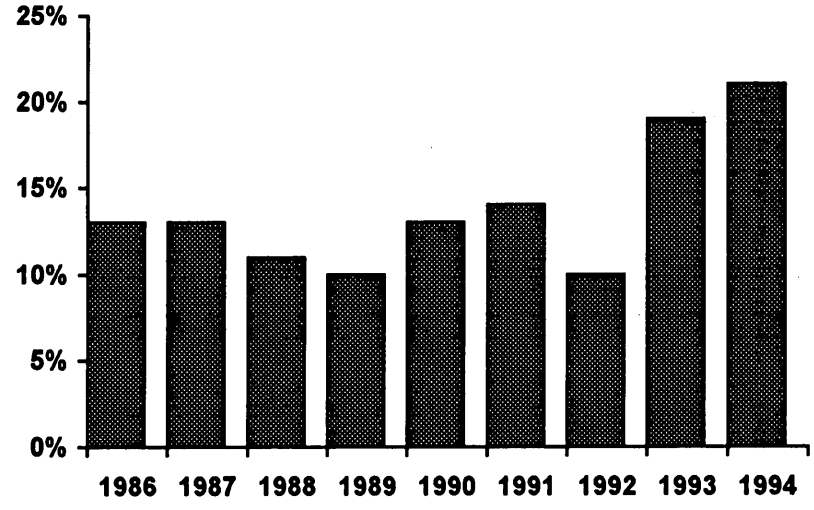
POST-GRADUATION EMPLOYMENT STATUS

Unemployment rates for bachelor's chemistry graduates increased again this year. The recent history for unemployment rates of bachelor's chemistry graduates is[1]:

	1986	1987	1988	1989	1990	1991	1992	1993	1994
Chemistry	13%	13%	11%	10%	13%	14%	10%	19%	21%

As Figure 2 shows, unemployment for chemistry graduates this year continues to be high. This year, chemistry graduates continue to find the chemistry job market to be competitive and are appearing to stay out of the job market for a few more years by going to graduate school. The proportion of new bachelor's chemistry graduates in the labor force[2] who found employment in chemistry or chemical engineering was 50% this year, down from last year's 54%.

Figure 2
Unemployment Rates of Recent Bachelor's Candidates



Source: ACS Starting Salary Surveys

[1]Note that the calculation for the unemployment rate excludes those persons who are not seeking employment. In Table B-1a, 413 bachelor's chemists indicated they are not seeking employment. They are subtracted from the total before calculating the unemployment rate (1795–413=1382). Since the number of bachelor's chemists seeking employment is 292, the unemployment rate is calculated as (292÷1382)×100=21%.

[2]Here the "labor force" is defined as those persons who are either employed full-time or are seeking work. New graduates who are not seeking employment or who are on fellowships are excluded from this calculation. In Table B-1a, 413 bachelor's chemists indicated they are not seeking employment and 551 bachelor's chemists indicated they are on fellowships. Subtracted from a total of 1795, the labor force as defined is 831 people. Since 416 bachelor's chemists reported they are working full-time in chemistry, the calculation is as follows: (416÷831)×100=50%.

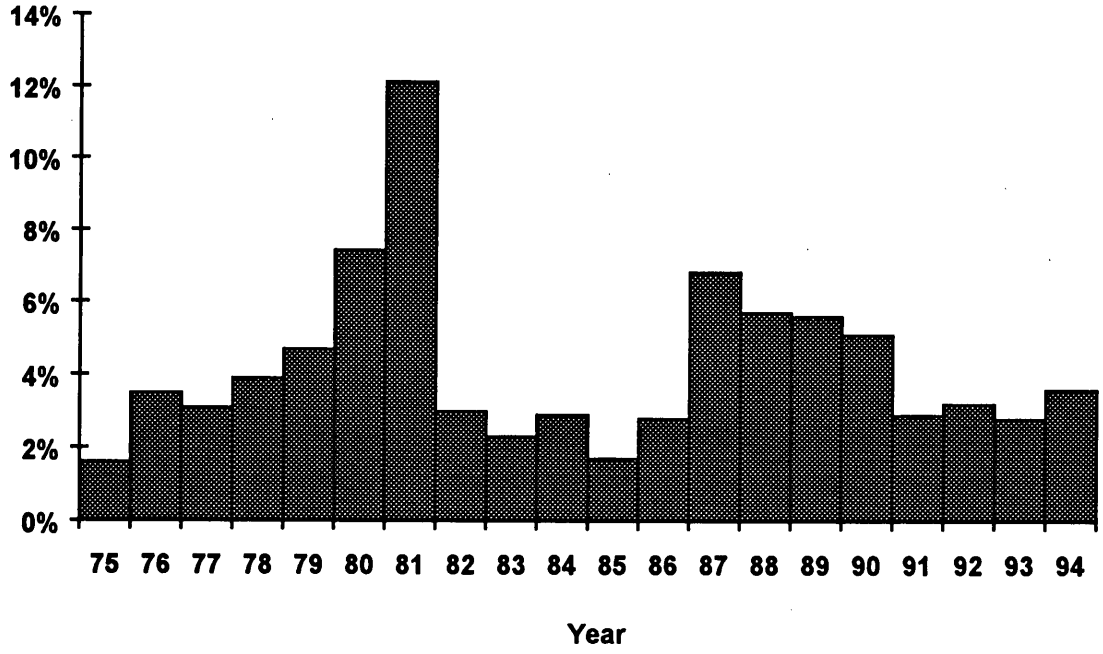
EMPLOYMENT OF BACHELOR'S CHEMISTS AS TECHNICIANS

About 41% of the bachelor's chemistry graduates who were employed full-time in industry responded that they were employed as technicians. Those employed as technicians earned significantly lower salaries than those not employed as technicians. The median salary of bachelor's chemistry graduates employed in industry as technicians was $24,000 whereas the median salary of those not employed as technicians was $28,000.

NUMBER OF OFFERS

The number of firm offers of employment was down again this year for chemistry graduates. Most chemistry graduates had only one offer of employment this year and very few had five or more offers of employment (see Table E-1).

Percent of Bachelor's Chemistry Graduates with Five or More Firm Offers of Employment



New master's and PhD chemistry graduates had about the same number of offers of employment, on average, as bachelor's graduates. Experience made no difference in average number of offers of employment: both inexperienced and experienced BS chemistry graduates had, on average, two offers of employment. New PhD chemists whose field was polymer chemistry or organic chemistry had more offers this year, on average, than those in other fields.

POSTDOCTORAL FELLOWSHIPS

The fraction of new PhDs who accept postdoctoral fellowships can sometimes be used as a rough indicator of demand. Because some of the new doctoral graduates who accept postdoctoral fellowships would have preferred full-time employment had it been available, an increase in the fraction accepting postdoctoral fellowships can indicate insufficient full-time employment. This year, the fraction accepting postdoctoral fellowships is the same as last year while the unemployment rate increased slightly. Forty

percent of new chemistry doctorates accepted postdoctoral fellowships this year (Table 2). Rather than indicating an increase in demand, this may indicate that new doctorates are still having a hard time obtaining postdoctoral fellowships as well as in obtaining full-time employment.

Table 2

POST-GRADUATION STATUS OF CHEMISTRY GRADUATES: FALL 1994

Major and Employment Status	Bachelor's	Master's	Doctorate
CHEMISTRY			
Full-time employed:			
In chemistry or chemical engineering	23.2%	40.8%	37.9%
Outside chemistry or chemical engineering	6.9%	4.9%	2.3%
Grad. asst./postdoctoral or other fellowship	30.7%	32.8%	40.2%
Unemployed and seeking full-time employment	16.3%	11.3%	17.0%
Unemployed and not seeking full-time employment	23.0%	10.2%	2.6%
Total	100.0	100.0	100.0
Number of responses	1,795	265	388

PLANS FOR ADVANCED STUDY

Traditionally, between 50% and 55% of bachelor's chemistry graduates plan full-time studies in the coming year (in any field) and another roughly 10% plan part-time studies. Nearly 52% planned full-time studies this year, down from 54% last year. A summary of the plans of the 1994 graduates appears in Tables 3 and 4.

Table 3

PLANS FOR FURTHER STUDY OF BACHELOR'S CHEMISTRY GRADUATES: FALL 1994

Plans	Chemistry
Further studies	59.7%
Full-time	(51.6%)
Part-time	(8.3%)
No plans for further studies	40.1%
Total	100.0
Number of responses	1,935

Table 4

FIELDS OF STUDY OF BACHELOR'S CHEMISTRY GRADUATES WHO PLAN FURTHER STUDIES FALL 1994

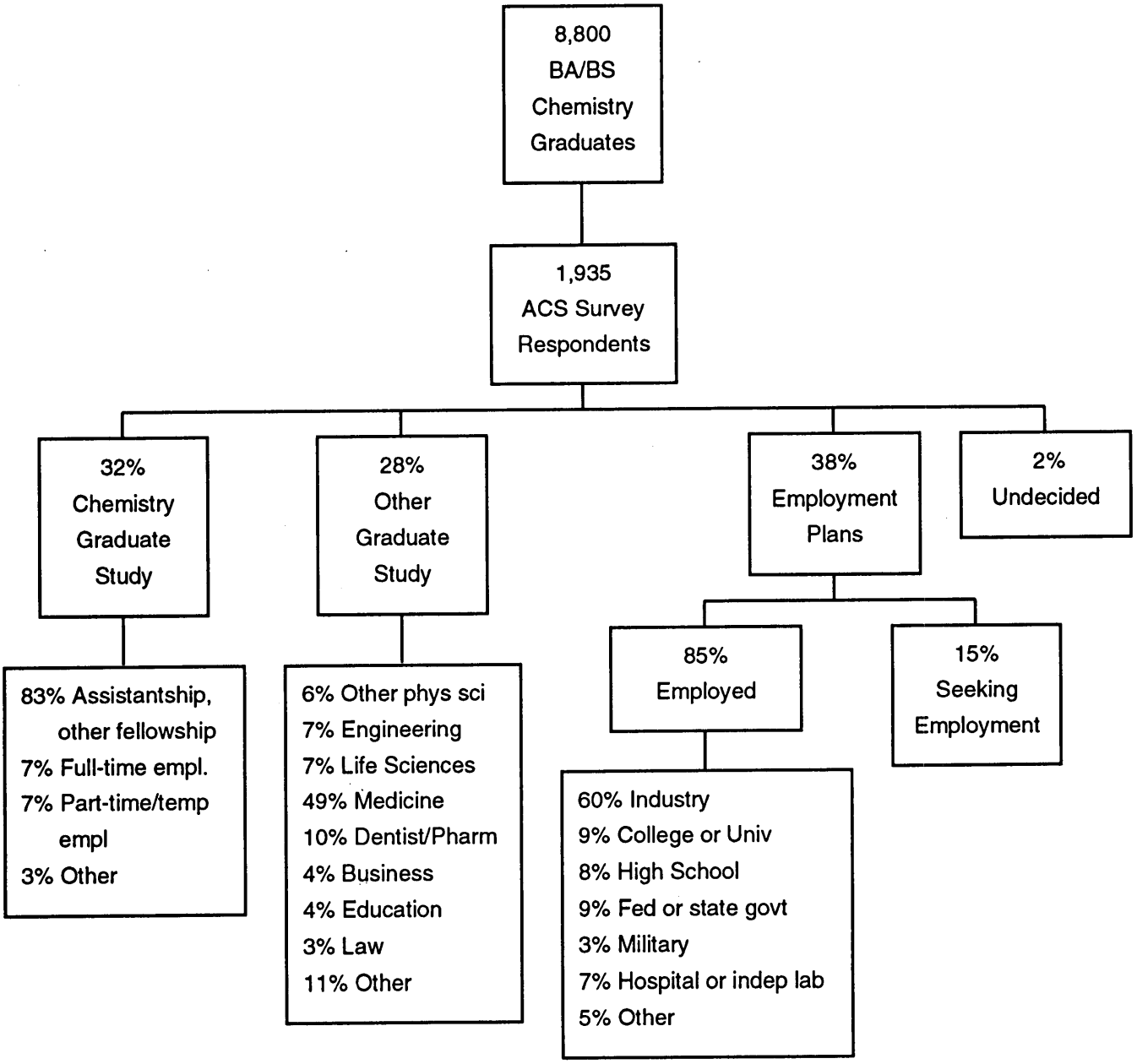
Plans	Chemistry
FULL-TIME STUDY	
Chemistry or biochemistry	54.7%
Chemical or biochemical engineering	1.4%
Other engineering	1.4%
Medicine, dentistry, or pharmacy	29.7%
Business or management	1.3%
All others	11.3%
Total	100.0
Number of responses	995
PART-TIME STUDY	
Chemistry or biochemistry	44.7%
Chemical or biochemical engineering	3.7%
Other engineering	.6%
Physical science	6.2%
Life science	8.7%
Medicine, dentistry, or pharmacy	15.0%
Business or management	4.3%
Education	5.6%
All others	11.2%
Total	100.0
Number of responses	161

Each year, roughly one-third of new bachelor's chemistry graduates plan to pursue chemistry graduate study, one-third plan graduate study in another field, and one-third have plans for immediate employment (see Figure 3). Of those bachelor's chemistry graduates who planned further studies in another discipline in 1994, 49% planned to go into medicine, 10% planned to go into dentistry or pharmacy, 4% planned to study business, 14% planned to study other natural sciences and engineering, and 11% planned to go into other fields. The choice of field of study has not changed appreciably in the last decade.

Of those bachelor's chemistry graduates who chose immediate employment, the majority chose industrial employment. Of those who are employed, 60% are employed in industry, and about 10% each are employed in colleges and universities, in high schools, in government, and in hospitals or independent labs.

Figure 3

Post-graduation Plans of 1994 Bachelor's Chemistry Graduates



CHEMISTRY GRADUATES WHO HAVE COMPLETED ACS APPROVED PROGRAMS

Graduates completing undergraduate chemistry programs approved by the ACS Committee on Professional Training have historically received higher starting salaries than graduates completing non-approved programs. This year, graduates who completed the ACS-approved program earned, on average, about $28,000 per year in industry, compared to about $24,000 for those who did not complete the approved program (Table A-10).

Graduates of approved programs are more likely than graduates of non-approved programs to plan further studies and to plan further studies in chemistry. Fifty-six percent of graduates of approved programs planned full-time studies compared with 37% of graduates of non-approved programs (Table B-4b). Of the bachelor's chemistry graduates who plan full-time studies, most (62%) of those from approved programs plan to study chemistry, compared with only 26% of those from non-approved programs. Conversely, 38% of those from non-approved programs plan to study medicine compared with only 15% of those from approved programs (Table C-4).

Graduates of approved programs are also less likely than those from non-approved programs to be unemployed and among those employed, are more likely to be employed in chemistry or chemical engineering. The unemployment rate for bachelor's graduates of approved programs was 17% this year, compared to 26% for graduates of non-approved programs. Among the full-time employed bachelor's chemistry graduates, 79% of graduates of ACS approved programs, but only 76% of graduates of non-approved programs were employed in chemistry or chemical engineering. (Table B-4a).[3]

RACE/ETHNIC COMPOSITION OF NEW GRADUATES

Minorities, and particularly Asians, are an increasing fraction of new graduates in chemistry and chemical engineering. The proportion of new bachelor's chemistry graduates who are African-American or Hispanic has increased fairly slowly since 1973, when ACS first collected such information. In 1973, African-Americans were 2.3% and Hispanics were .7% of bachelor's chemistry graduates. This year, African-Americans are 3.3% and Hispanics are 4.1% of bachelor's chemistry graduates. Native Americans are a very small proportion (1% or less) of new graduates in chemistry at all degree levels.

The proportion of new chemistry graduates who are Asian has trebled since 1973. In that year, Asians were 3% of bachelor's, 9% of master's, and 9% of PhD graduates. This year, Asians are 11% of bachelor's, 27% of master's, and 30% of PhD graduates. Eighty percent of bachelor's chemistry graduates of Asian descent are U.S. citizens (either native or naturalized). Only 8% are here on temporary visas. The reverse is true for PhDs. Only 10% of doctoral chemistry graduates of Asian descent are U.S. citizens and 32% are here on temporary visas.

CITIZENSHIP STATUS OF NEW GRADUATES

In chemistry, the proportion of graduates who are U.S. citizens has decreased and the proportion of graduates with temporary visas has increased over the last decade, especially among master's and

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[3]Note that the calculation for the unemployment rate excludes those persons who are not seeking employment. In Table B-4a, the number of full-time employed bachelor's chemistry graduates from ACS-approved programs is 243 (192+51) and the number of full-time employed bachelor's chemistry graduates from non-approved programs is 296 (224+72). Therefore, the proportions of graduates employed in chemistry or chemical engineering are (192÷243)×100=79% and (224÷296)×100=76%.

doctoral graduates. Among bachelor's chemistry graduates, 95% of the graduates are U.S. citizens (see Table F-2). Among master's graduates, the proportion of graduates who have temporary visas has increased from 5% of the chemistry graduates in 1983 to 19% of the chemistry graduates in 1994. Similarly, among graduates with doctoral degrees, the proportion of graduates who have temporary visas has increased from 8% of the chemistry graduates in 1983 to 14% in 1994.

New bachelor's graduates with temporary visas are much more likely than those with U.S. citizenship to have plans for further studies. Sixty-eight percent of the bachelor's graduates on temporary visas, but only 52% of those with U.S. citizenship plan full-time studies in the fall of 1994. Among new PhDs, those with temporary visas are more likely to have postdoctoral appointments and are more likely to be unemployed than those with U.S. citizenship. Fifty-one percent of new PhDs with temporary visas have postdoctoral fellowships compared to only 41% of those with U.S. citizenship, and 2% of new PhDs with temporary visas, compared to 4% of those with U.S. citizenship are not employed and seeking employment (see Tables B-2a and B-2b)

SCOPE AND METHOD

OBJECTIVES

The 1994 Starting Salary Survey is the 43rd in the series of annual surveys conducted by the American Chemical Society. Summaries of the results of these surveys appear annually in the "Employment Outlook" issue of *Chemical & Engineering News*. This year, preliminary results were published on October 24.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists who graduated during the 1993-94 academic year. The survey covers bachelor's, master's, and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and ethnicity.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry departments approved by ACS provided names and addresses of students who graduated between September, 1993 and June, 1994. During the summer of 1994, questionnaires were mailed to those graduates whose names had been provided and who had U.S. addresses. Unlike previous years, there are no chemical engineers in this year's sample. Next year's sample is expected to include chemical engineers.

EXTENT OF COVERAGE

Survey questionnaires were mailed by first class mail from July through August to 8,239 graduates. Approximately 4 weeks after each initial mailing, a second questionnaire and cover letter were sent to non-respondents. By the cutoff date of November 3, ACS had received 3,280 usable responses. Another 359 questionnaires were returned as non deliverable. A comparison of characteristics of this year's respondents with sample characteristics can be found in the Technical Notes.

DEFINITIONS

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

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

Because not all individuals responded to all of the survey items, some pairs of tables contain totals that should be identical but are not. For example, one table may group PhDs by sex and another by employer. The totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their employer.

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 could 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.

Discussion of statistical tests of significance may be found in *Introductory Statistics for Business and Economics*, by Thomas H. Wonnacott and Ronald J. Wonnacott, NY: Wiley, 1990, 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 705	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-1a for example, 807 respondents classified as chemists indicated their highest degree as the bachelor's degree and their gender as female. The percent of this group who are employed full-time in chemistry is 24.9% (p=24.9). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 1000 and 20%. The above table shows an approximate sampling error of 2.5%. Hence, the 95% confidence interval is 22.4% to 27.4%. If estimates were made at this "level of confidence" from 100 similar samples, about 95 of the confidence intervals calculated from these samples would contain the true population percent.

NONRESPONSE AND SAMPLING ERROR

A comparison of several characteristics of the 1994 respondents with characteristics of the sample reveals that respondents were as likely as nonrespondents to have a bachelor's degree and to have completed ACS approved programs.

Comparison of Survey Results and Sample Characteristics, 1994

	Starting Salary Respondents 1994 N=3,280	Sample Characteristics 1994 N=8,239
Chemistry		
Bachelor's	74%	74%
Master's	10%	12%
Doctorate	15%	14%
Bachelor's		
ACS Certified	50%	45%
Noncertified	50%	55%

LIST OF TABLES

Table A-1

SALARIES of CHEMISTS employed FULL-TIME
by DEGREE and EXPERIENCE
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Work Experience			
Less than 12 months			
Median	24,000	30,750	48,000
Mean	24,603	32,348	45,965
Std Dev	6,354	8,243	12,778
Count	243	42	78
12-36 months			
Median	26,000	35,000	50,000
Mean	25,867	33,491	44,733
Std Dev	6,092	6,627	14,309
Count	105	17	27
More than 36 months			
Median	33,525	39,700	45,000
Mean	34,182	40,246	43,669
Std Dev	10,640	10,078	12,569
Count	54	45	39
TOTAL			
Median	25,000	36,000	48,120
Mean	26,220	35,952	45,112
Std Dev	7,688	9,571	12,966
Count	402	104	144

Table A-2

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
in PRIVATE INDUSTRY by SEX and DEGREE
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Sex			
Male			
Median	26,325	38,000	55,000
Mean	26,592	36,212	53,211
Std Dev	5,697	8,949	8,065
Count	84	17	37
Female			
Median	25,000	34,000	54,000
Mean	24,989	35,450	51,546
Std Dev	6,097	5,718	10,156
Count	68	10	16
TOTAL			
Median	25,750	38,000	54,000
Mean	25,875	35,930	52,708
Std Dev	5,914	7,793	8,682
Count	152	27	53

Table A-3

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by SEX and DEGREE
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Sex			
Male			
Median	25,000	38,000	50,750
Mean	25,254	36,212	47,184
Std Dev	5,797	8,949	12,286
Count	118	17	52
Female			
Median	23,000	30,000	44,000
Mean	23,768	29,720	44,370
Std Dev	6,973	6,701	13,200
Count	127	25	25
TOTAL			
Median	24,000	30,750	48,000
Mean	24,484	32,348	46,270
Std Dev	6,463	8,243	12,573
Count	245	42	77

Table A-4

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
EMPLOYER			
Industry			
Median	25,750	38,000	54,000
Mean	25,875	35,930	52,708
Std Dev	5,914	7,793	8,682
Count	152	27	53
College or univ			
Median	20,000	23,500	31,500
Mean	20,161	24,167	30,716
Std Dev	4,227	1,607	6,033
Count	21	3	22
High school			
Median	22,000	30,000	—
Mean	22,122	28,300	—
Std Dev	5,867	8,184	—
Count	25	3	0
Federal govt			
Median	19,500	25,000	40,000
Mean	20,476	25,000	40,000
Std Dev	2,401	1,414	—
Count	4	2	1
Military			
Median	23,000	—	—
Mean	22,534	—	—
Std Dev	2,586	—	—
Count	4	0	0
State or local govt			
Median	21,000	25,300	28,000
Mean	23,578	25,300	28,000
Std Dev	4,168	424	—
Count	13	2	1
Hospital or indep lab			
Median	21,750	24,000	48,000
Mean	21,950	24,833	48,000
Std Dev	4,455	3,329	—
Count	20	3	1

Table A-4 (continued)

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Other			
Median	23,250	28,000	—
Mean	28,583	28,000	—
Std Dev	19,800	5,657	—
Count	6	2	0
TOTAL			
Median	24,000	30,750	48,000
Mean	24,484	32,348	45,965
Std Dev	6,463	8,243	12,778
Count	245	42	78

Table A-5

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
EMPLOYER			
Industry			
Median	26,325	38,000	55,000
Mean	26,592	36,212	53,211
Std Dev	5,697	8,949	8,065
Count	84	17	37
College or univ			
Median	25,000	—	31,500
Mean	23,025	—	31,442
Std Dev	4,290	—	5,937
Count	4	0	13
High school			
Median	21,000	—	—
Mean	20,809	—	—
Std Dev	5,694	—	—
Count	13	0	0
Federal govt			
Median	21,453	—	—
Mean	21,453	—	—
Std Dev	3,602	—	—
Count	2	0	0
Military			
Median	20,569	—	—
Mean	20,569	—	—
Std Dev	2,024	—	—
Count	2	0	0
State or local govt			
Median	22,400	—	28,000
Mean	23,660	—	28,000
Std Dev	3,563	—	—
Count	6	0	1
Hospital or indep lab			
Median	22,000	—	48,000
Mean	23,520	—	48,000
Std Dev	4,413	—	—
Count	5	0	1

Table A-5 (continued)

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Other			
Median	20,000	—	—
Mean	20,000	—	—
Std Dev	7,071	—	—
Count	2	0	0
TOTAL			
Median	25,000	38,000	50,750
Mean	25,254	36,212	47,184
Std Dev	5,797	8,949	12,286
Count	118	17	52

Table A-6

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
EMPLOYER			
Industry			
Median	25,000	34,000	54,000
Mean	24,989	35,450	51,546
Std Dev	6,097	5,718	10,156
Count	68	10	16
College or univ			
Median	19,000	23,500	31,750
Mean	19,487	24,167	30,562
Std Dev	4,044	1,607	6,173
Count	17	3	8
High school			
Median	25,000	30,000	—
Mean	23,545	28,300	—
Std Dev	5,957	8,184	—
Count	12	3	0
Federal govt			
Median	19,500	25,000	40,000
Mean	19,500	25,000	40,000
Std Dev	707	1,414	—
Count	2	2	1
Military			
Median	24,500	—	—
Mean	24,500	—	—
Std Dev	707	—	—
Count	2	0	0
State or local govt			
Median	20,652	25,300	—
Mean	23,508	25,300	—
Std Dev	4,915	424	—
Count	7	2	0
Hospital or indep lab			
Median	21,192	24,000	—
Mean	21,426	24,833	—
Std Dev	4,494	3,329	—
Count	15	3	0

Table A-6 (continued)

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Other			
Median	28,250	28,000	—
Mean	32,875	28,000	—
Std Dev	23,729	5,657	—
Count	4	2	0
TOTAL			
Median	23,000	30,000	44,000
Mean	23,768	29,720	44,370
Std Dev	6,973	6,701	13,200
Count	127	25	25

Table A-7

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and TYPE OF INDUSTRY
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
TYPE OF INDUSTRY			
Nonmanufacturing			
Median	21,000	30,000	48,000
Mean	22,509	27,360	50,067
Std Dev	5,811	4,620	12,351
Count	38	5	9
Aerospace			
Median	31,000	—	—
Mean	31,000	—	—
Std Dev	—	—	—
Count	1	0	0
Basic chemicals			
Median	29,000	—	37,000
Mean	28,700	—	37,000
Std Dev	6,399	—	—
Count	5	0	1
Specialty chemicals			
Median	26,500	38,000	53,000
Mean	26,416	35,500	52,250
Std Dev	4,894	4,770	4,113
Count	21	3	4
Agricultural chemicals			
Median	28,800	31,500	50,500
Mean	28,057	31,500	50,500
Std Dev	5,715	—	—
Count	7	1	1
Electronics			
Median	22,500	—	57,250
Mean	22,500	—	57,250
Std Dev	3,536	—	3,889
Count	2	0	2
Petroleum			
Median	27,900	38,000	57,000
Mean	25,700	38,000	57,000
Std Dev	5,930	—	—
Count	4	1	1

Table A-7 (continued)

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and TYPE OF INDUSTRY
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
Pharmaceuticals			
Median	28,000	38,000	56,250
Mean	27,587	38,744	55,937
Std Dev	6,137	6,958	6,452
Count	46	16	20
Plastics			
Median	29,370	44,400	57,000
Mean	28,890	44,400	56,000
Std Dev	6,199	—	2,000
Count	6	1	5
Other manuf			
Median	25,000	27,500	51,000
Mean	24,891	27,500	47,020
Std Dev	4,687	6,364	9,922
Count	25	2	10
TOTAL			
Median	25,370	37,000	54,000
Mean	25,764	35,590	52,595
Std Dev	5,917	7,621	8,704
Count	155	29	53

Table A-8

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
in INDUSTRY by DEGREE and EMPLOYER SIZE
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
EMPLOYER SIZE			
Less than 500			
Median	24,000	30,000	47,500
Mean	23,973	28,756	48,569
Std Dev	4,867	3,713	11,885
Count	68	9	16
500 to 2,499			
Median	25,000	38,000	52,250
Mean	25,350	34,900	51,500
Std Dev	6,284	6,675	3,488
Count	31	5	4
2,500 to 9,999			
Median	30,000	38,000	54,000
Mean	29,656	38,680	54,250
Std Dev	4,505	5,407	7,704
Count	18	5	8
10,000 to 24,999			
Median	22,000	41,200	56,500
Mean	22,846	41,200	55,278
Std Dev	6,705	4,525	6,861
Count	7	2	9
25,000 or more			
Median	28,800	42,000	56,250
Mean	29,130	43,500	54,934
Std Dev	6,126	7,036	5,971
Count	21	6	16
TOTAL			
Median	25,000	38,000	54,000
Mean	25,665	35,930	52,708
Std Dev	5,850	7,793	8,682
Count	145	27	53

Table A-9

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and WORK FUNCTION
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
WORK FUNCTION			
Teaching			
Median	21,280	30,000	31,750
Mean	21,780	28,300	31,414
Std Dev	5,812	8,184	4,890
Count	27	3	18
Management			
Median	21,750	24,500	—
Mean	21,984	24,500	—
Std Dev	3,637	2,121	—
Count	8	2	0
Basic research			
Median	22,000	38,000	55,000
Mean	24,471	37,100	47,820
Std Dev	8,450	6,652	14,679
Count	48	8	15
Applied research			
Median	28,000	36,000	54,000
Mean	26,823	35,962	53,510
Std Dev	5,218	9,168	8,048
Count	60	13	35
Production			
Median	24,280	30,000	50,000
Mean	24,131	29,850	47,117
Std Dev	5,513	7,484	10,052
Count	64	8	6
Other			
Median	23,500	25,300	37,000
Mean	23,965	27,700	36,750
Std Dev	6,926	5,224	8,921
Count	37	8	4
TOTAL			
Median	24,000	30,750	48,000
Mean	24,504	32,348	45,965
Std Dev	6,469	8,243	12,778
Count	244	42	78

Table A-10

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME
by EMPLOYER and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		TOTAL
	YES	NO	
EMPLOYER			
Industry			
Median	28,000	24,000	25,750
Mean	27,188	24,296	25,875
Std Dev	6,133	5,260	5,914
Count	83	69	152
College or univ			
Median	20,250	19,000	20,000
Mean	20,211	20,141	20,161
Std Dev	4,976	4,084	4,227
Count	6	15	21
High school			
Median	26,639	20,163	22,000
Mean	25,102	20,446	22,122
Std Dev	4,408	6,032	5,867
Count	9	16	25
Federal govt			
Median	20,000	19,000	19,500
Mean	20,000	20,635	20,476
Std Dev	---	2,914	2,401
Count	1	3	4
Military			
Median	21,568	23,500	23,000
Mean	21,568	23,500	22,534
Std Dev	3,439	2,121	2,586
Count	2	2	4
State or local govt			
Median	26,980	21,000	21,000
Mean	25,219	22,172	23,578
Std Dev	3,812	4,200	4,168
Count	6	7	13

Table A-10 (continued)

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME
by EMPLOYER and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		TOTAL
	YES	NO	
Hospital or indep lab			
Median	22,500	21,346	21,750
Mean	22,130	21,769	21,950
Std Dev	5,765	2,932	4,455
Count	10	10	20
Other			
Median	15,000	35,000	23,250
Mean	16,667	40,500	28,583
Std Dev	7,638	22,265	19,800
Count	3	3	6
TOTAL			
Median	26,040	22,000	24,000
Mean	25,746	23,272	24,484
Std Dev	6,266	6,443	6,463
Count	120	125	245

Table A-11

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME
by DEGREE and DEGREE SPECIALITY
1994 ACS Starting Salary Survey

	Highest Degree	
	MS	PHD
DEGREE FIELD		
Biochemistry		
Median	29,000	35,500
Mean	29,000	37,250
Std Dev	4,243	14,080
Count	2	4
General chem		
Median	36,000	—
Mean	36,500	—
Std Dev	1,323	—
Count	3	0
Analytical chem		
Median	30,000	52,200
Mean	33,070	51,037
Std Dev	11,858	9,871
Count	10	15
Inorganic chem		
Median	27,800	40,000
Mean	30,267	40,000
Std Dev	8,086	9,346
Count	6	14
Organic chem		
Median	37,000	55,000
Mean	33,693	50,048
Std Dev	7,361	12,411
Count	15	23
Physical chem		
Median	30,000	32,000
Mean	29,350	32,231
Std Dev	7,630	7,893
Count	4	11
Polymer chem		
Median	—	54,250
Mean	—	52,510
Std Dev	—	5,095
Count	0	10

Table A-11 (continued)

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME
by DEGREE and DEGREE SPECIALITY
1994 ACS Starting Salary Survey

	Highest Degree	
	MS	PHD
Other chem		
Median	28,000	80,000
Mean	28,000	80,000
Std Dev	5,657	—
Count	2	1
TOTAL		
Median	30,750	48,000
Mean	32,348	45,965
Std Dev	8,243	12,778
Count	42	78

Table A-12

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
REGION			
Pacific			
Median	25,000	38,500	55,000
Mean	25,506	38,500	51,200
Std Dev	5,101	9,192	8,701
Count	18	2	5
Mountain			
Median	21,000	30,000	48,000
Mean	21,818	30,000	40,667
Std Dev	5,759	—	12,702
Count	11	1	3
West North Central			
Median	21,750	—	50,500
Mean	23,038	—	45,000
Std Dev	3,882	—	12,715
Count	18	0	7
West South Central			
Median	21,000	24,000	45,500
Mean	22,141	25,720	45,250
Std Dev	5,128	5,343	10,782
Count	15	10	4
East North Central			
Median	25,000	31,500	48,240
Mean	25,072	32,444	44,876
Std Dev	6,137	5,987	11,111
Count	55	9	15
East South Central			
Median	18,500	24,000	57,000
Mean	19,045	24,333	57,000
Std Dev	5,263	1,528	0
Count	8	3	2
Middle Atlantic			
Median	25,500	38,000	50,000
Mean	26,235	39,711	46,344
Std Dev	9,078	8,069	16,001
Count	47	9	18

Table A-12

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1994 ACS Starting Salary Survey

	Highest Degree		
	BS	MS	PHD
South Atlantic			
Median	22,000	31,800	47,000
Mean	22,895	32,750	44,182
Std Dev	4,927	10,157	11,170
Count	43	4	11
New England			
Median	26,500	34,500	45,600
Mean	26,702	35,250	46,458
Std Dev	5,633	5,377	15,188
Count	20	4	13
TOTAL			
Median	24,000	30,750	48,000
Mean	24,378	32,348	45,965
Std Dev	6,491	8,243	12,778
Count	235	42	78

Table B-1a

CHEMISTRY GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Full-Time in Chemistry	21.8% 215	24.9% 201	23.2% 416	39.2% 56	42.6% 52	40.8% 108	39.2% 104	35.0% 43	37.9% 147
Full-Time in Non-Chemistry	7.0% 69	6.7% 54	6.9% 123	6.3% 9	3.3% 4	4.9% 13	2.3% 6	2.4% 3	2.3% 9
Fellowship	32.7% 323	28.3% 228	30.7% 551	35.7% 51	29.5% 36	32.8% 87	40.4% 107	39.8% 49	40.2% 156
Seeking Employment	15.1% 149	17.7% 143	16.3% 292	9.8% 14	13.1% 16	11.3% 30	15.8% 42	19.5% 24	17.0% 66
Not Seeking Employment	23.5% 232	22.4% 181	23.0% 413	9.1% 13	11.5% 14	10.2% 27	2.3% 6	3.3% 4	2.6% 10
Total	100.0% 55.0% 988	100.0% 45.0% 807	100.0% 100.0% 1795	100.0% 54.0% 143	100.0% 46.0% 122	100.0% 100.0% 265	100.0% 68.3% 265	100.0% 31.7% 123	100.0% 100.0% 388

Table B-1b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1994, SEX, and DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Pursue Advanced Studies in Fall 1994									
Yes, full-time	54.9%	47.5%	51.6%	47.9%	38.6%	43.5%	9.5%	3.3%	7.6%
	585	410	995	69	49	118	25	4	29
Yes, part-time	7.7%	9.1%	8.3%	5.6%	12.6%	8.9%	1.5%	1.7%	1.6%
	82	79	161	8	16	24	4	2	6
No	37.4%	43.4%	40.1%	46.5%	48.8%	47.6%	89.0%	95.0%	90.9%
	398	375	773	67	62	129	234	114	348
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	55.2%	44.8%	100.0%	53.1%	46.9%	100.0%	68.7%	31.3%	100.0%
	1065	864	1929	144	127	271	263	120	383

Table B-2a

CHEMISTRY GRADUATES
by EMPLOYMENT STATUS, CITIZENSHIP, and DEGREE
1994 ACS Starting Salary Survey

	Citizenship				Total
	U.S. Native	U.S. Naturalized	U.S. Permanent Resident	Other Visa	
Bachelors					
Full-Time in Chemistry	24.1% 384	18.3% 20	15.9% 10	3.7% 1	23.2% 415
Full-Time in Non-Chemistry	6.6% 105	7.3% 8	12.7% 8	7.4% 2	6.9% 123
Fellowship	31.7% 505	16.5% 18	25.4% 16	40.7% 11	30.7% 550
Seeking Employment	15.6% 248	22.0% 24	20.6% 13	18.5% 5	16.2% 290
Not Seeking Employment	22.0% 350	35.8% 39	25.4% 16	29.6% 8	23.1% 413
Masters					
Full-Time in Chemistry	44.8% 78	33.3% 2	51.5% 17	22.0% 11	41.5% 108
Full-Time in Non-Chemistry	6.9% 12	.0% 0	3.0% 1	.0% 0	4.9% 13
Fellowship	29.9% 52	50.0% 3	24.2% 8	44.0% 22	32.3% 85
Seeking Employment	8.6% 15	16.7% 1	9.1% 3	22.0% 11	11.4% 30
Not Seeking Employment	9.8% 17	.0% 0	12.1% 4	12.0% 6	10.3% 27

Table B-2a (continued)

CHEMISTRY GRADUATES
by EMPLOYMENT STATUS, CITIZENSHIP, and DEGREE
1994 ACS Starting Salary Survey

	Citizenship				Total
	U.S. Native	U.S. Naturalized	U.S. Permanent Resident	Other Visa	
Doctorate					
Full-Time in Chemistry	39.0% 96	45.5% 5	38.5% 30	30.2% 16	37.9% 147
Full-Time in Non-Chemistry	2.4% 6	9.1% 1	1.3% 1	1.9% 1	2.3% 9
Fellowship	40.7% 100	36.4% 4	32.1% 25	50.9% 27	40.2% 156
Seeking Employment	14.2% 35	9.1% 1	28.2% 22	15.1% 8	17.0% 66
Not Seeking Employment	3.7% 9	.0% 0	.0% 0	1.9% 1	2.6% 10
Total	100.0% 82.4% 2012	100.0% 5.2% 126	100.0% 7.1% 174	100.0% 5.3% 130	100.0% 100.0% 2442

Table B-2b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1994, CITIZENSHIP, and DEGREE
1994 ACS Starting Salary Survey

	Citizenship				Total
	U.S. Native	U.S. Naturalized	U.S. Permanent Resident	Other Visa	
Pursue Advanced Studies in Fall 1994					
Bachelors					
Yes, full-time	51.7% 883	47.9% 57	50.0% 34	67.7% 21	51.7% 995
Yes, part-time	8.1% 138	10.1% 12	14.7% 10	3.2% 1	8.4% 161
No	40.2% 686	42.0% 50	35.3% 24	29.0% 9	39.9% 769
Masters					
Yes, full-time	38.1% 69	42.9% 3	33.3% 11	68.8% 33	43.1% 116
Yes, part-time	9.4% 17	.0% 0	12.1% 4	6.3% 3	8.9% 24
No	52.5% 95	57.1% 4	54.5% 18	25.0% 12	48.0% 129
Doctorate					
Yes, full-time	7.7% 19	.0% 0	8.2% 6	7.7% 4	7.6% 29
Yes, part-time	.8% 2	.0% 0	2.7% 2	3.8% 2	1.6% 6
No	91.5% 227	100.0% 9	89.0% 65	88.5% 46	90.8% 347
Total	100.0% 82.9% 2136	100.0% 5.2% 135	100.0% 6.8% 174	100.0% 5.1% 131	100.0% 100.0% 2576

Table B-3a

BACHELORS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1994 ACS Starting Salary Survey

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Full-Time in Chemistry	14.3% 1	21.1% 12	29.6% 8	16.5% 16	15.0% 9	19.7% 14	24.5% 350	11.4% 4	23.3% 414
Full-Time in Non-Chemistry	.0% 0	5.3% 3	3.7% 1	8.2% 8	10.0% 6	9.9% 7	6.5% 93	8.6% 3	6.8% 121
Fellowship	71.4% 5	35.1% 20	18.5% 5	19.6% 19	23.3% 14	19.7% 14	32.3% 461	22.9% 8	30.7% 546
Seeking Employment	.0% 0	12.3% 7	18.5% 5	21.6% 21	31.7% 19	22.5% 16	15.1% 216	11.4% 4	16.2% 288
Not Seeking Employment	14.3% 1	26.3% 15	29.6% 8	34.0% 33	20.0% 12	28.2% 20	21.5% 306	45.7% 16	23.1% 411
Total	100.0% .4% 7	100.0% 3.2% 57	100.0% 1.5% 27	100.0% 5.4% 97	100.0% 3.4% 60	100.0% 4.0% 71	100.0% 80.1% 1426	100.0% 2.0% 35	100.0% 100.0% 1780

Table B-3a (continued)

MASTERS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1994 ACS Starting Salary Survey

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Full-Time in Chemistry	100.0% 1	41.5% 22	20.0% 2	37.5% 3	.0% 0	22.2% 2	44.0% 77	50.0% 1	41.1% 108
Full-Time in Non-Chemistry	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	7.4% 13	.0% 0	4.9% 13
Fellowship	.0% 0	30.2% 16	70.0% 7	25.0% 2	60.0% 3	44.4% 4	30.9% 54	.0% 0	32.7% 86
Seeking Employment	.0% 0	20.8% 11	10.0% 1	25.0% 2	.0% 0	33.3% 3	7.4% 13	.0% 0	11.4% 30
Not Seeking Employment	.0% 0	7.5% 4	.0% 0	12.5% 1	40.0% 2	.0% 0	10.3% 18	50.0% 1	9.9% 26
Total	100.0% .4% 1	100.0% 20.2% 53	100.0% 3.8% 10	100.0% 3.0% 8	100.0% 1.9% 5	100.0% 3.4% 9	100.0% 66.5% 175	100.0% .8% 2	100.0% 100.0% 263

Table B-3a (continued)

PhD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1994 ACS Starting Salary Survey

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Full-Time in Chemistry	.0% 0	40.0% 34	28.6% 4	29.4% 5	75.0% 3	23.1% 3	39.3% 97	20.0% 1	38.1% 147
Full-Time in Non-Chemistry	.0% 0	3.5% 3	.0% 0	.0% 0	.0% 0	15.4% 2	1.6% 4	.0% 0	2.3% 9
Fellowship	100.0% 1	30.6% 26	57.1% 8	52.9% 9	25.0% 1	38.5% 5	41.3% 102	80.0% 4	40.4% 156
Seeking Employment	.0% 0	24.7% 21	14.3% 2	17.6% 3	.0% 0	15.4% 2	14.6% 36	.0% 0	16.6% 64
Not Seeking Employment	.0% 0	1.2% 1	.0% 0	.0% 0	.0% 0	7.7% 1	3.2% 8	.0% 0	2.6% 10
Total	100.0% .3% 1	100.0% 22.0% 85	100.0% 3.6% 14	100.0% 4.4% 17	100.0% 1.0% 4	100.0% 3.4% 13	100.0% 64.0% 247	100.0% 1.3% 5	100.0% 100.0% 386

Table B-3b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1994, ETHNICITY, and DEGREE
1994 ACS Starting Salary Survey

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Pursue Advanced Studies in Fall 1994 Bachelors									
Yes, full-time	71.4% 5	62.5% 40	45.5% 15	51.9% 55	44.6% 29	49.4% 39	51.3% 778	62.5% 25	51.6% 986
Yes, part-time	.0% 0	4.7% 3	12.1% 4	9.4% 10	21.5% 14	.7.6% 6	7.8% 119	10.0% 4	8.4% 160
No	28.6% 2	32.8% 21	42.4% 14	38.7% 41	33.8% 22	43.0% 34	40.8% 619	27.5% 11	40.0% 764
Total	100.0% .4% 7	100.0% 3.4% 64	100.0% 1.7% 33	100.0% 5.5% 106	100.0% 3.4% 65	100.0% 4.1% 79	100.0% 79.4% 1516	100.0% 2.1% 40	100.0% 100.0% 1910
Masters									
Yes, full-time	.0% 0	46.2% 24	70.0% 7	62.5% 5	80.0% 4	40.0% 4	38.9% 70	66.7% 2	43.1% 116
Yes, part-time	.0% 0	3.8% 2	10.0% 1	12.5% 1	.0% 0	20.0% 2	10.0% 18	.0% 0	8.9% 24
No	100.0% 1	50.0% 26	20.0% 2	25.0% 2	20.0% 1	40.0% 4	51.1% 92	33.3% 1	48.0% 129
Total	100.0% .4% 1	100.0% 19.3% 52	100.0% 3.7% 10	100.0% 3.0% 8	100.0% 1.9% 5	100.0% 3.7% 10	100.0% 66.9% 180	100.0% 1.1% 3	100.0% 100.0% 269

Table B-3b (continued)

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1994, ETHNICITY, and DEGREE
1994 ACS Starting Salary Survey

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Pursue Advanced Studies in Fall 1994 Doctorate									
Yes, full-time	.0% 0	6.3% 5	.0% 0	20.0% 3	.0% 0	14.3% 2	7.3% 18	16.7% 1	7.6% 29
Yes, part-time	.0% 0	2.5% 2	.0% 0	.0% 0	20.0% 1	7.1% 1	.8% 2	.0% 0	1.6% 6
No	100.0% 1	91.3% 73	100.0% 13	80.0% 12	80.0% 4	78.6% 11	91.9% 226	83.3% 5	90.8% 345
Total	100.0% .3% 1	100.0% 21.1% 80	100.0% 3.4% 13	100.0% 3.9% 15	100.0% 1.3% 5	100.0% 3.7% 14	100.0% 64.7% 246	100.0% 1.6% 6	100.0% 100.0% 380

Table B-4a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		Total
	Yes	No	
Full-Time in Chemistry	20.9% 192	25.5% 224	23.2% 416
Full-Time in Non-Chemistry	5.6% 51	8.2% 72	6.9% 123
Fellowship	41.5% 381	19.4% 170	30.7% 551
Seeking Employment	14.4% 132	18.2% 160	16.3% 292
Not Seeking Employment	17.6% 162	28.6% 251	23.0% 413
Total	100.0% 51.1% 918	100.0% 48.9% 877	100.0% 100.0% 1795

Table B-4b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1994 and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		Total
	Yes	No	
Pursue Advanced Studies in Fall 1994			
Yes, full-time	56.1% 546	37.0% 596	44.2% 1142
Yes, part-time	7.6% 74	7.3% 117	7.4% 191
No	36.3% 353	55.7% 898	48.4% 1251
Total	100.0% 37.7% 973	100.0% 62.3% 1611	100.0% 100.0% 2584

Table B-5

MASTERS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALITY
1994 ACS Starting Salary Survey

	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	Total
Degree Field						
Biochemistry	4.6%	.0%	11.5%	10.0%	7.4%	7.5%
	25.0%	.0%	50.0%	15.0%	10.0%	100.0%
	5	0	10	3	2	20
General chem	15.7%	38.5%	4.6%	13.3%	3.7%	11.7%
	54.8%	16.1%	12.9%	12.9%	3.2%	100.0%
	17	5	4	4	1	31
Analytical chem	25.0%	23.1%	11.5%	33.3%	22.2%	21.1%
	48.2%	5.4%	17.9%	17.9%	10.7%	100.0%
	27	3	10	10	6	56
Inorganic chem	9.3%	7.7%	14.9%	.0%	7.4%	9.8%
	38.5%	3.8%	50.0%	.0%	7.7%	100.0%
	10	1	13	0	2	26
Organic chem	31.5%	15.4%	35.6%	23.3%	22.2%	30.2%
	42.5%	2.5%	38.8%	8.8%	7.5%	100.0%
	34	2	31	7	6	80
Physical chem	5.6%	7.7%	14.9%	6.7%	22.2%	10.6%
	21.4%	3.6%	46.4%	7.1%	21.4%	100.0%
	6	1	13	2	6	28
Polymer chem	1.9%	7.7%	3.4%	10.0%	3.7%	3.8%
	20.0%	10.0%	30.0%	30.0%	10.0%	100.0%
	2	1	3	3	1	10
Other chem	6.5%	.0%	3.4%	3.3%	11.1%	5.3%
	50.0%	.0%	21.4%	7.1%	21.4%	100.0%
	7	0	3	1	3	14
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	40.8%	4.9%	32.8%	11.3%	10.2%	100.0%
	108	13	87	30	27	265

Table B-6

PhD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALITY
1994 ACS Starting Salary Survey

	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	Total
Degree Field						
Biochemistry	4.7%	.0%	19.2%	4.5%	10.0%	10.5%
	17.1%	.0%	73.2%	7.3%	2.4%	100.0%
	7	0	30	3	1	41
General chem	.7%	.0%	.0%	.0%	.0%	.3%
	100.0%	.0%	.0%	.0%	.0%	100.0%
	1	0	0	0	0	1
Analytical chem	23.6%	30.0%	8.3%	18.2%	20.0%	16.7%
	53.8%	4.6%	20.0%	18.5%	3.1%	100.0%
	35	3	13	12	2	65
Inorganic chem	16.2%	20.0%	16.0%	12.1%	20.0%	15.6%
	39.3%	3.3%	41.0%	13.1%	3.3%	100.0%
	24	2	25	8	2	61
Organic chem	30.4%	10.0%	35.3%	31.8%	30.0%	32.1%
	36.0%	.8%	44.0%	16.8%	2.4%	100.0%
	45	1	55	21	3	125
Physical chem	15.5%	30.0%	15.4%	30.3%	20.0%	18.5%
	31.9%	4.2%	33.3%	27.8%	2.8%	100.0%
	23	3	24	20	2	72
Polymer chem	6.8%	.0%	3.2%	1.5%	.0%	4.1%
	62.5%	.0%	31.3%	6.3%	.0%	100.0%
	10	0	5	1	0	16
Other chem	2.0%	10.0%	2.6%	1.5%	.0%	2.3%
	33.3%	11.1%	44.4%	11.1%	.0%	100.0%
	3	1	4	1	0	9
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	37.9%	2.6%	40.0%	16.9%	2.6%	100.0%
	148	10	156	66	10	390

Table C-1

CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY, DEGREE, and SEX
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Field of Further Studies									
Chemistry	40.2% 33	29.1% 23	34.8% 56	62.5% 5	62.5% 10	62.5% 15	25.0% 1	50.0% 1	33.3% 2
Other phys sci	3.7% 3	8.9% 7	6.2% 10	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Chem or biochem eng	4.9% 4	2.5% 2	3.7% 6	.0% 0	.0% 0	.0% 0	25.0% 1	.0% 0	16.7% 1
Other eng	.0% 0	1.3% 1	.6% 1	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Biochemistry	9.8% 8	10.1% 8	9.9% 16	12.5% 1	.0% 0	4.2% 1	.0% 0	.0% 0	.0% 0
Life science	6.1% 5	11.4% 9	8.7% 14	.0% 0	.0% 0	.0% 0	.0% 0	50.0% 1	16.7% 1
Medicine	6.1% 5	8.9% 7	7.5% 12	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Dentistry	3.7% 3	.0% 0	1.9% 3	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Pharmacy	3.7% 3	7.6% 6	5.6% 9	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0

Table C-1 (continued)

CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY, DEGREE, and SEX
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Business	6.1% 5	2.5% 2	4.3% 7	12.5% 1	18.8% 3	16.7% 4	25.0% 1	.0% 0	16.7% 1
Education	2.4% 2	8.9% 7	5.6% 9	.0% 0	6.3% 1	4.2% 1	.0% 0	.0% 0	.0% 0
Law	.0% 0	.0% 0	.0% 0	12.5% 1	.0% 0	4.2% 1	.0% 0	.0% 0	.0% 0
Other	13.4% 11	8.9% 7	11.2% 18	.0% 0	12.5% 2	8.3% 2	25.0% 1	.0% 0	16.7% 1
Total	100.0% 82	100.0% 79	100.0% 161	100.0% 8	100.0% 16	100.0% 24	100.0% 4	100.0% 2	100.0% 6

Table C-2

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		Total
	Yes	No	
Field of Further Studies			
Chemistry	45.9% 34	25.3% 22	34.8% 56
Other phys sci	4.1% 3	8.0% 7	6.2% 10
Chem or biochem eng	4.1% 3	3.4% 3	3.7% 6
Other eng	.0% 0	1.1% 1	.6% 1
Biochemistry	8.1% 6	11.5% 10	9.9% 16
Life science	10.8% 8	6.9% 6	8.7% 14
Medicine	5.4% 4	9.2% 8	7.5% 12
Dentistry	1.4% 1	2.3% 2	1.9% 3
Pharmacy	2.7% 2	8.0% 7	5.6% 9
Business	2.7% 2	5.7% 5	4.3% 7
Education	5.4% 4	5.7% 5	5.6% 9
Other	9.5% 7	12.6% 11	11.2% 18
Total	100.0% 74	100.0% 87	100.0% 161

Table C-3

CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY, DEGREE, and SEX
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Field of Further Studies									
Chemistry	46.2% 270	44.6% 183	45.5% 453	75.4% 52	77.1% 37	76.1% 89	52.0% 13	50.0% 2	51.7% 15
Other phys sci	2.6% 15	2.0% 8	2.3% 23	.0% 0	2.1% 1	.9% 1	.0% 0	.0% 0	.0% 0
Chem or biochem eng	1.5% 9	1.2% 5	1.4% 14	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Other eng	1.0% 6	2.0% 8	1.4% 14	.0% 0	.0% 0	.0% 0	4.0% 1	.0% 0	3.4% 1
Biochemistry	8.9% 52	9.8% 40	9.2% 92	10.1% 7	10.4% 5	10.3% 12	20.0% 5	50.0% 2	24.1% 7
Life science	2.4% 14	2.4% 10	2.4% 24	1.4% 1	2.1% 1	1.7% 2	4.0% 1	.0% 0	3.4% 1
Medicine	27.9% 163	21.7% 89	25.3% 252	8.7% 6	4.2% 2	6.8% 8	8.0% 2	.0% 0	6.9% 2
Dentistry	.9% 5	1.7% 7	1.2% 12	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Pharmacy	1.2% 7	6.1% 25	3.2% 32	2.9% 2	2.1% 1	2.6% 3	4.0% 1	.0% 0	3.4% 1

Table C-3 (continued)

CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY, DEGREE, and SEX
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Field of Further Studies									
Business	1.7% 10	.7% 3	1.3% 13	.0% 0	2.1% 1	.9% 1	.0% 0	.0% 0	.0% 0
Education	1.2% .7	.7% 3	1.0% 10	.0% 0	.0% 0	.0% . 0	.0% 0	.0% 0	.0% 0
Law	1.2% 7	1.7% 7	1.4% 14	.0% 0	.0% 0	.0% 0	8.0% 2	.0% 0	6.9% 2
Other	3.4% 20	5.4% 22	4.2% 42	1.4% 1	.0% 0	.9% 1	.0% 0	.0% 0	.0% 0
Total	100.0% 585	100.0% 410	100.0% 995	100.0% 69	100.0% 48	100.0% 117	100.0% 25	100.0% 4	100.0% 29

Table C-4

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1994
by FIELD OF ADVANCED STUDY and CERTIFICATION
1994 ACS Starting Salary Survey

	Curriculum Approved?		Total
	Yes	No	
Field of Further Studies			
Chemistry	62.0% 338	25.6% 115	45.5% 453
Other phys sci	2.6% 14	2.0% 9	2.3% 23
Chem or biochem eng	.9% 5	2.0% 9	1.4% 14
Other eng	1.1% 6	1.8% 8	1.4% 14
Biochemistry	8.6% 47	10.0% 45	9.2% 92
Life science	1.1% 6	4.0% 18	2.4% 24
Medicine	14.7% 80	38.2% 172	25.3% 252
Dentistry	1.3% 7	1.1% 5	1.2% 12
Pharmacy	1.5% 8	5.3% 24	3.2% 32
Business	1.1% 6	1.6% 7	1.3% 13
Education	.7% 4	1.3% 6	1.0% 10
Law	.9% 5	2.0% 9	1.4% 14
Other	3.5% 19	5.1% 23	4.2% 42
Total	100.0% 545	100.0% 450	100.0% 995

Table C-5

BS CHEMISTRY GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT
by SEX and PLANS FOR FURTHER STUDIES
1994 Starting Salary Survey

	Sex		Total
	Male	Female	
Pursue Advanced Studies in Fall 1994			
Yes, full-time	86.1% 199	77.9% 141	82.5% 340
Yes, part-time	5.6% 13	6.6% 12	6.1% 25
No	8.2% 19	15.5% 28	11.4% 47
Total	100.0% 231	100.0% 181	100.0% 412

Table D-1

BS CHEMISTRY GRADUATES
by AGE and SEX
1994 Starting Salary Survey

	Sex		Total
	Male	Female	
AGE			
20 OR UNDER	1.2% 13	1.3% 11	1.2% 24
21	10.7% 114	17.7% 153	13.8% 267
22	42.7% 455	50.5% 436	46.2% 891
23	19.3% 206	13.0% 112	16.5% 318
24	7.6% 81	4.7% 41	6.3% 122
25	3.4% 36	2.8% 24	3.1% 60
26	3.3% 35	2.0% 17	2.7% 52
27	2.3% 24	1.3% 11	1.8% 35
28	2.1% 22	.6% 5	1.4% 27
29	1.2% 13	.8% 7	1.0% 20
30 to 34	3.3% 35	2.4% 21	2.9% 56
35 to 39	1.6% 17	2.7% 23	2.1% 40
40 to 49	1.4% 15	.2% 2	.9% 17
50 to 64	.0% 0	.1% 1	.1% 1
Total	100.0% 1066	100.0% 864	100.0% 1930

Table D-2

MS CHEMISTRY GRADUATES
by AGE and SEX
1994 Starting Salary Survey

	Sex		Total
	Male	Female	
AGE			
21	.0% 0	.8% 1	.4% 1
22	.7% 1	1.6% 2	1.1% 3
23	4.8% 7	5.4% 7	5.1% 14
24	9.0% 13	14.0% 18	11.3% 31
25	13.1% 19	18.6% 24	15.7% 43
26	11.0% 16	16.3% 21	13.5% 37
27	8.3% 12	9.3% 12	8.8% 24
28	10.3% 15	3.9% 5	7.3% 20
29	5.5% 8	6.2% 8	5.8% 16
30 to 34	22.8% 33	15.5% 20	19.3% 53
35 to 39	9.0% 13	7.8% 10	8.4% 23
40 to 49	5.5% 8	.8% 1	3.3% 9
Total	100.0% 145	100.0% 129	100.0% 274

Table D-3

PhD CHEMISTRY GRADUATES
by AGE and SEX
1994 Starting Salary Survey

	Sex		Total
	Male	Female	
AGE			
20 OR UNDER	.7% 2	.0% 0	.5% 2
24	.0% 0	1.6% 2	.5% 2
25	.7% 2	1.6% 2	1.0% 4
26	6.2% 17	7.3% 9	6.5% 26
27	12.5% 34	16.9% 21	13.9% 55
28	19.8% 54	19.4% 24	19.6% 78
29	14.3% 39	8.9% 11	12.6% 50
30 to 34	33.3% 91	34.7% 43	33.8% 134
35 to 39	9.5% 26	5.6% 7	8.3% 33
40 to 49	2.6% 7	1.6% 2	2.3% 9
50 to 64	.4% 1	2.4% 3	1.0% 4
Total	100.0% 273	100.0% 124	100.0% 397

Table D-4

CHEMISTRY POSTDOCTORAL RECIPIENTS
by AGE and SEX
1994 Starting Salary Survey

	Sex		Total
	Male	Female	
AGE			
24	.0% 0	1.6% 1	.5% 1
25	1.5% 2	.0% 0	1.0% 2
26	2.2% 3	10.9% 7	5.0% 10
27	11.8% 16	20.3% 13	14.5% 29
28	22.1% 30	25.0% 16	23.0% 46
29	15.4% 21	6.3% 4	12.5% 25
30 to 34	34.6% 47	32.8% 21	34.0% 68
35 to 39	10.3% 14	.0% 0	7.0% 14
40 to 49	2.2% 3	1.6% 1	2.0% 4
50 to 64	.0% 0	1.6% 1	.5% 1
Total	100.0% 136	100.0% 64	100.0% 200

Table E-1

FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Offers of Employment									
1	52.4% 65	43.3% 55	47.8% 120	41.2% 7	40.9% 9	41.0% 16	52.8% 28	63.0% 17	56.3% 45
2	23.4% 29	33.1% 42	28.3% 71	23.5% 4	27.3% 6	25.6% 10	26.4% 14	25.9% 7	26.3% 21
3	16.9% 21	16.5% 21	16.7% 42	17.6% 3	18.2% 4	17.9% 7	13.2% 7	3.7% 1	10.0% 8
4	4.0% 5	3.1% 4	3.6% 9	17.6% 3	13.6% 3	15.4% 6	5.7% 3	7.4% 2	6.3% 5
5	1.6% 2	1.6% 2	1.6% 4	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
6 or 7	.8% 1	2.4% 3	1.6% 4	.0% 0	.0% 0	.0% 0	1.9% 1	.0% 0	1.3% 1
10 OR MORE	.8% 1	.0% 0	.4% 1	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
Total	100.0% 124	100.0% 127	100.0% 251	100.0% 17	100.0% 22	100.0% 39	100.0% 53	100.0% 27	100.0% 80

Table E-2

FULL-TIME EMPLOYED EXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Offers of Employment									
1	39.0% 32	47.2% 34	42.9% 66	20.0% 5	34.8% 8	27.1% 13	53.5% 23	56.3% 9	54.2% 32
2	30.5% 25	25.0% 18	27.9% 43	52.0% 13	52.2% 12	52.1% 25	30.2% 13	31.3% 5	30.5% 18
3	20.7% 17	15.3% 11	18.2% 28	20.0% 5	4.3% 1	12.5% 6	9.3% 4	.0% 0	6.8% 4
4	6.1% 5	4.2% 3	5.2% 8	8.0% 2	.0% 0	4.2% 2	7.0% 3	6.3% 1	6.8% 4
5	1.2% 1	5.6% 4	3.2% 5	.0% 0	4.3% 1	2.1% 1	.0% 0	6.3% 1	1.7% 1
6 or 7	2.4% 2	1.4% 1	1.9% 3	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0	.0% 0
10 OR MORE	.0% 0	1.4% 1	.6% 1	.0% 0	4.3% 1	2.1% 1	.0% 0	.0% 0	.0% 0
Total	100.0% 82	100.0% 72	100.0% 154	100.0% 25	100.0% 23	100.0% 48	100.0% 43	100.0% 16	100.0% 59

Table F-1

CHEMISTRY GRADUATES
by CITIZENSHIP, ETHNICITY, and DEGREE
1994 ACS Starting Salary Survey

Bachelors

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Citizenship									
US Native	100.0%	46.9%	42.4%	29.2%	71.9%	83.5%	97.3%	60.0%	88.7%
	7	30	14	31	46	66	1477	24	1695
US Naturalized	.0%	34.4%	36.4%	50.9%	6.3%	7.6%	1.1%	10.0%	6.2%
	0	. 22	12	54	4	6	17	4	119
US Permanent Res Visa	.0%	4.7%	12.1%	16.0%	21.9%	8.9%	1.1%	15.0%	3.5%
	0	3	4	17	14	7	16	6	67
Other visa	.0%	14.1%	9.1%	3.8%	.0%	.0%	.5%	15.0%	1.6%
	0	9	3	4	0	0	8	6	30
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	.4%	3.3%	1.7%	5.5%	3.3%	4.1%	79.4%	2.1%	100.0%
	7	64	33	106	64	79	1518	40	1911

Table F-1 (continued)

CHEMISTRY GRADUATES
by CITIZENSHIP, ETHNICITY, and DEGREE
1994 ACS Starting Salary Survey

Masters

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Citizenship									
US Native	100.0% 1	.0% 0	11.1% 1	22.2% 2	80.0% 4	40.0% 4	91.7% 165	100.0% 3	66.4% 180
US Naturalized	.0% 0	1.9% 1	11.1% 1	11.1% 1	.0% 0	30.0% 3	.6% 1	.0% 0	2.6% 7
US Permanent Res Visa	.0% 0	40.7% 22	22.2% 2	22.2% 2	20.0% 1	10.0% 1	3.3% 6	.0% 0	12.5% 34
Other visa	.0% 0	57.4% 31	55.6% 5	44.4% 4	.0% 0	20.0% 2	4.4% 8	.0% 0	18.5% 50
Total	100.0% .4% 1	100.0% 19.9% 54	100.0% 3.3% 9	100.0% 3.3% 9	100.0% 1.8% 5	100.0% 3.7% 10	100.0% 66.4% 180	100.0% 1.1% 3	100.0% 100.0% 271

Table F-1 (continued)

CHEMISTRY GRADUATES
by CITIZENSHIP, ETHNICITY, and DEGREE
1994 ACS Starting Salary Survey

Doctorate

	Race								Total
	Amer Indian	Chinese	Subcont Indian	Other Asian	Black	Hisp	White	Other	
Citizenship									
US Native	100.0% 1	4.7% 4	.0% 0	11.1% 2	50.0% 2	71.4% 10	90.9% 230	50.0% 3	63.8% 252
US Naturalized	.0% 0	3.5% 3	.0% 0	16.7% 3	.0% 0	14.3% 2	1.2% 3	.0% 0	2.8% 11
US Permanent Res Visa	.0% 0	72.9% 62	14.3% 2	22.2% 4	.0% 0	.0% 0	4.0% 10	.0% 0	19.7% 78
Other visa	.0% 0	18.8% 16	85.7% 12	50.0% 9	50.0% 2	14.3% 2	4.0% 10	50.0% 3	13.7% 54
Total	100.0% .3% 1	100.0% 21.5% 85	100.0% 3.5% 14	100.0% 4.6% 18	100.0% 1.0% 4	100.0% 3.5% 14	100.0% 64.1% 253	100.0% 1.5% 6	100.0% 100.0% 395

Table F-2

CHEMISTRY GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Citizenship									
US Native	89.9% 960	87.2% 752	88.7% 1712	69.0% 100	63.3% 81	66.3% 181	64.2% 176	62.9% 78	63.8% 254
US Naturalized	5.3% 57	7.2% 62	6.2% 119	.7% 1	4.7% 6	2.6% 7	2.9% 8	2.4% 3	2.8% 11
US Permanent Res Visa	3.5% 37	3.6% 31	3.5% 68	10.3% 15	14.8% 19	12.5% 34	17.5% 48	25.0% 31	19.8% 79
Other visa	1.3% 14	2.0% 17	1.6% 31	20.0% 29	17.2% 22	18.7% 51	15.3% 42	9.7% 12	13.6% 54
Total	100.0% 1068	100.0% 862	100.0% 1930	100.0% 145	100.0% 128	100.0% 273	100.0% 274	100.0% 124	100.0% 398

Table F-3

MINORITY CHEMISTRY GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1994 ACS Starting Salary Survey

	Bachelors			Masters			Doctorate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
MINORITY CLASSIFICATION									
American Indian	2.0% 4	1.5% 3	1.8% 7	.0% 0	2.0% 1	1.1% 1	1.0% 1	.0% 0	.7% 1
Chinese	15.7% 31	16.8% 33	16.2% 64	65.9% 27.	52.9% 27	58.7% 54	54.5% 55	71.4% 30	59.4% 85
Subcont Indian	9.1% 18	7.7% 15	8.4% 33	12.2% 5	9.8% 5	10.9% 10	10.9% 11	7.1% 3	9.8% 14
Other Asian	24.2% 48	29.6% 58	26.9% 106	4.9% 2	13.7% 7	9.8% 9	10.9% 11	16.7% 7	12.6% 18
Black	14.6% 29	18.4% 36	16.5% 65	2.4% 1	7.8% 4	5.4% 5	5.0% 5	.0% 0	3.5% 5
Hispanic	23.7% 47	16.3% 32	20.1% 79	7.3% 3	13.7% 7	10.9% 10	12.9% 13	2.4% 1	9.8% 14
Other	10.6% 21	9.7% 19	10.2% 40	7.3% 3	.0% 0	3.3% 3	5.0% 5	2.4% 1	4.2% 6
Total	100.0% 198	100.0% 196	100.0% 394	100.0% 41	100.0% 51	100.0% 92	100.0% 101	100.0% 42	100.0% 143

American Chemical Society

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
PHONE (202) 872-4534

JOHN K CRUM
Executive Director

Summer, 1994

Dear Colleague:

Each year, the American Chemical Society conducts a mail survey of persons who have recently earned degrees in chemistry or chemical engineering. The published results, which include information about salaries and employment, are useful to the profession, and especially to those beginning their careers.

I urge you, as a service to your colleagues and profession, to respond to this year's questionnaire. The procedure is *confidential*. The information you provide will be combined with returns from other graduates so that only aggregate data will be available. To ensure confidentiality, your name and address will not be coded with the information you provide.

Please complete this questionnaire and return it promptly. For your convenience, I have enclosed a self-addressed, postage-paid envelope. The results of the survey will be published in *Chemical & Engineering News*' career issue this October and in a more extensive report later in the year.

Thank you for your assistance with this survey. I extend my best wishes for every success in your professional pursuits.

Sincerely,

John K Crum

Enclosure

AMERICAN CHEMICAL SOCIETY
Survey of Starting Salaries and Employment Status of 1994 Chemistry and Chemical Engineering Graduates

1. Highest degree earned:

Bachelor's ☐ 1
Master's ☐ 2
Doctorate ☐ 3 1

2. Field of highest degree:

Chemical engineering ☐ 01
Biochemical engineering ☐ 02
Biochemistry ☐ 03
General chemistry ☐ 04
Analytical chemistry ☐ 05
Inorganic chemistry ☐ 06
Organic chemistry ☐ 07
Physical chemistry ☐ 08
Polymer chemistry ☐ 09
Other chemistry ☐ 10
Other (please specify) _____ ☐ 11 2-3

3. Please describe the school that granted your degree:

a. Public ☐ 1
Private ☐ 2 4

b. Total number of students:

Less than 1,500 ☐ 1
1,500 to 4,999 ☐ 2
5,000 to 9,999 ☐ 3
10,000 to 19,999 ☐ 4
20,000 or more ☐ 5 5

c. The highest degree offered by your department is:

BS ☐ 1
MS ☐ 2
PhD ☐ 3 6

d. Location of school. Please give *first three* digits of zip code:

___ ___ ___ 7-9

e. Is the school an historically or predominantly black institution?

Yes ☐ 1
No ☐ 2 10

f. Is the school a traditionally women's institution?

Yes ☐ 1
No ☐ 2 11

IF HIGHEST DEGREE EARNED WAS A MASTER'S OR DOCTORATE, PLEASE SKIP TO QUESTION 7.

4. In your chemistry classes, did you get a chance to:

a. Work in teams?
Yes ☐ 1
No ☐ 2 12

b. Work on independent research projects?
Yes ☐ 1
No ☐ 2 13

5. Did you participate in a chemistry or chemical engineering cooperative education program while in college?

Yes ☐ 1
No ☐ 2 14

6. Grade point average: [Use A=4.00; B=3.00; C=2.00]

In your major _____ 15-18
Overall _____ 19-22

7. Will you pursue advanced studies in the fall of 1994?

Yes, full-time ☐ 1
Yes, part-time ☐ 2
No ☐ 3 23

a. If yes, field of further studies:

Chemistry ☐ 01
Other physical sci, computer science, math ☐ 02
Chemical engineering or biochemical eng ☐ 03
Other engineering ☐ 04
Biochemistry ☐ 05
Life science ☐ 06
Medicine ☐ 07
Dentistry ☐ 08
Pharmacy, pharmacology ☐ 09
Business management ☐ 10
Education ☐ 11
Law ☐ 12
Other ☐ 13 24-25

8. Your age at last birthday? _____years old 26-27

9. Your sex?

Male ☐ 1
Female ☐ 2 28

10. Citizenship or visa status:

U.S. native ☐ 1
U.S. naturalized ☐ 2
U.S. permanent resident visa ☐ 3
Other visa ☐ 4 29

11. What is your racial or ethnic group?

- American Indian or Alaskan Native ☐ 1
- Chinese ☐ 2
- Subcontinental Indian ☐ 3
- Other Asian or Pacific Islander ☐ 4
- African American/Black (not of Hispanic origin) ☐ 5
- Hispanic ☐ 6
- White (not of Hispanic origin) ☐ 7
- Other race or ethnic group ☐ 8 30

12. Current employment status:

- Accepted or continuing full-time employment (excluding summer employment) ☐ 1
- Accepted a graduate assistantship, fellowship, or postdoctoral fellowship ☐ 2
- Part-time employment ☐ 3
- Temporary/summer employment ☐ 4
- Not employed ☐ 5 31

a. If not continuing full-time employment, are you:

- *seeking* full-time, year-round employment ☐ 1
- *not seeking* full-time, year-round employment ☐ 2 32

IF YOU CHECKED BOX 3, 4, OR 5 IN QUESTION 12, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

13. Your base annual salary from principal job:

$_____per year 33-38

IF YOU HOLD AN ASSISTANTSHIP OR FELLOWSHIP, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

14. How many firm offers of employment did you receive in a field of chemistry or chemical engineering?

Specify number _____ 39-41

15. Professional or technical work experience prior to graduation:

- Less than 12 months (or none) ☐ 1
- 12 to 36 months ☐ 2
- More than 36 months ☐ 3 42

16. Check the one specialty most related to your job:

- Chemical engineering ☐ 1
- Chemistry (including biochemistry) ☐ 2
- Other ☐ 3 43

17. Check the one category that best describes your employer:

- Private industry ☐ 1
- College or university ☐ 2
- High school or other school ☐ 3
- Federal government (civilian) ☐ 4
- Military ☐ 5
- State or local government ☐ 6
- Hospital or independent laboratory ☐ 7
- Other ☐ 8 44

18. If you are employed in private industry, check the one category that best describes the type of industry:

- Non-manufacturing ☐ 01
- Manufacturing company primarily involved in:
  - Aerospace ☐ 02
  - Basic chemicals ☐ 03
  - Specialty chemicals ☐ 04
  - Agricultural chemicals ☐ 05
  - Electronics ☐ 06
  - Petroleum/natural gas ☐ 07
  - Pharmaceuticals/personal care ☐ 08
  - Plastics ☐ 09
  - Other manufactures ☐ 10 45-46

19. Check the ONE work function that best describes your job:

- Teaching ☐ 1
- Management or Administration ☐ 2
- Basic research ☐ 3
- Applied research, Development, or Design ☐ 4
- Production/Quality control ☐ 5
- Other (specify) _____ ☐ 6 47

20. Is your job classified as a:

- Chemical or engineering technician ☐ 1
- Scientist or engineer ☐ 2
- Manager or administrator ☐ 3
- Other (specify) _____ ☐ 4 48

21. Employer's approximate number of employees (total for the whole organization):

- Less than 500 ☐ 1
- 500 to 2,499 ☐ 2
- 2,500 to 9,999 ☐ 3
- 10,000 to 24,999 ☐ 4
- 25,000 or more ☐ 5 49

22. Geographic location of employment: Please give *first three* digits of zip code:

___ ___ ___ 50-52

Comments:

THANK YOU FOR YOUR PARTICIPATION.
PLEASE RETURN THIS QUESTIONNAIRE TO:

American Chemical Society
Department of Career Services
1155 16th Street, NW
Washington, DC 20036

ACS CAREER PUBLICATIONS FOR SALE

Salaries: The Society annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics. Reports are available for each year from 1973 through the current year. For 1987, four separate reports are available: 1987 Salaries of Non-Academic Chemists, 1987 Salaries of Non-Academic Chemical Engineers, 1987 Salaries of Academic Chemists, and 1987 Employment Status and Demographic Characteristics of ACS Members.

Starting Salaries: ACS also surveys new graduates in chemistry and chemical engineering each year, and publishes reports detailing the graduates' employment status, post-graduation plans, starting salaries, and other employment and demographic characteristics. Reports are available for each year from 1975.

Women Chemists: Every five years, the Society produces a supplemental report on the economic status of women in the ACS. Reports are available for 1975, 1980, 1985, and 1990.

Career Transitions for Chemists: Because of the changes occurring in the workplace, today's chemist must be prepared to respond to an ever-changing array of opportunities and obstacles in his or her career. It includes whole chapters on personal assessment, salaries and trends, personal data formats (résumés, curricula vitae, and federal government SF-171 forms), networking, and importantly, planning a career move. Whether you're looking for interviewing tips or a new direction for your career, this book has something to offer you.

For prices and ordering information, please call or write:

Distribution Office
American Chemical Society
1155 16th Street, NW
Washington, DC 20036

Toll Free No.: (800) 227-5558

OTHER CAREER SERVICES PUBLICATIONS

Workforce Report–Workforce Report, which is published three times a year, provides analyses of work force issues. Each issue is devoted to a single topic, for example BS chemists or women chemists. Reports are available from September 1990 through the present.

Department of Career Services Bulletin–Reports current data on degrees and employment.

Coping with Job Loss describes the trauma of employment termination and provides information on coping with the emotional, practical, and professional aftermath. Examines the grieving process, reviews sources of help and support, and makes recommendations on organizing a job search.

Professional Employment Guidelines (PEG) addresses, for both employer and employee, good employment practices as the basis of sound professional relations. Topics include: terms of employment; employer environment; professional development; employment termination conditions; definition of multiple terminations; investigation of unprofessional conduct; patent rights for inventors; continuing education; and pension privileges.

Academic Professional Guidelines are extensions of the broader ACS Professional Employment Guidelines (PEG). Outlining reasonable and ethical professional conduct for faculty, students, associates, and administrators, the Guidelines are intended to enhance the relationships between these constituencies; and, to provide assistance on special issues that are of concern to chemical scientists in the academic environment.

What a PhD Chemist Should Consider Before Accepting a Position–Discusses important issues any individual should consider before accepting a new position: compensation, benefits, and career growth to name a few. Also available for BS chemists.

What a Chemist Should Consider Before Accepting a Government Position–Discusses important issues any individual should consider before accepting a government position: compensation, the Federal Employees Retirement System, and classification to name a few.

What a PhD Chemist Should Consider Before Accepting an Academic Position–Discusses important issues any individual should consider before accepting an academic position: salaries, teaching vs. research, and career growth to name a few.

ACS Career, Employment and Professional Resources: A Catalog of Publications, Programs & Services–This brochure lists all ACS career resources for high school and college students exploring career options; professionals seeking employment in chemistry and allied fields; and individuals facing the challenges of career development, career changes, and retirement.

ClassiFACTS®–This exclusive newspaper network brings weekly job ads from 40+ major metropolitan newspapers. Individuals are able to search job postings by region and job title. A four-week subscription is only $33.80 plus $1.50 regular mail or $3.50 overnight delivery per week. This is a valuable job search tool particularly for new BS and MS graduates. To order a personal subscription of ClassiFACTS, call 1-800-678-CHEM(2436).

C&EN Situations Wanted Ads–Employed ACS members and students affiliates may place an ad with Centcom, ACS' advertising agency, at 90 cents per word per insertion, no minimum charge. Unemployed ACS members, student affiliates, and retired members may place free situations wanted ads; certain restrictions, apply.

Employer Mailing List–A mailing list used to solicit employers for ACS employment services; it is arranged by state, and can be purchased for a small fee. Use of this mailing list is restricted to personal use only.

Current Trends in Chemical Technology, Business, and Employment–This study takes a look at current trends in chemical technology, business, and employment. It is based on in-depth interviews made last summer with more than 100 individuals, including executives at 77 companies, both large and small, that employ chemists, together with professors at several colleges and universities and people at a scattering of government agencies and laboratories. It also provides a number of solid qualitative insights pertaining to the present job outlook.

For information, please call or write:

Department of Career Services
American Chemical Society
1155 16th Street, NW
Washington, DC 20036
Toll Free No.: (800) 227-5558

American Chemical Society
Washington, D.C.

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