

## Appendix A

## Recall-Precision Tables

## Introduction

To supplement the numerous precision versus recall graphs given in this report the tables of the original average data are presented in this appendix for 79 retrieval results. Each result is labelled with the collection and request set, type of correlation function, length of document, dictionary, and other variables involved. Ten recall ("R") and precision ("P") pairs are given for each result using a cut-off at ten recall levels, together with the "Quasi-Cranfield" interpolation method (Fig. 16a, Section II) and the third method of "left end extrapolation" (Fig. 20, Section II). In the individual requests any cases of tied ranks are resolved by using the document identification numbers in numerical order to give a unique rank position to each such document.

Following the recall versus precision results are the four single figure evaluation measures: Rank Recall (Rank Rec.), Log Precision (Log Prec.), Normalized Recall (Nor. Rec.) and Normalized Precision (Nor. Prec.). These are derived using a tied rank breaking method in which all tied documents are assigned the same average rank number. The results given correspond exactly with the presentation of normalized recall and precision and precision versus recall curves made in sections III, V, VI, VII, and X.

The results are divided for the collections as follows:

- A. IRE-3, Computer Science.
- B. CRAN-1, Aerodynamics.
- C. ADI, Documentation (Requests searched as received).
- D. ADI, Documentation (Requests selectively hand modified by increasing weight of important words, as specified in Section X).

All results based on Phrases, Hierarchy and Stem Concon use a weight of 1.0 when the new identifiers formed by these dictionaries are added to the documents, and these expansions are in all cases applied to both the documents and requests.

## A. IRE-3 Collection, 780 documents, Macro Averages over 34 Requests

## Cosine Numeric Correlation

## Abstract

Suffix 's'		STEM		Thesaurus-2		Thesaurus-3	
R	P	R	P	R	P	R	P
0.1	0.7818	0.1	0.8157	0.1	0.8260	0.1	0.8671
0.2	0.6774	0.2	0.7126	0.2	0.7229	0.2	0.7570
0.3	0.5945	0.3	0.6323	0.3	0.6403	0.3	0.7090
0.4	0.5181	0.4	0.5520	0.4	0.5538	0.4	0.6237
0.5	0.4177	0.5	0.4589	0.5	0.4522	0.5	0.5400
0.6	0.3356	0.6	0.3763	0.6	0.3999	0.6	0.4780
0.7	0.2745	0.7	0.3082	0.7	0.3382	0.7	0.3946
0.8	0.2284	0.8	0.2460	0.8	0.2789	0.8	0.3134
0.9	0.1672	0.9	0.1688	0.9	0.2187	0.9	0.2483
1.0	0.0913	1.0	0.0924	1.0	0.1389	1.0	0.1504
RNK REC= 0.1907		RNK REC= 0.1947		RNK REC= 0.2464		RNK REC= 0.2689	
LOG PRE= 0.5578		LOG PRE= 0.5724		LOG PRE= 0.5955		LOG PRE= 0.6211	
NOR REC= 0.8817		NOR REC= 0.8954		NOR REC= 0.9191		NOR REC= 0.9268	
NOR PRE= 0.6484		NOR PRE= 0.6746		NOR PRE= 0.7072		NOR PRE= 0.7382	

Thesaurus-2 With Phrases		Thesaurus-3 With Phrases		Hierarchy Thesaurus-3 Parents		Hierarchy Thesaurus-3 Sons	
R	P	R	P	R	P	R	P
0.1	0.8370	0.1	0.8947	0.1	0.8740	0.1	0.8514
0.2	0.7253	0.2	0.7682	0.2	0.7969	0.2	0.7175
0.3	0.6614	0.3	0.7102	0.3	0.7006	0.3	0.6417
0.4	0.5742	0.4	0.6516	0.4	0.5964	0.4	0.5630
0.5	0.4811	0.5	0.5590	0.5	0.5350	0.5	0.4665
0.6	0.4246	0.6	0.5028	0.6	0.5029	0.6	0.4019
0.7	0.3558	0.7	0.4362	0.7	0.4346	0.7	0.3445
0.8	0.2962	0.8	0.3504	0.8	0.3461	0.8	0.2767
0.9	0.2360	0.9	0.2723	0.9	0.2447	0.9	0.1974
1.0	0.1591	1.0	0.1638	1.0	0.1450	1.0	0.1083
RNK REC= 0.2717		RNK REC= 0.2902		RNK REC= 0.2748		RNK REC= 0.2283	
LOG PRE= 0.6120		LOG PRE= 0.6374		LOG PRE= 0.6317		LOG PRE= 0.5946	
NOR REC= 0.9282		NOR REC= 0.9326		NOR REC= 0.9437		NOR REC= 0.9269	
NOR PRE= 0.7252		NOR PRE= 0.7529		NOR PRE= 0.7600		NOR PRE= 0.7129	

Hierarchy Thesaurus-3 Brothers	
R	P
0.1	0.8111
0.2	0.6647
0.3	0.6075
0.4	0.5297
0.5	0.4318
0.6	0.3673
0.7	0.3158
0.8	0.2672
0.9	0.2277
1.0	0.1618

RNK REC= 0.2086  
LOG PRE= 0.5720  
NOR REC= 0.9220  
NOR PRE= 0.6972

Hierarchy Thesaurus-3 Cross References	
R	P
0.1	0.8378
0.2	0.7162
0.3	0.6418
0.4	0.5690
0.5	0.4754
0.6	0.4196
0.7	0.3756
0.8	0.3048
0.9	0.2231
1.0	0.1292

RNK REC= 0.2382  
LOG PRE= 0.6020  
NOR REC= 0.9229  
NOR PRE= 0.7134

Hierarchy Thesaurus-3 All Relations	
R	P
0.1	0.8758
0.2	0.7642
0.3	0.6720
0.4	0.5940
0.5	0.5066
0.6	0.4208
0.7	0.3667
0.8	0.3195
0.9	0.2451
1.0	0.1754

RNK REC= 0.2666  
LOG PRE= 0.6207  
NOR REC= 0.9446  
NOR PRE= 0.7506

Stem Concon Freq. 6 - 100 K = 0.45	
R	P
0.1	0.8065
0.2	0.6796
0.3	0.6322
0.4	0.5811
0.5	0.4992
0.6	0.4010
0.7	0.2996
0.8	0.2373
0.9	0.1626
1.0	0.0773

RNK REC= 0.1802  
LOG PRE= 0.5688  
NOR REC= 0.8900  
NOR PRE= 0.6692

Stem Concon Freq. 3 - 50 K = 0.60	
R	P
0.1	0.7709
0.2	0.6510
0.3	0.6022
0.4	0.5426
0.5	0.4550
0.6	0.3679
0.7	0.2803
0.8	0.2261
0.9	0.1517
1.0	0.0782

RNK REC= 0.1781  
LOG PRE= 0.5592  
NOR REC= 0.8870  
NOR PRE= 0.6585

## Cosine Numeric Correlation

Title

Stem	
R	P
0.1	0.8001
0.2	0.6343
0.3	0.5273
0.4	0.3946
0.5	0.3166
0.6	0.2568
0.7	0.2075
0.8	0.1484
0.9	0.0848
1.0	0.0488

RNK REC= 0.1018  
LOG PRE= 0.4996  
NOR REC= 0.8145  
NOR PRE= 0.5547

Thesaurus-2	
R	P
0.1	0.8010
0.2	0.6419
0.3	0.5154
0.4	0.4016
0.5	0.3173
0.6	0.3008
0.7	0.2611
0.8	0.2057
0.9	0.1335
1.0	0.0830

RNK REC= 0.1434  
LOG PRE= 0.5343  
NOR REC= 0.8436  
NOR PRE= 0.5945

Thesaurus-3	
R	P
0.1	0.7928
0.2	0.6370
0.3	0.5557
0.4	0.4686
0.5	0.3909
0.6	0.3348
0.7	0.2682
0.8	0.2125
0.9	0.1348
1.0	0.0868

RNK REC= 0.1510  
LOG PRE= 0.5437  
NOR REC= 0.8430  
NOR PRE= 0.6068

## Cosine Logical Correlation

Abstract

Suffix 's'	
R	P
0.1	0.7589
0.2	0.5869
0.3	0.4626
0.4	0.3778
0.5	0.3257
0.6	0.2672
0.7	0.2266
0.8	0.1900
0.9	0.1406
1.0	0.0858

RNK REC= 0.1611  
LOG PRE= 0.5239  
NOR REC= 0.8707  
NOR PRE= 0.6134

Stem	
R	P
0.1	0.7219
0.2	0.6142
0.3	0.4898
0.4	0.3992
0.5	0.3367
0.6	0.2796
0.7	0.2277
0.8	0.1768
0.9	0.1217
1.0	0.0687

RNK REC= 0.1457  
LOG PRE= 0.5198  
NOR REC= 0.8777  
NOR PRE= 0.6167

Thesaurus-3	
R	P
0.1	0.7769
0.2	0.6448
0.3	0.5386
0.4	0.4582
0.5	0.3660
0.6	0.3106
0.7	0.2483
0.8	0.1988
0.9	0.1470
1.0	0.0981

RNK REC= 0.1837  
LOG PRE= 0.5481  
NOR REC= 0.9067  
NOR PRE= 0.6574

## Overlap Logical Correlation

## Abstract

Suffix 's'	
R	P
0.1	0.6971
0.2	0.5469
0.3	0.4034
0.4	0.3379
0.5	0.2851
0.6	0.2423
0.7	0.1877
0.8	0.1502
0.9	0.1164
1.0	0.0972

RNK REC= 0.1376  
LOG PRE= 0.5029  
NOR REC= 0.8408  
NOR PRE= 0.5611

STEM	
R	P
0.1	0.6849
0.2	0.5448
0.3	0.4220
0.4	0.3549
0.5	0.2812
0.6	0.2291
0.7	0.1876
0.8	0.1425
0.9	0.1028
1.0	0.0658

RNK REC= 0.1300  
LOG PRE= 0.5015  
NOR REC= 0.8725  
NOR PRE= 0.5829

Thesaurus-3	
R	P
0.1	0.7359
0.2	0.5815
0.3	0.4468
0.4	0.3457
0.5	0.2963
0.6	0.2524
0.7	0.1982
0.8	0.1557
0.9	0.1221
1.0	0.0790

RNK REC= 0.1507  
LOG PRE= 0.5173  
NOR REC= 0.8974  
NOR PRE= 0.6041

## B. CRAN-1 Collection, 200 documents, Macro Averages over 42 Requests

## Cosine Numeric Correlation

## Abstract

Suffix 's'		Stem		Thesaurus-1		Thesaurus-2	
R	P	R	P	R	P	R	P
0.1	0.8513	0.1	0.8239	0.1	0.7747	0.1	0.8286
0.2	0.6977	0.2	0.6518	0.2	0.5895	0.2	0.6510
0.3	0.5870	0.3	0.5578	0.3	0.5130	0.3	0.5608
0.4	0.5100	0.4	0.5093	0.4	0.4672	0.4	0.5198
0.5	0.4600	0.5	0.4522	0.5	0.4165	0.5	0.4653
0.6	0.4317	0.6	0.4143	0.6	0.3780	0.6	0.4243
0.7	0.3999	0.7	0.3800	0.7	0.3384	0.7	0.3848
0.8	0.3622	0.8	0.3431	0.8	0.2993	0.8	0.3412
0.9	0.3168	0.9	0.3005	0.9	0.2666	0.9	0.3040
1.0	0.2739	1.0	0.2551	1.0	0.2183	1.0	0.2664
RNK REC= 0.3168		RNK REC= 0.2998		RNK REC= 0.2552		RNK REC= 0.3121	
LOG PRE= 0.4787		LOG PRE= 0.4655		LOG PRE= 0.4180		LOG PRE= 0.4715	
NOR REC= 0.8717		NOR REC= 0.8644		NOR REC= 0.8602		NOR REC= 0.8864	
NOR PRE= 0.7018		NOR PRE= 0.6704		NOR PRE= 0.6319		NOR PRE= 0.6864	

Thesaurus-3		Thesaurus-3 With Phrases		Stem Concon Freq. All K = 0.6		Stem Concon Freq. 6 - 100 K = 0.45	
R	P	R	P	R	P	R	P
0.1	0.8144	0.1	0.8069	0.1	0.8039	0.1	0.7882
0.2	0.6444	0.2	0.6289	0.2	0.6331	0.2	0.6086
0.3	0.5733	0.3	0.5748	0.3	0.5611	0.3	0.5506
0.4	0.5298	0.4	0.5314	0.4	0.5166	0.4	0.5186
0.5	0.4811	0.5	0.4767	0.5	0.4796	0.5	0.4927
0.6	0.4411	0.6	0.4390	0.6	0.4459	0.6	0.4733
0.7	0.3849	0.7	0.3901	0.7	0.4095	0.7	0.4271
0.8	0.3471	0.8	0.3435	0.8	0.3675	0.8	0.3803
0.9	0.3206	0.9	0.3043	0.9	0.3385	0.9	0.3460
1.0	0.2913	1.0	0.2658	1.0	0.3102	1.0	0.3112
RNK REC= 0.3239		RNK REC= 0.3140		RNK REC= 0.3517		RNK REC= 0.3561	
LOG REC= 0.4893		LOG PRE= 0.4807		LOG PRE= 0.4991		LOG PRE= 0.4920	
NOR REC= 0.8837		NOR REC= 0.8791		NOR REC= 0.8404		NOR REC= 0.8765	
NOR PRE= 0.6952		NOR PRE= 0.6873		NOR PRE= 0.6342		NOR PRE= 0.6790	

Stem Concon	
Freq. 3-50	
K = 0.60	
R	P
0.1	0.8195
0.2	0.6375
0.3	0.5642
0.4	0.5303
0.5	0.4779
0.6	0.4321
0.7	0.3932
0.8	0.3526
0.9	0.3129
1.0	0.2684

  

RNK REC= 0.3051
LOG PRE= 0.4823
NOR REC= 0.8628
NOR PRE= 0.6566

## Cosine Numeric Correlation

Title

Stem	
R	P
0.1	0.8106
0.2	0.6469
0.3	0.5805
0.4	0.5207
0.5	0.4699
0.6	0.4005
0.7	0.3350
0.8	0.2841
0.9	0.2445
1.0	0.2176

  

RNK REC= 0.2506
LOG PRE= 0.4277
NOR REC= 0.8112
NOR PRE= 0.6185

Thesaurus-3	
R	P
0.1	0.7946
0.2	0.6365
0.3	0.5596
0.4	0.4930
0.5	0.4468
0.6	0.4150
0.7	0.3758
0.8	0.3347
0.9	0.2918
1.0	0.2575

  

RNK REC= 0.2967
LOG PRE= 0.4695
NOR REC= 0.8374
NOR PRE= 0.6430

## Cosine Numeric Correlation

## Indexing

Stem		Thesaurus-1		Thesaurus-2	
R	P	R	P	R	P
0.1	0.8045	0.1	0.7775	0.1	0.8407
0.2	0.6581	0.2	0.5956	0.2	0.7001
0.3	0.5908	0.3	0.5160	0.3	0.6472
0.4	0.5498	0.4	0.4594	0.4	0.5890
0.5	0.5171	0.5	0.4138	0.5	0.5408
0.6	0.4506	0.6	0.3864	0.6	0.4837
0.7	0.4035	0.7	0.3549	0.7	0.4277
0.8	0.3649	0.8	0.3147	0.8	0.3766
0.9	0.3233	0.9	0.2765	0.9	0.3337
1.0	0.2799	1.0	0.2421	1.0	0.2937
RNK REC= 0.3122		RNK REC= 0.2922		RNK REC= 0.3611	
LOG PRE= 0.4674		LOG PRE= 0.4539		LOG PRE= 0.5211	
NOR REC= 0.8897		NOR REC= 0.8629		NOR REC= 0.8992	
NOR PRE= 0.6831		NOR PRE= 0.6335		NOR PRE= 0.7094	

## Cosine Logical Correlation

## Abstract

Stem		Thesaurus-3	
R	P	R	P
0.1	0.8209	0.1	0.8490
0.2	0.6801	0.2	0.7061
0.3	0.5857	0.3	0.6234
0.4	0.5086	0.4	0.5610
0.5	0.4342	0.5	0.4939
0.6	0.3752	0.6	0.4439
0.7	0.3237	0.7	0.3962
0.8	0.2753	0.8	0.3470
0.9	0.2423	0.9	0.3024
1.0	0.2059	1.0	0.2597
RNK REC= 0.2465		RNK REC= 0.3026	
LOG PRE= 0.4329		LOG PRE= 0.4789	
NOR REC= 0.8397		NOR REC= 0.8729	
NOR PRE= 0.6377		NOR PRE= 0.6936	

## Cosine Logical Correlation

Title

Stem	
R	P
0.1	0.8321
0.2	0.6833
0.3	0.6294
0.4	0.5580
0.5	0.4824
0.6	0.3988
0.7	0.3256
0.8	0.2713
0.9	0.2309
1.0	0.2022

  

RNK REC= 0.2341
LOG PRE= 0.4085
NOR REC= 0.8120
NOR PRE= 0.6212

## Overlap Logical Correlation

Abstract

Stem	
R	P
0.1	0.7886
0.2	0.5936
0.3	0.4913
0.4	0.4321
0.5	0.3794
0.6	0.3479
0.7	0.3153
0.8	0.2812
0.9	0.2511
1.0	0.2214

  

RNK REC= 0.2464
LOG PRE= 0.4207
NOR REC= 0.8237
NOR PRE= 0.5830

Thesaurus-3	
R	P
0.1	0.8363
0.2	0.6639
0.3	0.5726
0.4	0.5173
0.5	0.4610
0.6	0.4197
0.7	0.3756
0.8	0.3296
0.9	0.2772
1.0	0.2235

  

RNK REC= 0.2626
LOG PRE= 0.4374
NOR REC= 0.8535
NOR PRE= 0.6251

## Overlap Logical Correlation

Title

Stem	
R	P
0.1	0.8096
0.2	0.6368
0.3	0.5586
0.4	0.4903
0.5	0.4117
0.6	0.3576
0.7	0.3043
0.8	0.2601
0.9	0.2272
1.0	0.2035

RNK REC= 0.2296  
LOG PRE= 0.3927  
NOR REC= 0.8082  
NOR PRE= 0.5979

## C. ADI Collection, 82 Documents, Macro Averages over 35 Requests

## Cosine Numeric Correlation

## Text

Suffix 's'		Stem		Thesaurus-1		Thesaurus-SAl	
R	P	R	P	R	P	R	P
0.1	0.7845	0.1	0.7910	0.1	0.8711	0.1	0.7760
0.2	0.6429	0.2	0.6649	0.2	0.7587	0.2	0.6127
0.3	0.5695	0.3	0.5985	0.3	0.6632	0.3	0.5036
0.4	0.5006	0.4	0.5297	0.4	0.5887	0.4	0.4422
0.5	0.4334	0.5	0.4583	0.5	0.5074	0.5	0.3888
0.6	0.3864	0.6	0.4108	0.6	0.4545	0.6	0.3625
0.7	0.3475	0.7	0.3701	0.7	0.4087	0.7	0.3402
0.8	0.3024	0.8	0.3225	0.8	0.3613	0.8	0.3089
0.9	0.2417	0.9	0.2579	0.9	0.3028	0.9	0.2628
1.0	0.1622	1.0	0.1746	1.0	0.2426	1.0	0.1961
RNK REC= 0.2081		RNK REC= 0.2242		RNK REC= 0.2931		RNK REC= 0.2401	
LOG PRE= 0.3509		LOG PRE= 0.3640		LOG PRE= 0.4245		LOG PRE= 0.3704	
NOR REC= 0.7520		NOR REC= 0.7779		NOR REC= 0.8206		NOR REC= 0.7774	
NOR PRE= 0.5308		NOR PRE= 0.5573		NOR PRE= 0.6273		NOR PRE= 0.5441	

Thesaurus-1 With Phrases		Stem Concon Freq. 6-100 K = 0.6	
R	P	R	P
0.1	0.8609	0.1	0.8571
0.2	0.7409	0.2	0.7244
0.3	0.6676	0.3	0.6107
0.4	0.6002	0.4	0.5245
0.5	0.5097	0.5	0.4514
0.6	0.4538	0.6	0.3975
0.7	0.4136	0.7	0.3482
0.8	0.3752	0.8	0.3016
0.9	0.3247	0.9	0.2469
1.0	0.2752	1.0	0.1882
RNK REC= 0.3226		RNK REC= 0.2297	
LOG PRE= 0.4495		LOG PRE= 0.3582	
NOR REC= 0.8224		NOR REC= 0.7604	
NOR PRE= 0.6336		NOR PRE= 0.5649	

## Cosine Numeric Correlation

Text, Titleweight = 2

Thesaurus-1	
R	P
0.1	0.8718
0.2	0.7614
0.3	0.6652
0.4	0.5879
0.5	0.5075
0.6	0.4552
0.7	0.4069
0.8	0.3580
0.9	0.2984
1.0	0.2342

RNK REC= 0.2871  
LOG PRE= 0.4143  
NOR REC= 0.8222  
NOR PRE= 0.6283

Thesaurus-2	
R	P
0.1	0.7828
0.2	0.6186
0.3	0.5205
0.4	0.4588
0.5	0.4005
0.6	0.3637
0.7	0.3346
0.8	0.3071
0.9	0.2613
1.0	0.1948

RNK REC= 0.2400  
LOG PRE= 0.3697  
NOR REC= 0.7797  
NOR PRE= 0.5486

## Cosine Numeric Correlation

## Abstract

Suffix 's'		Stem		Thesaurus-1		Thesaurus-SAL	
R	P	R	P	R	P	R	P
0.1	0.7657	0.1	0.7963	0.1	0.8788	0.1	0.7729
0.2	0.6054	0.2	0.6350	0.2	0.7567	0.2	0.5861
0.3	0.5076	0.3	0.5283	0.3	0.6464	0.3	0.4941
0.4	0.4383	0.4	0.4603	0.4	0.5577	0.4	0.4299
0.5	0.3808	0.5	0.4051	0.5	0.4912	0.5	0.3761
0.6	0.3519	0.6	0.3699	0.6	0.4470	0.6	0.3514
0.7	0.3202	0.7	0.3383	0.7	0.3893	0.7	0.3251
0.8	0.2751	0.8	0.2996	0.8	0.3287	0.8	0.2904
0.9	0.2221	0.9	0.2568	0.9	0.2726	0.9	0.2445
1.0	0.1622	1.0	0.2018	1.0	0.2093	1.0	0.1862

RNK REC= 0.2010  
LOG PRE= 0.3309  
NOR REC= 0.7253  
NOR PRE= 0.4997

RNK REC= 0.2415  
LOG PRE= 0.3587  
NOR REC= 0.7601  
NOR PRE= 0.5326

RNK REC= 0.2534  
LOG PRE= 0.3837  
NOR REC= 0.8016  
NOR PRE= 0.6069

RNK REC= 0.2282  
LOG PRE= 0.3576  
NOR REC= 0.7548  
NOR PRE= 0.5190

## Cosine Numeric Correlation

Title

Suffix 's'		Stem		Thesaurus-1		Thesaurus-SAl	
R	P	R	P	R	P	R	P
0.1	0.7466	0.1	0.7772	0.1	0.8644	0.1	0.7663
0.2	0.5818	0.2	0.6250	0.2	0.7625	0.2	0.5890
0.3	0.4847	0.3	0.5120	0.3	0.6445	0.3	0.4772
0.4	0.4144	0.4	0.4306	0.4	0.5613	0.4	0.4149
0.5	0.3390	0.5	0.3587	0.5	0.5038	0.5	0.3607
0.6	0.2925	0.6	0.3022	0.6	0.4319	0.6	0.3069
0.7	0.2544	0.7	0.2566	0.7	0.3566	0.7	0.2661
0.8	0.2254	0.8	0.2235	0.8	0.2921	0.8	0.2282
0.9	0.1848	0.9	0.1805	0.9	0.2303	0.9	0.1783
1.0	0.1252	1.0	0.1199	1.0	0.1516	1.0	0.1312
RNK REC= 0.1507		RNK REC= 0.1502		RNK REC= 0.1950		RNK REC= 0.1607	
LOG PRE= 0.3139		LOG PRE= 0.2954		LOG PRE= 0.3532		LOG PRE= 0.3140	
NOR REC= 0.6435		NOR REC= 0.6722		NOR REC= 0.7324		NOR REC= 0.6877	
NOR PRE= 0.4209		NOR PRE= 0.4537		NOR PRE= 0.5462		NOR PRE= 0.4649	

## Cosine Logical Correlation

Text

Suffix 's'		Stem		Thesaurus-1		Thesaurus-SAl	
R	P	R	P	R	P	R	P
0.1	0.7796	0.1	0.7600	0.1	0.7721	0.1	0.7256
0.2	0.6066	0.2	0.5871	0.2	0.5713	0.2	0.5090
0.3	0.4855	0.3	0.4852	0.3	0.4488	0.3	0.3945
0.4	0.4149	0.4	0.4241	0.4	0.3717	0.4	0.3372
0.5	0.3642	0.5	0.3828	0.5	0.3042	0.5	0.2931
0.6	0.3357	0.6	0.3484	0.6	0.2739	0.6	0.2706
0.7	0.2976	0.7	0.3044	0.7	0.2513	0.7	0.2471
0.8	0.2610	0.8	0.2654	0.8	0.2338	0.8	0.2222
0.9	0.2391	0.9	0.2222	0.9	0.2100	0.9	0.2012
1.0	0.2127	1.0	0.1790	1.0	0.1854	1.0	0.1776
RNK REC= 0.2375		RNK REC= 0.2147		RNK REC= 0.2081		RNK REC= 0.1946	
LOG PRE= 0.3561		LOG PRE= 0.3517		LOG PRE= 0.3377		LOG PRE= 0.3253	
NOR REC= 0.7768		NOR REC= 0.7695		NOR REC= 0.7819		NOR REC= 0.6884	
NOR PRE= 0.5462		NOR PRE= 0.5248		NOR PRE= 0.5092		NOR PRE= 0.4332	

## Cosine Logical Correlation

## Abstract

Stem		Thesaurus-1	
R	P	R	P
0.1	0.7931	0.1	0.8222
0.2	0.6294	0.2	0.6767
0.3	0.5252	0.3	0.5780
0.4	0.4535	0.4	0.4958
0.5	0.3967	0.5	0.4322
0.6	0.3533	0.6	0.3972
0.7	0.3129	0.7	0.3480
0.8	0.2740	0.8	0.2972
0.9	0.2346	0.9	0.2515
1.0	0.1873	1.0	0.1933
RNK REC= 0.2299		RNK REC= 0.2341	
LOG PRE= 0.3635		LOG PRE= 0.3652	
NOR REC= 0.7546		NOR REC= 0.8043	
NOR PRE= 0.5221		NOR PRE= 0.5823	

## Overlap Logical Correlation

## Text

Suffix 's'		Stem		Thesaurus-1		Thesaurus-SAl	
R	P	R	P	R	P	R	P
0.1	0.7936	0.1	0.7795	0.1	0.7326	0.1	0.7508
0.2	0.6383	0.2	0.6201	0.2	0.5284	0.2	0.5278
0.3	0.5065	0.3	0.5222	0.3	0.4173	0.3	0.4059
0.4	0.4412	0.4	0.4555	0.4	0.3523	0.4	0.3259
0.5	0.3970	0.5	0.4032	0.5	0.2937	0.5	0.2660
0.6	0.3625	0.6	0.3684	0.6	0.2559	0.6	0.2296
0.7	0.3120	0.7	0.3171	0.7	0.2260	0.7	0.1983
0.8	0.2562	0.8	0.2620	0.8	0.2012	0.8	0.1750
0.9	0.2271	0.9	0.2094	0.9	0.1708	0.9	0.1554
1.0	0.1912	1.0	0.1646	1.0	0.1371	1.0	0.1346
RNK RFC= 0.2208		RNK REC= 0.2000		RNK REC= 0.1622		RNK REC= 0.1519	
LOG PRE= 0.3581		LOG PRE= 0.3523		LOG PRE= 0.2948		LOG PRE= 0.2987	
NOR REC= 0.7546		NOR REC= 0.7434		NOR REC= 0.7386		NOR REC= 0.6589	
NOR PRE= 0.5097		NOR PRE= 0.4978		NOR PRE= 0.4350		NOR PRE= 0.3602	

## Overlap Logical Correlation

## Abstract

Stem	
R	P
0.1	0.8175
0.2	0.6539
0.3	0.5479
0.4	0.4570
0.5	0.3843
0.6	0.3478
0.7	0.2987
0.8	0.2580
0.9	0.2179
1.0	0.1775

RNK REC= 0.2126  
LOG PRE= 0.3561  
NOR REC= 0.7423  
NOR PRE= 0.4904

Thesaurus-1	
R	P
0.1	0.8183
0.2	0.6644
0.3	0.5363
0.4	0.4480
0.5	0.3770
0.6	0.3460
0.7	0.3155
0.8	0.2769
0.9	0.2164
1.0	0.1698

RNK REC= 0.1889  
LOG PRE= 0.3163  
NOR REC= 0.7830  
NOR PRE= 0.5257

D. ADI Collection, 82 Documents, Macro Average over 36 Requests, some of which have been modified by increasing weights of important words, see Section X.

#### Cosine Numeric Correlation

##### Text

Suffix 's'		STEM		Thesaurus-1		Thesaurus-1 With Phrases	
R	P	R	P	R	P	R	P
0.1	0.7845	0.1	0.8435	0.1	0.8742	0.1	0.8745
0.2	0.6429	0.2	0.7462	0.2	0.7725	0.2	0.7744
0.3	0.5695	0.3	0.6657	0.3	0.7029	0.3	0.7083
0.4	0.5006	0.4	0.5938	0.4	0.6590	0.4	0.6650
0.5	0.4334	0.5	0.5314	0.5	0.6101	0.5	0.6174
0.6	0.3864	0.6	0.4805	0.6	0.5485	0.6	0.5481
0.7	0.3475	0.7	0.4368	0.7	0.4856	0.7	0.4774
0.8	0.3024	0.8	0.3893	0.8	0.4196	0.8	0.4112
0.9	0.2417	0.9	0.3319	0.9	0.3554	0.9	0.3497
1.0	0.1622	1.0	0.2568	1.0	0.2933	1.0	0.2903
RNK REC= 0.2081		RNK REC= 0.3090		RNK REC= 0.3485		RNK REC= 0.3431	
LOG PRE= 0.3509		LOG PRE= 0.4328		LOG PRE= 0.4485		LOG PRE= 0.4496	
NOR REC= 0.7520		NOR REC= 0.8198		NOR REC= 0.8507		NOR REC= 0.8479	
NOR PRE= 0.5308		NOR PRE= 0.6307		NOR PRE= 0.6821		NOR PRE= 0.6763	

#### Cosine Numeric Correlation

##### Abstract

Suffix 's'		STEM		Thesaurus-1		Thesaurus-SAl	
R	P	R	P	R	P	R	P
0.1	0.8073	0.1	0.8282	0.1	0.9029	0.1	0.7893
0.2	0.6636	0.2	0.7106	0.2	0.8012	0.2	0.6124
0.3	0.5662	0.3	0.6141	0.3	0.7018	0.3	0.5331
0.4	0.5087	0.4	0.5453	0.4	0.6296	0.4	0.4716
0.5	0.4690	0.5	0.5003	0.5	0.5892	0.5	0.4137
0.6	0.4307	0.6	0.4605	0.6	0.5455	0.6	0.3932
0.7	0.3878	0.7	0.4199	0.7	0.4942	0.7	0.3698
0.8	0.3328	0.8	0.3715	0.8	0.4336	0.8	0.3401
0.9	0.2660	0.9	0.3102	0.9	0.3534	0.9	0.2937
1.0	0.1946	1.0	0.2349	1.0	0.2565	1.0	0.2330
RNK REC= 0.2379		RNK REC= 0.2822		RNK REC= 0.3047		RNK REC= 0.2761	
LOG PRE= 0.3603		LOG PRE= 0.3948		LOG PRE= 0.4280		LOG PRE= 0.3978	
NOR REC= 0.7589		NOR REC= 0.7807		NOR REC= 0.8236		NOR REC= 0.7818	
NOR PRE= 0.5564		NOR PRE= 0.5866		NOR PRE= 0.6591		NOR PRE= 0.5660	