

Table S1. Details of the continental contribution for oncolytic virotherapy.

Continents	No of Countries	No of Pub	% age	H-Index	Total Citations
North America	3	2037	54.306	102	65007
Europe	33	1307	34.844	80	36835
Asia	12	1064	28.366	55	1975
Middle East	11	78	2.0794	18	1246
South America	4	18	0.4799	9	294
Ociana	2	18	0.4799	14	908
Africa	6	17	0.4532	8	241

Table S2. The list of top ten countries with total publications (TP), h-index, total citations (TC), h-index withoutself citations (WSC) and wsc for oncolytic virotherapy.

#	Country	TP	h-index	TC	h- index (WSC)	WSC	Citation Per Document
1.	United States	1799	99	58647	88	48258	33
2.	China	544	39	8017	35	6599	15
3.	Germany	405	49	9917	41	7541	24
4.	Canada	378	64	15701	56	12650	42
5.	United Kingdom	346	58	14321	49	11875	41
6.	Japan	305	39	5766	32	4415	19
7.	Spain	147	34	4455	30	3659	30
8.	South Korea	127	32	4198	27	3208	33
9.	Finland	125	33	3838	27	2693	31
10.	Netherlands	101	29	2694	24	2228	27

Table S3. The per year publications details of the top 10 countries for oncolytic virotherapy.

Year	United States	China	Germany	Canada	UK	Japan	Spain	South Korea	Finland	Netherlands
2019	134	63	33	31	27	20	14	8	5	5
2018	162	50	15	39	25	15	14	12	9	5
2017	148	43	32	22	33	22	13	7	3	13
2016	117	52	24	26	30	26	14	10	8	8
2015	162	45	44	31	32	17	13	25	13	10
2014	116	50	35	35	18	14	13	8	9	9
2013	134	42	35	41	18	26	7	13	12	6
2012	137	54	41	25	30	22	13	8	12	7
2011	105	25	30	20	20	21	5	6	9	8
2010	129	32	27	36	25	29	14	8	9	4
2009	132	29	30	17	22	28	10	4	8	5
2008	100	30	21	23	36	23	5	7	7	3
2007	113	13	21	19	14	20	8	6	11	11
2006	71	15	14	8	8	17	2	4	6	4
2005	27	1	1	3	5	3	1	1	2	3
2004	5	0	1	2	1	2	0	0	2	0
2003	4	0	1	0	1	0	1	0	0	0
2002	2	0	0	0	1	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
Total	1798	544	405	378	346	305	147	127	125	101

Table S4. The names of 29 Institutes with total citations and citations per document (CDP).

S#	Organization	Doc/s	Cit/s	CPD
1.	Amgen, thousand oaks, ca, united states	1	982	982
2.	Amgen, woburn, ma, united states	1	982	982
3.	Baptist cancer institute, jacksonville, united states	1	982	982
4.	Earle a. Chiles research institute, portland, or, united states	1	982	982
5.	Institute of cancer research, royal marsden hospital, london, united kingdom	1	982	982
6.	Mary crowley cancer research center, dallas, united states	1	982	982
7.	Mcgill university, montreal, qc, canada	1	982	982
8.	National institute for health research biomedical research centre, oxford, united kingdom	1	982	982
9.	Northern california melanoma center, san francisco, united states	1	982	982
10.	Rutgers cancer institute of new jersey, 195 little albany st., new brunswick, nj 08901, united states	1	982	982
11.	St. Luke's university hospital and health network, bethlehem, united states	1	982	982
12.	Temple university school of medicine, philadelphia, pa, united states	1	982	982
13.	University of arizona, tucson, az, united states	1	982	982
14.	University of california san diego medical center, moores cancer center, san diego, united states	1	982	982
15.	University of colorado cancer center, aurora, co, united states	1	982	982
16.	University of louisville, louisville, ky, united states	1	982	982
17.	University of north carolina medical center, chapel hill, nc, united states	1	982	982
18.	Vanderbilt university, nashville, tn, united states	1	982	982
19.	Washington university school of medicine, st. Louis, mo, united states	1	982	982

20.	Centre for biomolecular sciences, university of st. Andrews, st. Andrews, fife ky16 9st, united kingdom	1	722	722
21.	Centro nacional de biotecnología (csic), campus de cantoblanco, 28049 madrid, spain	1	722	722
22.	Department of laboratory medicine, örebro university hospital, örebro, sweden	1	561	561
23.	Discipline of paediatrics and child health, university of sydney, nsw, australia	1	561	561
24.	Gene therapy research unit, children's medical research institute and the children's hospital, westmead, nsw, australia	1	561	561
25.	Health sciences journals - editorial, john wiley and sons ltd, oxford, united kingdom	1	561	561
26.	Imperial healthcare nhs trust, london, united kingdom	1	561	561
27.	Sydney medical school, university of sydney, nsw, australia	1	561	561
28.	Huntsman cancer institute, university of utah, salt lake city, ut, united states	2	1087	544
29.	winship cancer institute, emory university, school of medicine, atlanta, ga, united states	2	1054	527

Table S5. The list of top five authors with maximum number of publications (NOPub) and total number of citations (NOCit) for each individual viral strain.

	Top Five Authors (NOPub)	#	Top Five Authors (NOCit)	#
Vaccinia Virus (n= 348) Total Authors (n=1267)	Szalay a.a.	71	Bell j.c.	2267
	Chen n.g.	37	Thorne s.h.	1780
	Zhang q.	37	Szalay a.a.	1625
	Yu y.a.	32	Kirn d.h.	1275
	Bell j.c.	30	Kirn d.	1189
Oncolytic Herpes Virus (n= 308) Total Authors (n=1240)	Rabkin s.d.	28	Rabkin s.d.	1089
	Martuza r.l.	23	Martuza r.l.	988
	Kaur b.	22	Liu t.-c.	809
	Markert j.m.	20	Wakimoto h.	727
	Wakimoto h.	19	Chiocca e.a.	661
Measles Virus (n=261) Total Authors (n=857)	Russell s.j.	61	Russell s.j.	3898
	Galanis e.	34	Peng k.-w.	2490
	Peng k.-w.	33	Galanis e.	1829
	Federspiel m.j.	21	Bell j.c.	1243
	Dingli d.	15	Federspiel m.j.	1223

Simplexvirus (n = 243) Total Authors (n=1040)	Rabkin s.d.	29	Rabkin s.d.	1105
	Martuza r.l.	24	Martuza r.l.	1008
	Fong y.	17	Chiocca e.a.	914
	Wakimoto h.	16	Bell j.c.	771
	Chiocca e.a.	14	Wakimoto h.	758
Herpes Simplex Virus 1 and Herpes Simplex Virus (n=248) Total Authors (n=1829)	Fong y.	28	Bell j.c.	1507
	Chiocca e.a.	24	Chiocca e.a.	1186
	Kaur b.	24	Kaur b.	1051
	Markert j.m.	24	Russell s.j.	913
	Rabkin s.d.	22	Rabkin s.d.	845
Vesicular Stomatitis Virus (n= 216) Total Authors (n=1267)	Bell j.c.	31	Bell j.c.	3127
	Russell s.j.	22	Russell s.j.	1550
	Ebert o.	16	Lichty b.d.	1274
	Diaz r.m.	15	Stojdl d.f.	1111
	Peng k.-w.	15	Peng k.-w.	1094
Newcastle Disease Virus (n= 180) Total Authors (n=721)	Schirrmacher v.	13	Zamarin d.	867
	Zamarin d.	13	Palese p.	676
	Fournier p.	9	Mansour m.	507
	Yusoff k.	9	Merghoub t.	468
	Ali a.m.	7	Wolchok j.d.	468

Table S6. The list of top five institutes with maximum number of publications (NOPub) and total number of citations (NOCit) for each individual viral strain.

	Top Five Institutes (NOPub)	#	Top Five Institutes (NOCit)	#
Vaccinia Virus (n= 348) No of Institutes (n=1055)	genelux corporation, san diego science center, san diego, ca, united states	33	jennex biotherapeutics, san francisco, ca, united states	1345
	department of surgery, memorial sloan-kettering cancer center, new york, ny, united states	10	genelux corporation, san diego science center, san diego, ca, united states	803
	genelux corporation, san diego science center, 3030 bunker hill street, san diego, ca 92109, united states	10	department of molecular medicine, mayo clinic, rochester, mn, united states	774
	genelux corporation, san diego science center, san diego, ca 92109, united states	9	center for cancer therapeutics, ottawa hospital research institute, ottawa, on, canada	771
	department of biochemistry, university of wuerzburg, wuerzburg, germany	7	radmd, doylestown, pa, united states	525
Oncolytic Herpes Virus (n= 308) No of Institutes	department of neurosurgery, massachusetts general hospital, harvard medical school, boston, ma, united states	12	brain tumor research center, massachusetts general hospital, harvard medical school, boston, ma, united states	432

(n=967)	department of neurosurgery, harvard medical school, boston, ma, united states	5	department of clinical pharmacology, university of oxford medical school, oxford, united kingdom	432
	department of neurosurgery, university of alabama at birmingham, birmingham, al, united states	5	department of neurosurgery, massachusetts general hospital, harvard medical school, boston, ma, united states	348
	department of experimental, diagnostic and specialty medicine, university of bologna, bologna, italy	4	department of medical oncology, mayo clinic, rochester, mn, united states	339
	department of microbiology and molecular genetics, university of pittsburgh school of medicine, pittsburgh, pa, united states	4	jennerez biotherapeutics inc., san francisco, ca, united states	339
Measles Virus (n=261) No of Institutes (n=681)	department of molecular medicine, mayo clinic, rochester, mn, united states	31	department of molecular medicine, mayo clinic, rochester, mn, united states	1977
	division of medical oncology, mayo clinic, rochester, mn, united states	11	center for cancer therapeutics, ottawa hospital research institute, ottawa, on, canada	731
	division of hematology, mayo clinic, rochester, mn, united states	9	jennerez biotherapeutics, san francisco, ca, united states	731
	department of molecular medicine, mayo clinic, 200 first street sw, rochester, mn 55905, united states	7	division of medical oncology, mayo clinic, rochester, mn, united states	504

	molecular medicine program, mayo clinic, rochester, mn, united states	6	molecular medicine program, mayo clinic, rochester, mn, united states	460
Simplexvirus (n = 243) No of Institutes (n=1055)	department of neurosurgery, massachusetts general hospital, harvard medical school, boston, ma, united states	13	center for cancer therapeutics, ottawa hospital research institute, ottawa, on, canada	771
	department of surgery, memorial sloan- kettering cancer center, new york, ny, united states	7	department of molecular medicine, mayo clinic, rochester, mn, united states	731
	department of pathology, massachusetts general hospital, harvard medical school, boston, ma, united states	6	jennerex biotherapeutics, san francisco, ca, united states	731
	physician scientist training program, university of cincinnati college of medicine, cincinnati, oh, united states	4	royal marsden hospital, london, united kingdom	503
	center for cell and gene therapy, baylor college of medicine, one baylor plaza, houston, tx 77030, united states	3	biovex, inc., 34 commerce way, woburn, ma 018010, united states	352
Herpes Simplex Virus 1 and Herpes Simplex Virus (n=248)	department of surgery, memorial sloan- kettering cancer center, new york, ny, united states	11	moffitt cancer center, tampa, fl, united states	1098
	department of neurosurgery, massachusetts general hospital, harvard	8	huntsman cancer institute, university of utah, salt lake city, ut, united states	1093

No of Institutes (n=1407)	medical school, boston, ma, united states			
	department of neurosurgery, university of alabama at birmingham, birmingham, al, united states	7	minnesota oncology, fridley, mn, united states	1093
	department of neurosurgery, university of tokyo, tokyo, japan	5	university of iowa hospitals and clinics, iowa city, ia, united states	1093
	department of experimental, diagnostic and specialty medicine, university of bologna, bologna, italy	4	university of texas md anderson cancer center, houston, tx, united states	1093
Vesicular Stomatitis Virus (n= 216) No of Institutes (n=1055)	department of molecular medicine, mayo clinic, rochester, mn, united states	15	department of molecular medicine, mayo clinic, rochester, mn, united states	1171
	department of immunology, mayo clinic, rochester, mn, united states	12	jennex biotherapeutics, san francisco, ca, united states	968
	centre for cancer therapeutics, ottawa health research institute, ottawa, on, canada	6	center for cancer therapeutics, ottawa hospital research institute, ottawa, on, canada	771
	department of molecular medicine, mayo clinic, 200 first street sw, rochester, mn 55905, united states	6	department of immunology, mayo clinic, rochester, mn, united states	633
	department of biochemistry, wake forest school of medicine, winston-salem, nc, united states	5	department of biochemistry, microbiology and immunology, university of ottawa, ottawa, on, canada	566

Newcastle Disease Virus (n= 180) No of Institutes (n=566)	department of microbiology, mount sinai school of medicine, new york, ny, united states	5	department of medicine, memorial sloan kettering cancer center, new york, ny 10065, united states	430
	department of medicine, mount sinai school of medicine, new york, ny, united states	4	department of microbiology, icahn school of medicine at mount sinai, new york, ny 10029, united states	403
	college of life science, northeast agriculture university, mucai street 59, xiangfang district, harbin, china	3	rutgers cancer institute of new jersey, 195 little albany street, new brunswick, nj 08901, united states	396
	department of medicine, memorial sloan kettering cancer center, new york, ny 10065, united states	3	department of immunology, university of texas, md anderson cancer center, houston, tx 77030, united states	349
	department of microbiology, icahn school of medicine at mount sinai, new york, ny, united states	3	department of pathology, icahn school of medicine at mount sinai, new york, ny 10029, united states	349

Table S7. The list of top ten most cited documents with total citations and citations per year for oncolytic virotherapy.

S#	Authors	Title	Year	Source Title	Cited by	CPY
1.	Andtbacka R.H.I., Kaufman H.L., Collichio F., Amatruda T., Senzer N., Chesney J., Delman K.A., Spitzer L.E., Puzanov I., Agarwala S.S., Milhem M., Cranmer L., Curti B., Lewis K., Ross M., Guthrie T., Linette G.P., Daniels G.A., Harrington K., Middleton M.R., Miller W.H., Jr., Zager J.S., Ye Y., Yao B., Li A., Doleman S., Van Der Walde A., Gansert J., Coffin R.S.	Talimogene laherparepvec improves durable response rate in patients with advanced melanoma	2015	Journal of Clinical Oncology	987	247
2.	Russell S.J., Peng K.-W., Bell J.C.	Oncolytic virotherapy	2012	Nature Biotechnology	731	104
3.	Hale B.G., Randall R.E., Ortin J., Jackson D.	The multifunctional NS1 protein of influenza A viruses	2008	Journal of General Virology	724	66
4.	Ginn S.L., Alexander I.E., Edelstein M.L., Abedi M.R., Wixon J.	Gene therapy clinical trials worldwide to 2012 - an update	2013	Journal of Gene Medicine	562	94
5.	Chiappinelli K.B., Strissel P.L., Desrichard A., Li H., Henke C., Akman B., Hein A., Rote N.S., Cope L.M., Snyder A., Makarov	Inhibiting DNA Methylation Causes an Interferon Response in	2015	Cell	507	127

	V., Buhu S., Slamon D.J., Wolchok J.D., Pardoll D.M., Beckmann M.W., Zahnow C.A., Mergoub T., Chan T.A., Baylin S.B., Strick R.	Cancer via dsRNA Including Endogenous Retroviruses				
6.	Ribas A., Dummer R., Puzanov I., VanderWalde A., Andtbacka R.H.I., Michielin O., Olszanski A.J., Malvehy J., Cebon J., Fernandez E., Kirkwood J.M., Gajewski T.F., Chen L., Gorski K.S., Anderson A.A., Diede S.J., Lassman M.E., Gansert J., Hodi F.S., Long G.V.	Oncolytic Virotherapy Promotes Intratumoral T Cell Infiltration and Improves Anti-PD-1 Immunotherapy	2017	Cell	423	212
7.	Heo J., Reid T., Ruo L., Breitbach C.J., Rose S., Bloomston M., Cho M., Lim H.Y., Chung H.C., Kim C.W., Burke J., Lencioni R., Hickman T., Moon A., Lee Y.S., Kim M.K., Daneshmand M., Dubois K., Longpre L., Ngo M., Rooney C., Bell J.C., Rhee B.-G., Patt R., Hwang T.-H., Kirn D.H.	Randomized dose-finding clinical trial of oncolytic immunotherapeutic vaccinia JX-594 in liver cancer	2013	Nature Medicine	414	69
8.	Senzer N.N., Kaufman H.L., Amatruda T., Nemunaitis M., Reid T., Daniels G., Gonzalez R., Glaspy J., Whitman E., Harrington K., Goldsweig H., Marshall T., Love C., Coffin R., Nemunaitis J.J.	Phase II clinical trial of a granulocyte-macrophage colony-stimulating factor-encoding, second-generation oncolytic	2009	Journal of Clinical Oncology	410	41

		herpesvirus in patients with unresectable metastatic melanoma				
9.	Parato K.A., Senger D., Forsyth P.A.J., Bell J.C.	Recent progress in the battle between oncolytic viruses and tumours	2005	Nature Reviews Cancer	404	29
10.	Kaufman H.L., Kohlhapp F.J., Zloza A.	Oncolytic viruses: A new class of immunotherapy drugs	2015	Nature Reviews Drug Discovery	396	99

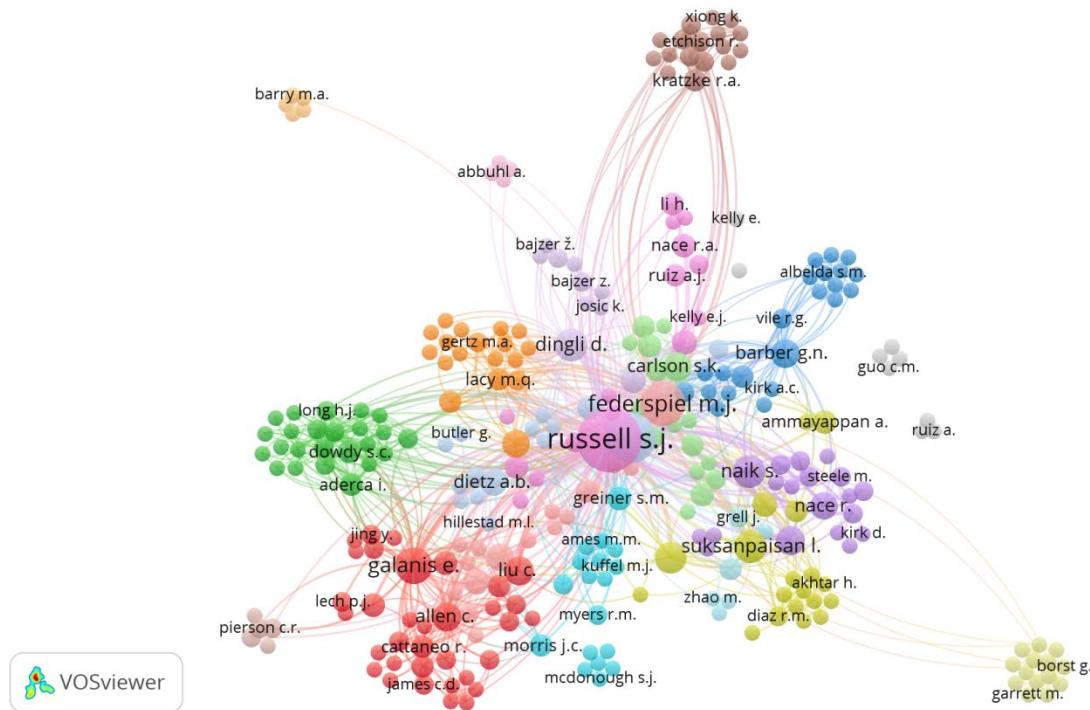


Figure S1. The list of co-authors with Prof. Russell, S.J.

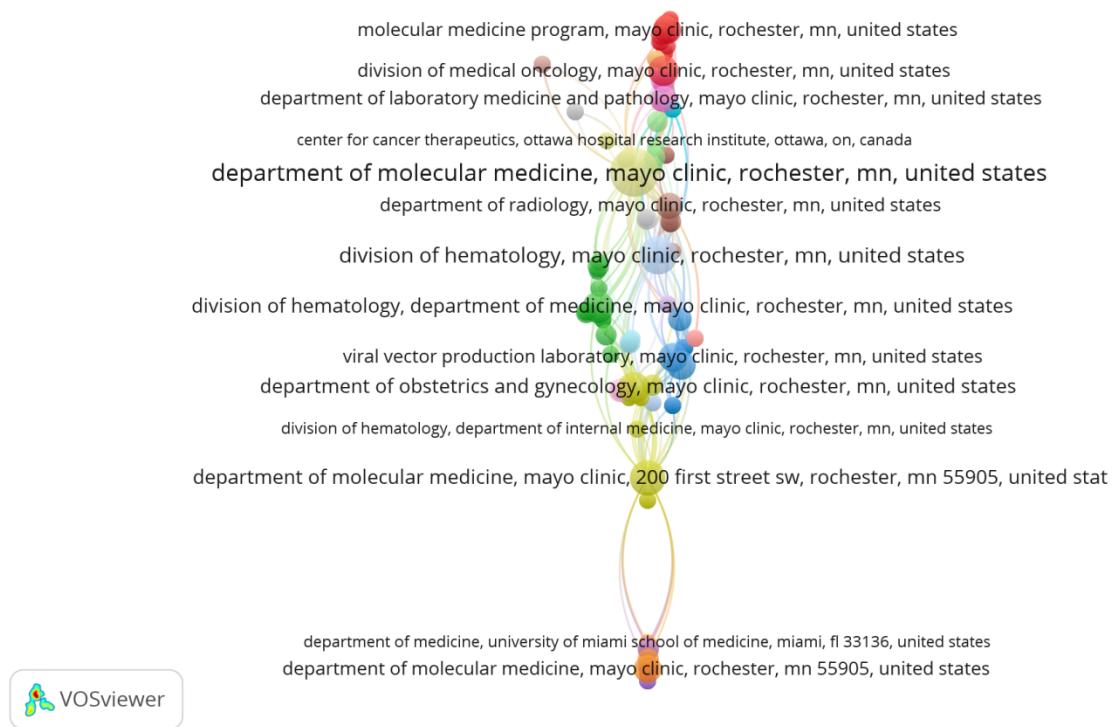


Figure S2. The list of collaborating institutes in publications with Prof. Russell, S.J.

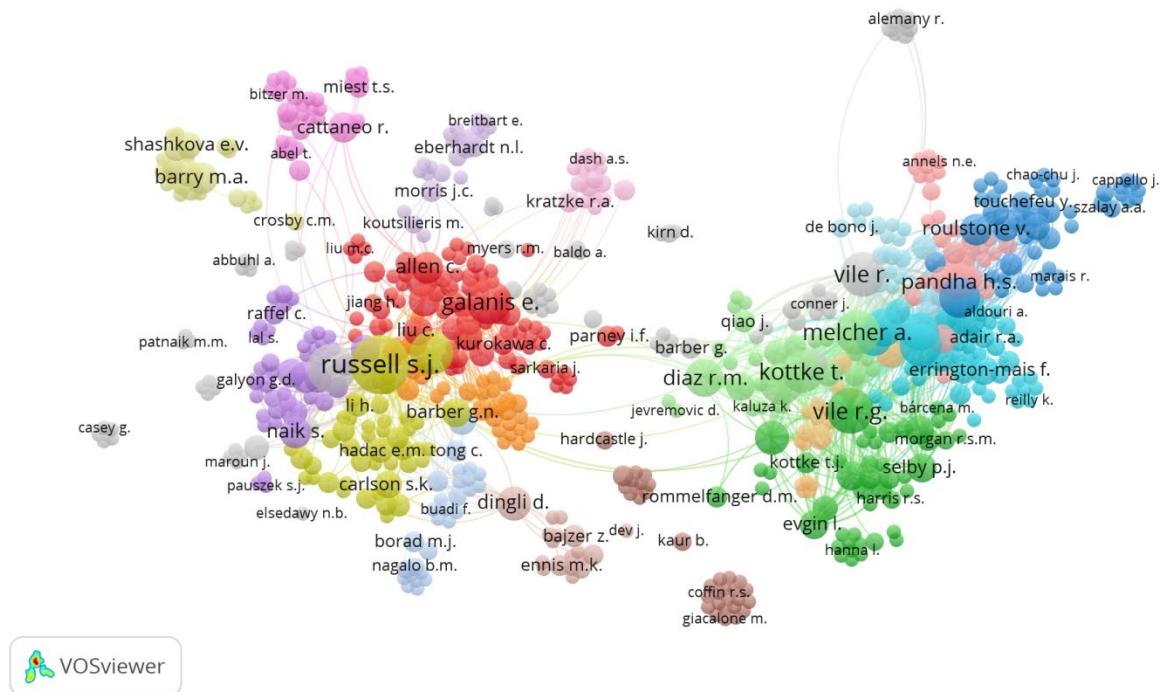


Figure S3. The co-authorship network for mayo clinic

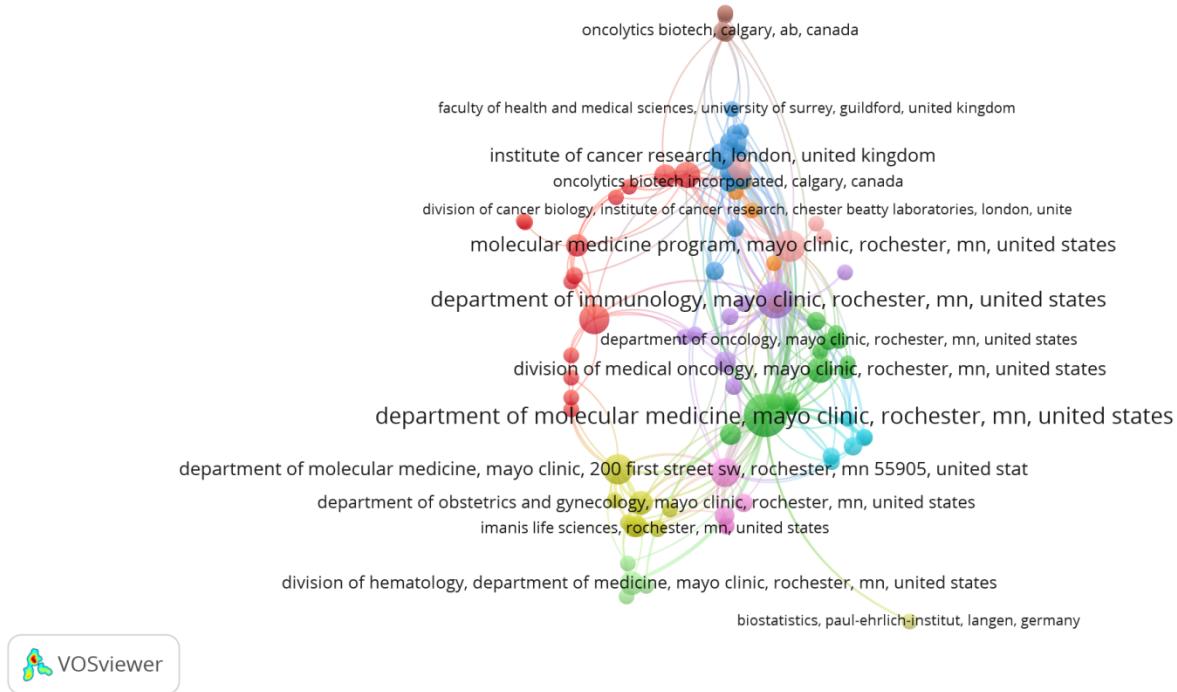


Figure S4. The list of collaborating institutes in publications with mayo clinic

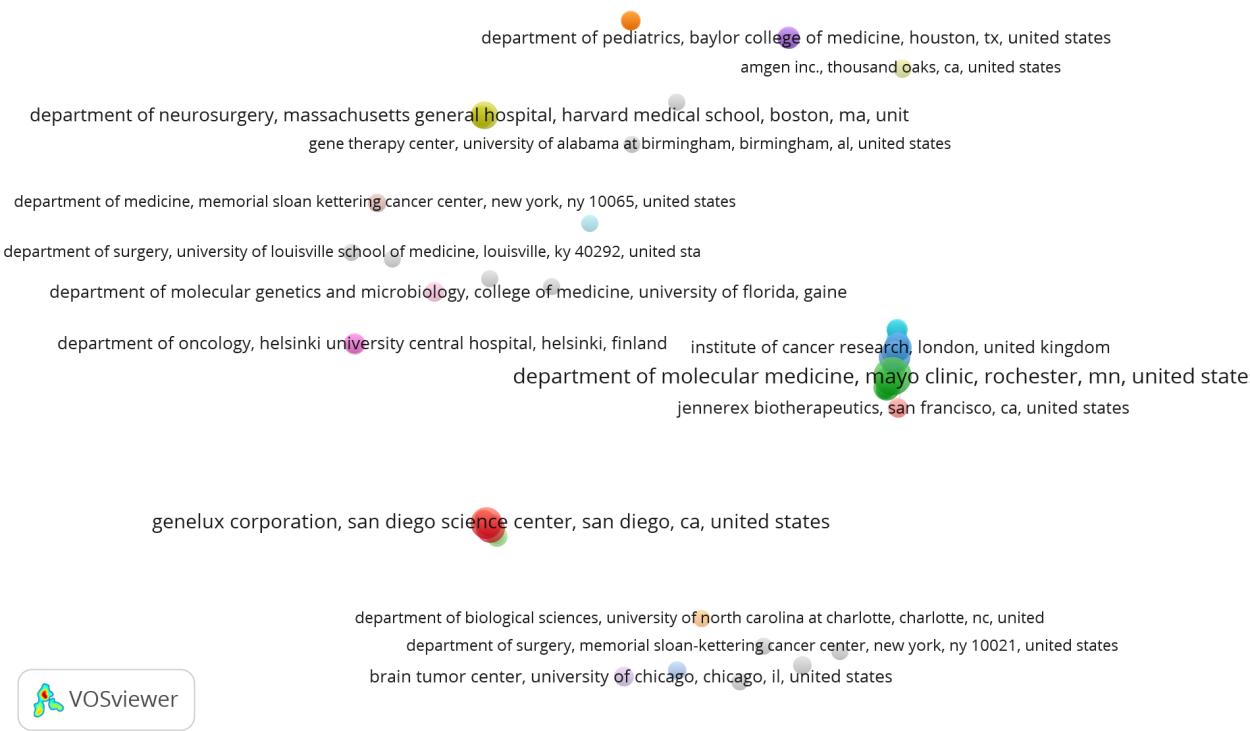


Figure S5. The co-authorships network for institutes in USA publications