

Publications

2021

Circulating tumor DNA is a prognostic marker of tumor recurrence in stage II and III colorectal cancer: multicentric, prospective cohort study (ALGECOLS). Benhaim, L., Bouché, O., Normand, C., Didelot, A., Mulot, C., Le Corre, D., Mallet, K., Garrigou, S., Pekin, D., Hor, T., El Harrak, Z., Niarra, R., Aucouturier, P., Perez-Toralla, K., Nizard, P., Poulet, G., Landi, B., Taieb, J., Perkins, G., Pezet, D., Bibeau, F., Emile, JF, Berger, A., Lecomte, T., Di Fiore, F., Pezet, D., Bibeau, F., Blons, H., Zaan, A., Chatellier, G., Hutchison, B., Link, D., Wang-Renault, S., Laurent-Puig, P.*, Taly, V.* *European Journal of Cancer*.

Role of circulating tumor DNA in gastrointestinal cancers: current knowledge and perspectives. Moati, E., Taly, V., Taieb, J., Laurent-Puig, P., Zaan, A. *Cancers* (2021), 13(19):4743.

Technological Advances for Tumor-On-Chip: From Bench to Bedside. Santa Berzina¹ #, Alexandra Harrison¹ #, Wenjin Xiao¹* and Valérie Taly¹*. *Cancers* (2021), 13(16):4192.

Intratumor CMS heterogeneity impacts patient prognosis in localized colon cancer. Marisa, L., Blum, Y., Taieb, J., Ayadi, M., Pilati, C., Le Malicot, K., Lepage, C., Salazar, R., Aust, D., Duval, A., Blons, H., Taly, V., Gentien, D., Rapinat, A., Selves, J., Mouillet-Richard, S., Boige, V., Emile, J-F., de Reyniès, A., Laurent-Puig P. *Clinical cancer research* (2021), 27(17):4768-4780.

Detection of brain somatic mutations in CSF from refractory epilepsy patients. S. Kim, S. Baldassari, N. Suk Sim, M. Chipaux, G. Dorfmueller, D. Seok Kim, W. Seok Chang, V. Taly, J. Ho Lee, S. Baulac.* *Annals of Neurology* (2021), 89(6):1248-1252.

Prognostic value and relation with adjuvant treatment duration of ctDNA in stage III colon cancer: a post hoc analysis of the PRODIGE-GERCOR IDEA-France trial. J. Taieb, V. Taly, J. Henriques, C. Bourdeau, L. Mineur, J. Bennouna, J. Desrame, C. Louvet, C. Lepere, O. Dupuis, M. Mabro, J. Egreteau, O. Bouche, C. Mulot, M. Ychou, A. de Gramont, D. Vernerey, T. André, P. Laurent-Puig*. doi: 10.1158/1078-0432.CCR-21-0271. Online ahead of print.

Characterization of plasma cell free DNA integrity using picoliter-droplet digital PCR: towards the development of a circulating tumor DNA - dedicated assay. F. Garlan#, G. Poulet#, A. Didelot, S. Garrigou, M.-J. Carrillon, E. Zonta, P. Nizard, D. Pietrasz, J. Pacelli, F. Ginot, A. Boutonnet-Rodat, L. Jagot-Lacoussière, Q. Tavernier, C. Mulot, N. Pecuchet, H. Blons, P. Laurent-Puig, A. Zaan, S. Wang-Renault*, V. Taly*. *Frontiers in oncology, section Molecular and cellular oncology*, 2021, 11:639675.

Usefulness of plasma SARS-CoV-2 RNA quantification by droplet-based digital PCR to monitor treatment against COVID-19. T-A Szwed, D. Veyer, N. Robillard, D. Eshagh, E. Canoui, T. Bruneau, A. Contejean, C. Azoulay, T. Serrano, T. Hueso, L. Izquierdo, F. Rozenberg, B. Terrier, M. Vignon, P. Laurent-Puig, V. Taly, L. Bélec, S. Kernéis, K. Lacombe, H. Péré. *Stem Cell Rev Rep*. 2021 Jan 5;1-4. doi: 10.1007/s12015-020-10107-5.

Multiplexed microRNA detection methods for disease monitoring. T. Jet, G. Gines, Y. Rondelez* and V. Taly*. *Chemical Society Reviews*, 2021, 50, 4141 - 4161

2020

Highly sensitive quantification of plasma SARS-CoV-2 RNA sheds light on its potential clinical value. D. Veyer, S. Kernéis, G. Poulet, M. Wack, N. Robillard, V. Taly, A.-S. L'Honneur, F. Rozenberg, P. Laurent-Puig, L. Bélec, J. Hadjadj, B. Terrier, H. Péré. *Clinical Infectious Diseases*, (2020), ciaa1196, doi: 10.1093/cid/ciaa1196.

The digital MIQE guidelines update: minimum information for publication of quantitative digital PCR experiments for 2020 (dMIQE2020). J. F. Huggett, A. S. Whale, W. De Spiegelaere, W. Trypsteen, A. A. Nour, Y.-K. Bae, V. Benes, D. G. Burke, Philippe Corbisier, Megan Cleveland, Alison S Devonshire, Iianhua DONG, Deniela Drandi, Carole Foy, J. A. Garson, J. Hellemans, H.-J. HE, M. Kubista, A. Lievens, M. Makrigiorgos, M. Milavec, R. D. Mueller, T. Nolan, D. O'Sullivan, M. W. Pfaffl, S. Roediger, E. Romsos, G. Shipley, V. Taly, A. Untergasser, C. Wittwer, S. Bustin, and J. Vandesompele. *Clinical Chemistry*, (2020), 66(8): 1012-1029.

Plasma circulating tumor DNA in pancreatic adenocarcinoma for screening, diagnosis, prognosis, treatment and follow-up: A Systematic Review. R. Abdallah, V. Taly, S. Zhao, D. Pietrasz, J. B. Bachet, D. Basile, L. Mas, A. Zaanani, P. Laurent-Puig, J. Taieb*. *Cancer Treatment Reviews*, (2020), 87 ; 102028.

Decision for adjuvant treatment in stage II colon cancer based on circulating tumor DNA: The CIRCULATE - PRODIGE 70 trial. J. Taïeb, L. Benhaim, P. Laurent Puig, K. Le Malicot, JF Emile, F. Geillon, D. Tougeron, S. Manfredi, M. Chauvenet, V.Taly, C. Lepage* & T. André*. *Digestive and Liver Disease*, 52(7) : 730-733.

Mechanical characterization of cells and microspheres sorted by acoustophoresis with in-line resistive pulse sensing. A Riaud*, ALP Thai, W Wang, V Taly. arXiv preprint Submitted on 24 Jun 2019, arXiv:1906.11944 – *Physical Review Applied* (2019) 13 (3), 034058

Isothermal digital detection of microRNAs using background-free molecular circuit. G. Gines*, R. Menezes*, N. Kaori, A-S. Kirstetter, V. Taly* and Y. Rondelez*. *Science Advances* (2020), 6(4):eaay5952. doi: 10.1126/sciadv.aay5952. IF: 12.8. Press release: <https://www.espci.psl.eu/en/news/2020/dna-nanotechnology-to-detect-cancer-biomarkers>

[Development of molecular analysis by digital PCR for clinical practice: positioning, current applications and perspectives.] J.A. Denis, A. Perrier, J. Nectoux, P.-J. Lamy, A-S. Alary, N. Sarafan-Vasseur, D. Hennaff, B. Busser, R. Appay, P. Pedini, P. Romanet, V. Taly, F. Fina. For the working group of the french society of clinical biology "digital PCR". *Annales de biologie clinique* (2019), Review in French, *Annales de biologie clinique* (2019), 77(6):619-637. IF: 0.5.

Streamlined digital bioassays with a 3D-printed sample changer. Menezes, R., Dramé-Maigné, A., Taly, V., Rondelez, Y., Gines, G.*. *AAAnalyst* (2020), 145(2):572-581. doi: 10.1039/c9an01744e. IF: 3.86

2019

Emerging technologies for microRNA biosensing: applications to liquid biopsies. Gines, G., Menezes, R., Xiao, W., Rondelez, Y. and Taly, V.*. *Molecular Aspects of medicine* (2019), *in press*. Invited review. IF: 10.23

HPV circulating tumoral DNA quantification by droplet-based digital PCR: a promising predictive and prognostic biomarker for HPV-associated oropharyngeal cancers. D. Veyer, M. Wack, M. Mandavit, S. Garrigou, S. Hans, P. Bonfils, L. Belec, S. Wang-Renault, P. Laurent-Puig, H. Mirghani, B. Rance, V. Taly, C. Badoual, H. Péré. *International Journal of Cancer* (2019), *in press*. IF: 7.36

Plasma clearance of RAS mutation under therapeutic pressure is a rare event in metastatic colorectal cancer. E. Moati, H. Blons, V. Taly, F. Garlan, S. Wang-Renault, D. Pietrasz, A. Didelot, G. Sonia, A. Saint, S. Pernot, J. Taieb, P.

Laurent-Puig, A. Zaanani*. International Journal of Cancer (2019), Doi: 10.1002/ijc.32657. [Epub ahead of print] IF: 7.36

Mechanical characterization of cells and microspheres sorted by acoustophoresis with in-line resistive pulse sensing. A Riaud*, ALP Thai, W Wang, V Taly. arXiv preprint posted online Jun 2019, arXiv:1906.11944

BRAF mutation analysis in circulating tumor DNA from patients with metastatic colorectal cancer: complementary results from the AGEORASANC study. L. Mas, J-B. Bachet, V. Taly, O. Bouche, J. Taieb, R. Cohen, A. Meurisse, C. Normand, J-M. Gornet, P. Artru, S. Louafi, A. Thiot-bidault, I. Baumgaertner, R. Coriat, D. Tougeron, T. Lecomte, F. Mary, T. Aparicio, L. Marthey, H. Blons, D. Vernerey, P. Laurent-Puig*. Cancers (2019), 11(7). pii: E998. IF: 5.326

Digital PCR: principle and applications. Poulet G. and Taly V. Onco-theranostic (2019), Invited review in French, In press.

Vemurafenib in refractory multisystem Langerhans cell histiocytosis (LCH) of children: results of an international observational study. J. Donadieu, I. A. Larabi, M. Tardieu, J. Visser, H. Caroline, E. Sieni, N. Kabbara, M. Barkaoui, P. Milne, J. Haroche, Z. Helias, M. Jehanne, A. Kolenova, A. Pagnier, N. Aladjidi, P. Schneider, G. Plat, A. Lutun, A. Heisig, A. Ferster, V. Efremova, M. Ahlmann, L. Blanc, J. Nicholson, A. Lambilliotte, H. Boudiaf, A. Lissat, K. Svojr, F. Bernard, S. Elitzur, M. Golan, D. Evseev, M. Maschan, A. Idbaih, O. Slater, M. Minkow, V. Taly, M. Collin, J-C. Alvarez, J-F. Emile, S. Héritier*. Journal of Clinical Oncology (2019). In press. IF: 26.3

Tunable and reversible gelatin-based bonding for microfluidic cell culture. G. Pitingolo*, P. Nizard, A. Riaud and V. Taly*. Advanced Engineering Materials (2019). 1900145. IF: 2.360

Gelatin Coated Microfluidic Channels for 3D Microtissue Formation: on-Chip Production and Characterization. G. Pitingolo*, P. Nizard, A. Riaud, C. Nastruzzi and V. Taly*. Micromachines (2019),10(4). IF: 1.8

Coins in microfluidics: from mere scale objects to font of inspiration for microchannel circuits. G. Pitingolo*, V. Taly and C. Nastruzzi. Biomicrofluidics (2019), 13(2):024106. IF: 2.57

Liquid biopsy: general concepts. G. Poulet, J. Massias and V. Taly. Invited review, Acta cytologica (2019), pp. 1-7. IF: 0.88

HPV-circulating tumoural DNA by droplet-based digital polymerase chain reaction, a new molecular tool for early detection of HPV metastatic anal cancer? A case report. D. Veyer, J. Pavie, S. Pernot, M. Mandavit, S. Garrigou, M-L. Lucas, L. Gibault, V. Taly, L. Weiss, H. Péré. European journal of cancer (2019), 112:34-37. IF: 5.4

Microfluidic extraction of circulating tumor DNA for the sensitive detection and quantification of rare mutations. K. Perez-Toralla, I. Pereiro, J. Champ, F. Faqir, P. Nizard, L. Malaquin, J-L. Viovy, V. Taly* and S. Descroix*. Sensors and Actuators B: Chemical (2019), 286: 533-539. IF: 6.393

Highly sensitive methods are required to detect mutations in histiocytoses. S. Melloul, Z. Hélias-Rodzewicz, F. Cohen-Aubart, F. Charlotte, S. Fraïtag, N. Terrones, Q. Riller, T. Chazal, S. Heritier, A. Moreau, M. Kambouchner, MC. Copin, J. Donadieu, V. Taly, Z. Amoura, J. Haroche, JF Emile. Haematologica (2019), 104(3): e97-e99. IF: 9.09

2018

Beyond the on/off chip trade-off: A reversibly sealed microfluidic platform for 3D tumor microtissue analysis. G. Pitingolo*, P. Nizard, A. Riaud and V. Taly*. Sensors and Actuators B: Chemical (2018), 274: 393-401.

Incidence and risk factors for clinical neurodegenerative Langerhans cell histiocytosis: a longitudinal cohort study. S. Héritier, M-A. Barkaoui, J. Miron, C. Thomas, D. Moshous, A. Lambilliotte, F. Mazingue, K. Kebaili, E. Jeziorski, G. Plat, N. Aladjidi, H. Pacquement, C. Galambrun, L. Brugières, G. Leverger, L. Mansuy, C. Paillard, A. Deville, A. Pagnier, A. Lutun, M. Gillibert-Yvert, J-L. Stephan, F. Cohen-Aubart, J. Haroche, I. Pellier, F. Millot, V. Gandemer, N. Martin-Duverneuil, V. Taly, Z. Hélias-Rodzewicz, J-F. Emile, K. Hoang-Xuan, A. Idbaih, J. Donadieu*. The British journal of haematology (2018), 183(4): 608-617.

High throughput multiplexed fluorescence activated droplet sorting. Ouriel Caen, Simon Schuetz, Mani Jammalamadaka, Jeremy Vrignon, Philippe Nizard, Tobias Schneider, Jean-Christophe Baret* and Valérie Taly* Microsystems & Nanoengineering (Recent journal of Nature group) (2018), UNSP 33.

[Development of digital PCR molecular tests for clinical practice: principles, practical implementation and recommendations.] J.A. Denis, J. Nectoux, P-J. Lamy, C. Rouillac Le Sciellour, H. Guermouche, A-S. Alary, O. Kosmider, N. Sarafan-Vasseur, C. Jovelet, B. Busser, P. Nizard, V. Taly, F. Fina. For the working group of the french society of clinical biology "digital PCR". Annales de biologie clinique (2018), Review in French, *in press*.

BRAF V600E mutation detected in a case of Rosai-Dorfman disease. G. Fatobene, J. Haroche, Z. Hélias-Rodzwicz, F. Charlotte, V. Taly, A. Meneses Ferreira, A. Néder Ramires Abdo, V. Rocha, J-F. Emile*. Haematology (2018), *In press*. [Link](#)

Assessment of Digital PCR as a Primary Reference Measurement Procedure to Support Advances in Precision Medicine. AS Whale, GM Jones, J. Pavši, T. Dreo, N. Redshaw, S. Akyürek, M. Akgoz, C. Divieto, M.P. Sassi, H-J. He, K. D. Cole, Y-K. Bae, (...), L. Deprez, P. Corbisier, S. Garrigou, V. T., R. Larios, S. Cowen, D. M. O'Sullivan, C. A. Bushell, H. Goenaga-Infante, H. Parkes, C. A. Foy, A. J. Woolford, J. F. Huggett*, A. S. Devonshire*. Clinical Chemistry (2018), *In press*. [Link](#)

Chips and Tips: A second life for old electronic parts: a spin coater for microfluidic applications. Pitingolo, G., Taly, V. and Nastruzzi, C. Lab on Chip (2018)

Role of circulating tumor DNA in the management of patients with colorectal cancer. Moati, E., Taly, V., Didelot, A., Perkins, G., Blons, H., Taieb, J., Laurent-Puig, P., Zaanani, A*. (Review) Clinics and research in hepatology and gastroenterology. (2018), *In press*. [Link](#)

Mutation and methylation analysis of circulating tumor DNA can be used for the follow-up of metastatic colorectal cancer patients. N. Boeckx, K. Op de Beeck, M. Beyens, V. Deschoolmeester, C. Hermans, P. Declercq, K. Papadimitriou, P. Laurent-Puig, P. Pauwels, Guy Van Camp*, V. Taly*, M. Peeters*. Colorectal Cancer (2018), 7(2):e369-e379. [Link](#)

BIABooster: Online DNA Concentration and Size Profiling with a Limit of Detection of 10 fg/L and Application to High-Sensitivity Characterization of Circulating Cell-Free DNA. CL. Andriamanampisoa, A. Bancaud, A. Boutonnet-Rodat, A. Didelot, J. Fabre, F. Fina, F. Garlan, S. Garrigou, C. Gaudy, F. Ginot*, D. Henaff, P. Laurent-Puig, A. Morin, V. Picot, L. Saias, V. Taly, P. Tomasini, A. Zaanani. Analytical Chemistry (2018), 90(6): 3766-3774. [Link](#)

RAS mutation analysis in circulating tumor DNA from patients with metastatic colorectal cancer: the AGEORASANC prospective multicenter study. J. B. Bachet, O. Bouché, J. Taieb, O. Dubreuil, M. L. Garcia, A. Meurisse, C. Normand, J. M. Gornet, P. Artru, S. Louafi, F. Bonnetain, A. Thiot-Bidault, I. Baumgaertner, R. Coriat, D. Tougeron, T. Lecomte, F. Mary, T. Aparicio, L. Marthey, V. Taly, H. Blons, D. Vernerey, P. Laurent-Puig*. Annals of oncology (2018), 29(5):1211-1219. [Link](#)

Phenotypes and survival in Erdheim-Chester disease: Results from a 165-patient cohort. American Journal of Hematology (2018), 93(5): E114-E117. [Link](#)

2017

Droplet-based digital PCR and Next generation sequencing for monitoring circulating tumor DNA: a cancer diagnostic perspective. M. Postel#, A. Roosen #, P. Laurent-Puig, V. Taly* S. Wang-Renault*. Expert Review of Molecular Diagnostics (2017), 18(1):7-17. [Link](#)

Massively parallel and multiparameter titration of biochemical assays with droplet microfluidics. S. Okumura, A. Baccouche, R. Sieskind, E. Henry, N. Aubert-Kato, N. Bredeche, J. F. Bartolo, V. Taly, Y. Rondelez, T. Fujii & A. J. Genot*. Nature Protocols (2017), 12(9):1912-1932. [Link](#)

Microfluidics as a strategic player to decipher single-cell omics? H. Lu, O. Caen, P. Nizard, V. Taly*. Trends in

Biotechnology (2017), 35(8):713-727. [Link](#)

Functional Evidence for Derivation of Systemic Histiocytic Neoplasms from Hematopoietic Stem/Progenitor Cells. B. H Durham, D. Roos-Weil, C. Baillou, F. Cohen-Aubart, A. Yoshimi, M. Miyara, M. Papo, Z. Hélias-Rodzewicz, N. Terrones, N. Ozkaya, A. Dogan, R. Rampal, F. Urbain, L. Le Fèvre, E. L Diamond, C. Y Park, T. Papo, F. Charlotte, G. Gorochoy, **V. Taly**, O. Bernard, Z. Amoura, O. Abdel-Wahab, F. M Lemoine, J. Haroche, and J-F. Emile*. *Blood* (2017), 1130(2):176-180. [Link](#)

Early evaluation of circulating tumor DNA as marker of therapeutic efficacy in metastatic colorectal cancer patients (PLACOL study). F. Garlan, P. Laurent-Puig*, N. Siauve, A. Didelot, G. Perkins, H. Blons, J. Taieb, V. Taly* and A. Zaanan. *Clinical Cancer Research* (2017), In press. doi: 10.1158/1078-0432.CCR-16-3155. [Link](#)

High-throughput cell counting using droplet-based microfluidics. H. Lu, O. Caen, J. Vrignon, P. Nizard, J-C. Baret, V. Taly*. *Scientific reports* (2017), 7(1):1366. [Link](#)

Circulating cell-free BRAFV600E as a biomarker in children with Langerhans cell histiocytosis. Héritier S, Hélias-Rodzewicz Z, Lapillonne H, Terrones N, Garrigou S, Normand C, Barkaoui MA, Miron J, Plat G, Aladjidi N, Pagnier A, Deville A, Gillibert-Yvert M, Moshous D, Lefèvre-Utile A, Lutun A, Paillard C, Thomas C, Jeziorski E, Nizard P, Taly V, Emile JF, Donadieu J.* *Br J Haematol.* (2017), 178(3):457-467. doi: 10.1111/bjh.14695. [Link](#).

Circulating tumor DNA Measurement by Picoliter droplet-based digital PCR and vemurafenib plasma concentrations in patients with advanced BRAF-mutated melanoma. Garlan F, Blanchet B, Kramkimel N, Puszkiel A, Golmard JL, Noe G, Dupin N, Laurent-Puig P, Vidal M, Taly V and Thomas-Schoemann A.* *Targeted Oncology* (2017), 12(3): 365-371. [Link](#)

A novel low cost method to prepare a cross-linked gelatin membrane for potential biological applications. Pitingolo, G.* and Taly, V. *Lab on Chip, Chips and Tricks.* (2017). [Link](#)

Droplet-Based Digital PCR: Application in Cancer Research. Perkins G, Lu H, Garlan F, Taly V.* *Adv Clin Chem.* (2017), 79:43-91. [Link](#)

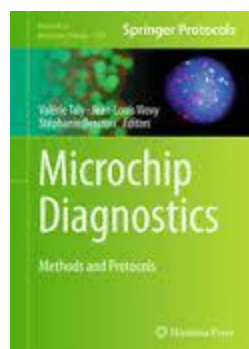
Droplet-based Microfluidics digital PCR for the detection of KRAS mutations. Pekin D, Taly V.* *Methods Mol Biol.* (2017), 1547:143-164. [Link](#).

Multiplex detection of KRAS mutations using passive droplet fusion. Pekin D, Taly V.* *Methods Mol Biol.* (2017), 1547:133-142. [Link](#).

Plasma Circulating Tumor DNA in Pancreatic Cancer Patients is a Prognostic Marker. Pietrasz D, Pécuchet N, Garlan F, Didelot A, Dubreuil O, Doat S, Imbert-Bismut F, Karoui M, Vaillant JC, Taly V, Laurent-Puig P, Bachet JB.* *Clin Cancer Res.* (2017), 23(1):116-123. [Link](#)

Edited Book:

Microchip Diagnostics. *Methods in Molecular Biology. Methods and Protocols.* Editors: Taly, Valérie, Viovy, Jean-Louis, Descroix, Stéphanie (Eds.) [Link](#).



2016

Base-Position Error Rate Analysis of Next-Generation Sequencing Applied to Circulating Tumor DNA in Non-Small Cell Lung Cancer: A Prospective Study. Pécuchet N, Zonta E, Didelot A, Combe P, Thibault C, Gibault L, Lours C, Rozenholc Y, Taly V, Laurent-Puig P, Blons H, Fabre E. *PLoS Med.* (2016), 13(12):e1002199. [Link](#).

Editorial : Digital PCR, a technique for the future. Taly, V. and Huggett, J. *Biomol Detect Quantif.* (2016),10:1. [Link](#).

Germline and somatic mutations in MTOR gene in focal epilepsies with and without brain malformations. R. S. Møller*, S. Weckhuysen, M. Chipaux, E. Marsan, V. Taly, E. M. Bebin, S. Hiatt M, K. M. Bowling, D. Mei, V. Conti, P. de la Grange, S. Ferrand-Sorbets, G. Dorfmueller MD, V. Lambrecq, L. HG Larsen, E. Leguern, R. Guerrini, G. Rubboli, G.M. Cooper and S. Baulac. *Neurology: Genetics* (2016), 2:e118. [Link](#).

Analysis of Base-Position Error Rate of Next-Generation Sequencing to Detect Tumor Mutations in Circulating DNA. Pécuchet N, Rozenholc Y, Zonta E, Pietraz D, Didelot A, Combe P, Gibault L, Bachet JB, Taly V, Fabre E, Blons H, Laurent-Puig P.* *Clinical Chemistry* (2016), 62(11):1492-1503. *Pubmed*. [Epub ahead of print]
University Paris Descartes/AP-HP/CNRS/INSERM Press releases.

Multiplex detection of rare mutations by picoliter droplet based digital PCR : sensitivity and specificity considerations. E. Zonta, F. Garlan, N. Pecuchet, K. Perez-Toralla, C. Milbury, A. Didelot, O. Caen, H. Blons, E. Fabre, P. Laurent-Puig, V. Taly*. *Plos One* (2016), 11(7):e0159094. [Journal Link](#).

BRAF mutation correlates with High-Risk Langerhans Cell Histiocytosis and increased resistance to first-line therapy. S. Héritier, J-F. Emile, M. Aziz-Barkaoui, C. Thomas, S. Fraïtag, S. Boudjemaa, F. Renaud, A. Moreau, M. Peuchmaur, C. Chassagne-Clément, F. Dijoud, V. Rigau, D. Moshous, A. Lambilliotte, F. Mazingue, K. Kebaili, J. Miron, E. Jeziorski, G. Plat, N. Aladjidi, A. Ferster, H. Pacquement, C. Galambrun, L. Brugières, G. Leverger, L. Mansuy, C. Paillard, A. Deville, C. Armari-Alla, A. Lutun, M. Gillibert-Yvert, J-L Stephan, F. Cohen-Aubart, J. Haroche, I. Pellier, F. Millot, B. Lescoeur, V. Gandemer, C. Bodemer, R. Lacave, Z. Hélias-Rodzewicz, V. Taly, F. Geissmann, and J. Donadieu*. *Journal of Clinical Oncology*, (2016), 34(25):3023-30. *Pubmed*.

High-resolution mapping of bifurcations in nonlinear DNA circuits. A.J. Genot, A. Baccouche, R. Sieskind, N. Aubert-Kato, N. Bredeche, J.F. Bartolo, V. Taly, T. Fujii, Y. Rondelez. *Nature Chemistry* (2016), 8(8):760-7. *Pubmed*.

A Study of Hypermethylated Circulating Tumor DNA as a Universal Colorectal Cancer Biomarker. S. Garrigou, G. Perkins, F. Garlan, C. Normand, A. Didelot, D. Le Corre, S. Peyvandi, C. Mulot, R. Niarra, P. Aucouturier, G. Chatellier, P. Nizard, K. Perez-Toralla, E. Zonta, C. Charpy, A. Pujals, C. Barau, O. Bouché, J.-F. Emile, D. Pezet, F. Bibeau, J. B. Hutchison, D. R. Link, A. Zaanani, P. Laurent-Puig, I. Sobhani and V. Taly*. *Clinical Chemistry* (2016), 62(8):1129-39. *Pubmed*.
University Paris Descartes/CNRS/INSERM Press release.
Inserm Press release (english)

2015

Quel avenir pour l'ADN tumoral circulant? Etat des lieux et perspectives dans les cancers colorectaux, pulmonaires non à petites cellules et pancréatiques. D. Pietrasz, N. Pécuchet, E. Fabre, H. Blons, V. Taly, P. Laurent-Puig, J-B Bachet*. *Bulletin du cancer* (2015), 103(1):55-65. *Pubmed*.

Why and how immunohistochemistry should now be used to screen for the BRAFV600E status in metastatic melanoma? The experience of a single institution (LCEP, Nice, France). Long E, Ilie M, Lassalle S, Butori C, Poissonnet G, Washetine K, Mouroux J, Lespinet V, Lacour JP, Taly V, Laurent-Puig P, Bahadoran P, Hofman V, Hofman P.* *J Eur Acad Dermatol Venereol* (2015), 29(12):2436-43. *Pubmed*.

Variations of BRAF mutant allele percentage in melanomas. Hélias-Rodzewicz Z, Funck-Brentano E, Baudoux L, Jung

CK, Zimmermann U, Marin C, Clerici T, Le Gall C, Peschard F, Taly V, Saiag P, Emile JF.* BMC Cancer (2015), 15:497. *Pubmed*.

Parallelized ultra-high throughput microfluidic emulsifier for multiplex kinetic assays. Lim, J., Caen, O., Vrignon, J., Konrad, M., Taly, V. and Baret, J-C.* Co-first name for Lim, J. and Caen, O. Biomicrofluidics (2015), 9(3):034101. *Pubmed*.

Assessment of DNA integrity, applications for cancer research. Zonta, E., Nizard, P. and Taly, V. Advances in Clinical Chemistry (2015), 70:197-246. doi: 10.1016/bs.acc.2015.03.002. Epub 2015 Apr 11. Review. *Pubmed*.

Microfluidics and Tumor DNA. Contribution of digital PCR (technical review in French, french title: Microfluidique et ADN tumoral. Apport de la PCR digitale). Nizard, P., Krol, A., Laurent-Puig, P. and Taly, V. Techniques de l'ingénieur (2015). *In press*.

[Digital PCR compartmentalization I. Single-molecule detection of rare mutations]. Perez-Toralla, K., Pekin, D., Bartolo, J.-F., Garlan, F., Nizard, P., Laurent-Puig, P., Baret, J.-C. and Taly, V. Medecine/Sciences (2015), 31(1):84-92. Review. French. *Pubmed*.

[Digital PCR compartmentalization II. Contribution for the quantitative detection of circulating tumor DNA]. Caen, O., Nizard, P., Garrigou, S., Perez-Toralla, K., Zonta, E., Laurent-Puig, P. and Taly, V.* Medecine/Sciences (2015), 31(2):180-6. Review. French. *Pubmed*

Clinical relevance of KRAS-mutated sub-clones detected with picodroplet digital PCR in advanced colorectal cancer treated with anti-EGFR therapy. Laurent-Puig, P.*, Pekin, D., Normand, C., Kotsopoulos, SK, Nizard, P., Perez Toralla, K., Rowell, R., Olson, J., Srinivasan, P., Le Corre, D., Hor, T., El Harrak, Z., Li X., Link, D.R., Bouche, Emile, J-F., O., Landi, B., Boige, V., Hutchison, J.B. and Taly, V.* Clinical Cancer Research (2015), 21(5):1087-97. *Pubmed*.

2014

Recurrent RAS and PIK3CA mutations in Erdheim-Chester disease. Emile, J-F., Diamond, E.L., Hélias-Rodzewicz, Z., Cohen-Aubart, F., Charlotte, F., Hyman, D.M., Kim, E., Rampal, R., Patel, M., Ganzel, C., Aumann, S., Faucher, G., Le Gall, C., Leroy, K., Colombat, M., Kahn, J-E., Trad, S., Nizard, P., Donadieu, J., Taly, V., Amoura, Z., Abdel-Wahab, O. and Haroche, J. Blood (2014), 124(19): 3016-9. *Pubmed*.

Association of both Langerhans cell histiocytosis and Erdheim-Chester Disease linked to BRAFV600E mutation. A multicenter study of 23 cases. B Hervier, J Haroche, L Arnaud, F Charlotte, J Donadieu, A Néel, F, Lifermann, C Villabona, B Graffin, O Hermine, A Rigolet, C Roubille, E Hachulla, T Carmoi, M Bézier, V Meignin, M Conrad, L Marie, E Kostrzewa, JM Michot, S Barete, V. Taly, K Cury, JF Emile, Z Amoura. Blood (2014), 124 (7) : 1119-1126. *Pubmed*.

Comment in

- A common progenitor cell in LCH and ECD. [Blood. 2014]

CotA laccase: high-throughput manipulation and analysis of recombinant enzyme libraries expressed in E. coli using droplet-based microfluidics. Beneyton, T., Coldren, F., Baret, J-C., Griffiths, A.D. and Taly, V.* Analyst (2014), 139(13):3314-23. (Invited article for the themed issue on "Probe and Chip Approaches to Cell Analysis"). *Pubmed*.

The Microfluidic Puzzle: Chip-oriented Rapid Prototyping. Lim, J., Maes, F., Taly, V. and Baret, J-C. Lab on Chip (2014), 14 (10), 1669-1672. *Pubmed*.

2013

Circulating DNA, digital PCR and colorectal cancers. Taly, V and Laurent-Puig, P. Correspondances en Onco-theranostic (2013), 2(4), 184-189 (Invited review for the thematic issue : Cellules tumorales et ADN libre circulant). *Journal Link*.

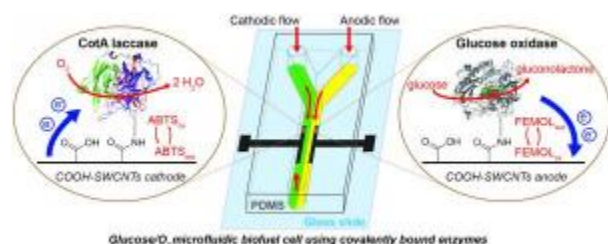
Multiplex Picodroplet Digital PCR to Detect KRAS Mutations in Circulating DNA from the Plasma of Colorectal Cancer Patients. Taly V, Pekin D, Benhaim L, Kotsopoulos SK, Le Corre D, Li X, Atochin I, Link DR, Griffiths AD, Pallier K, Blons H, Bouché O, Landi B, Hutchison JB, Laurent-Puig P. *Clinical Chemistry* (2013). 59(12):1722-31. Pubmed.
CNRS Press release.

High-throughput formation and control of monodisperse liquid crystals droplets driven by an AC electric field in a microfluidic device. Belloul, M., Bartolo, J-F., Ziraoui, B., Coldren, F., Taly, V. and El Abed, A.* *Applied Physics Letters* (2013), 103(3), 033112. <http://dx.doi.org/10.1063/1.4813880>

Real-time detection of Whispering Gallery Mode resonance in high-throughput flowing monodisperse microdroplets. El Abed, A.I.* and Taly, V. *Optical Materials* (2013). 36(1): Pages 64–68.

Multiplex picoliter-droplet digital PCR for quantitative assessment of DNA integrity in clinical samples. Didelot A, Kotsopoulos SK, Lupo A, Pekin D, Li X, Atochin I, Srinivasan P, Zhong Q, Olson J, Link DR, Laurent-Puig P, Blons H, Hutchison JB, Taly V. *Clinical Chemistry* (2013), 59(5):815-823.

Membraneless Glucose/O₂ microfluidic biofuel cells using covalently bound enzymes. Beneyton, T., I Putu Mahendra Wijaya, C. Ben Salem, C., Griffiths, A.D.* and Taly, V.* *Chemical communications* (2013), 49(11): 1094-1096. *Journal Link*.



2012

Dynamics of molecular transport by surfactants in emulsions. Skhiri, Y., Gruner, P., Semin, B., Brosseau, Q., Pekin, D., Mazutis, L., Goust, V., Kleinschmidt, F., El Harrak, A., Hutchison, J. B., Mayot, E., Bartolo, J-F., Griffiths, A.D. , Taly, V.* and Baret, J-C.*. *Soft Matter* (2012), 8: 10618-10627. *Journal Link*.



Journal Cover.

Detecting Biomarkers with microdroplet technology. Taly, V.*, Pekin, D., El Abed, A. and Laurent-Puig P. Invited Review. *Trends in Molecular Medicine* (2012), 18(7): 405-16. *Pubmed*.



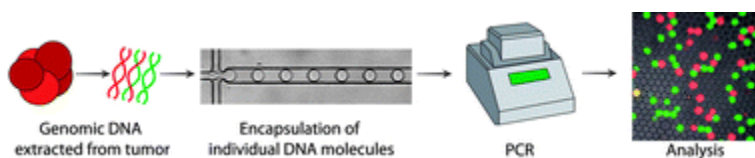
Journal Cover.

2011

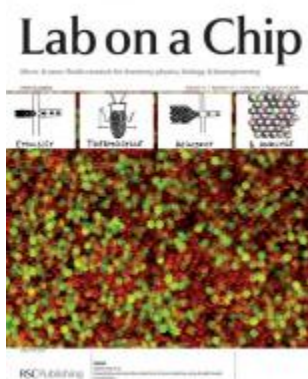
Sensitive detection of rare mutations using droplet-based microfluidics. Baret J.-C. and Taly V. G.I.T. Journal Laboratory Europe (2011), 15: 12-13. see <http://www.laboratory-journal.com/science/pharma-drug-discovery/droplet-based-microfluidics-sensitive-detection-rare-mutations>



Quantitative and sensitive detection of rare mutations using droplet-based microfluidics. Pekin, D., Skhiri, Y., Baret, J.-C., Mazutis, L., Millot, F., El Harrak, A., Le Corre, D., Laurent-Puig, P., Griffiths, A.D., and Taly, V. Lab on a chip (2011), 11(13): 2156-66. *Pubmed*.

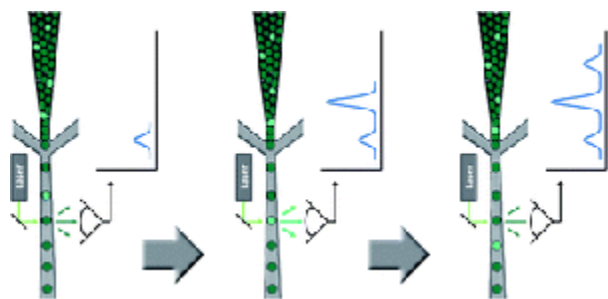


Journal Cover.



Press release.

Multiplex Digital PCR: Breaking the One Target Per Color Barrier of Quantitative PCR. Zhong, Q., Bhattacharya, S., Kotsopoulos, S., Olson, J., Taly, V., Griffiths, A.D., Link, D.R., and Larson, J.W., Lab on a chip (2011), 11(13):2167-74. [Pubmed](#).



KRAS mutation detection trap. Benhaim, L., Maley, K., Le Corre, D., Blons, H., Taly, V., Bibeau, F., Emile, J-F. and Laurent-Puig, P. Journal of Clinical Oncology (2011), Letter, 29(8): e208-e209. [Link](#).

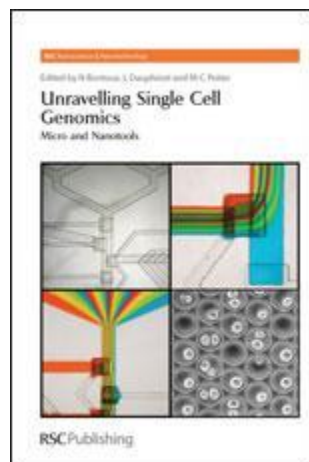
From Toxins Targeting Ligand Gated Ion Channels to Therapeutic Molecules. Nasiripourdori, A., Taly, V., Grutter, T. and Taly, A. Toxins (2011), 3(3): 260-293. [Link](#).

The thermophilic CotA laccase from Bacillus subtilis: Bioelectrocatalytic evaluation of O₂ reduction in the direct and mediated electron transfer regime. Beneyton, T., Beyl, Y., Guschin, D., Griffiths, A.D., Taly, V. and Schuhmann, W. Electroanalysis (2011), 23 (8): 1781-9. [Link](#).

Immobilisation of CotA, an extremophilic laccase from Bacillus subtilis, on glassy carbon electrodes for biofuel cell applications. Beneyton, T., El Harrak, A., Griffiths, A.D. and Taly, V. Electrochemistry Communications (2011), 13(1): 24-27. [Link](#).

2010

Tiny droplets for high-throughput cell-based assays. Baret, J.-C. and Taly, V. In Unravelling more of cell genomics: let's use the micro and nanotools !, RCS publication edited by M.-C. Potier and N. Bontoux. (2010) 261-84.

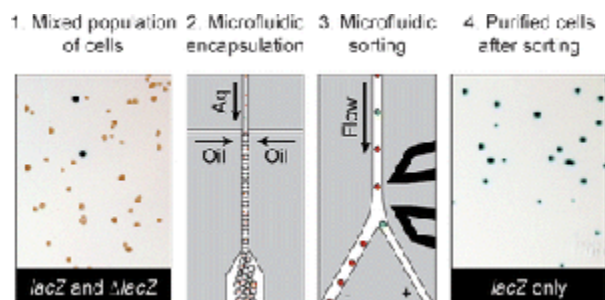


Integrated microfluidic platform for directed evolution of laccase for Biofuel cell applications. Skhiri, Y., Beneyton, T., El Harrak, A., Griffiths, A.D. and Taly, V. In: Proceedings of the 14th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), 2010, p. 980-982. ISBN: 978-0-9798064-3-8.

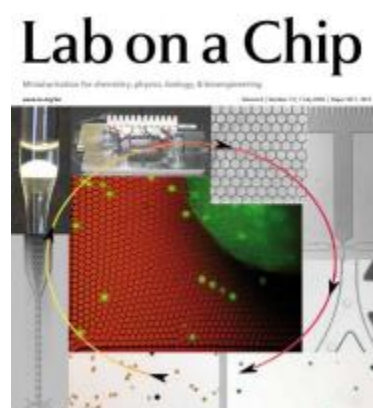
Droplet-based microfluidics for the quantitative detection of rare mutations. D. Pekin, Y. Skhiri, Baret, J.-C., Le Corre, D., Mazutis, L., Ben Salem, C., El Abed, A., Hutchison, J.B., Link, D.R., Griffiths, A.D., Laurent-Puig, P. and Taly, V. In: Proceedings of the 14th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), 2010,

2009

Fluorescence-activated droplet sorting (FADS): efficient microfluidic cell sorting based on enzymatic activity. Baret, J.-C., Miller, O.J., Taly, V., El Harrak, A., Ryckelynck, M., Agresti, J., Weitz, D. and Griffiths A.D. Co-first name for Baret JC and Miller OJ. Lab on a Chip (2009), 9(13): 1850-8. *Pubmed*.



Journal Cover.

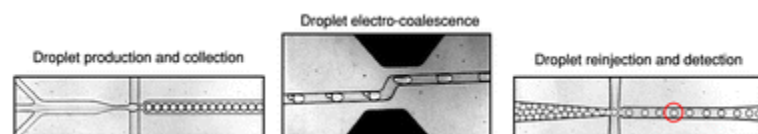


Highlights in: "Highlights in Chemical Biology", rsc publishing. Cell sorting sorted (2009).

Droplets and Emulsions: very high-throughput in biology. Baret, J.-C., Taly, V., Ryckelynck, M. and Griffiths A.D. Medecine et sciences (2009), 25(6-7): 6. *Pubmed*.

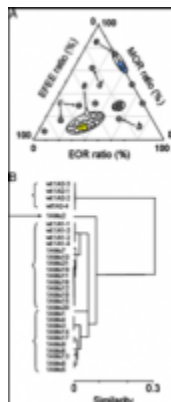
Droplet-based microfluidic systems for high throughput single DNA molecule amplification and analysis. Mazutis L., Fallah-Araghi, A., Miller, O. J., Baret, J. C., Frenz, L., Janoshazi, A., Taly, V., Miller, B. J., Hutchison, B. J., Link, D., Griffiths, A.D. and Ryckelynck, M. Analytical Chemistry (2009), 81(12): 4813-21. *Pubmed*.

Multi-step microfluidic droplet processing: kinetic analysis of an *in vitro* translated enzyme. Mazutis L., Baret, J. C., Treacy, P., Skhiri, Y., Fallah-Araghi, A., Ryckelynck, M., Taly, V. and Griffiths, A.D. Lab on a Chip (2009), 9: 2902-8. *Pubmed*.



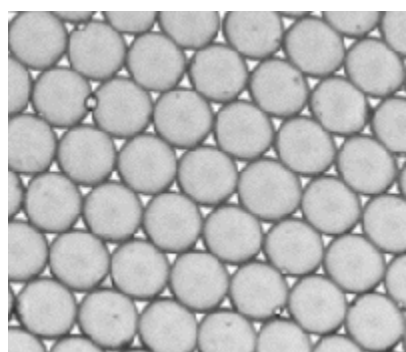
2007

A combinatorial approach to substrate discrimination in the P450 CYP1A subfamily. Taly, V., Urban, P., Truan, G. and Pompon, D. *Biochimica Biophysica Acta* (2007), 1770(3): 446-57. *Pubmed*.



Droplets as microreactors for High-Throughput Biology. Taly, V., Kelly, B.T. and Griffiths, A.D. *ChemBioChem*. (2007), 8(3): 263-72. *Pubmed*.

Miniaturizing chemistry and biology in microdroplets. Kelly, B.T., Baret, J.C., Taly, V. and Griffiths, A.D. *Chemical Communications* (Cambridge, UK) (2007), 18: 1773-88. *Pubmed*.



2006

Directed evolution by *in vitro* compartmentalization. Miller, O.J., Bernath, K., Agresti, J.J., Amitai, G., Kelly, B.T., Mastrobattista, E., Taly, V., Magdassi, S., Tawfik, D.S. and Griffiths, A.D. *Nature Methods* (2006), 3(7): 561-70. *Pubmed*.

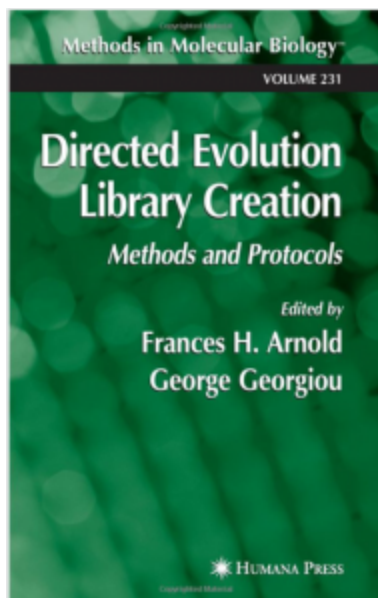
2005

High-throughput screening of enzyme libraries: *in vitro* evolution of a beta-galactosidase by fluorescence-activated sorting of double emulsions. Taly, V., Mastrobattista, E., Chanudet, E., Treacy, P., Kelly, B. and Griffiths, A. Co-first name. *Chemistry and Biology* (2005), 12(12): 1291-300. *Pubmed*.

Highlights in: Nature. Vol. 440. 2006. Cornish V.W. *New and views. Catalytic competition for cells.* pp.156-157; *Nature Methods*. Vol. 3(2). 2006. *Tiny droplets make a big splash.* Eisenstein M. pp.71; *Chemistry and Biology*. Vol. 12, 1255-1258, 2005. *Previews.* O'Hare H.M. and Jonhsson K. *The laboratory in a Droplet.*

2003

Sequence mapping of combinatorial libraries on macro- and micro-arrays: experimental design of DNA arrays. Abecassis, V., Truan, G., Jaffrelo, L., and Pompon, D. In *Methods in Molecular Biology* (2003), 231: 189-198. *Directed Evolution Library Creation: Methods and Protocols.* Humana Press edited by F. H. Arnold. *Pubmed*.



Producing chimeric genes with the CLERY method: use of *in vitro* and *in vivo* recombination techniques. Abecassis, V., Pompon, D., and Truan, G. In *Methods in Molecular Biology* (2003), 231: 165-173. *Directed Evolution Library Creation: Methods and Protocols*. Humana Press edited by F. H. Arnold. *Pubmed*.

Sequence mapping of combinatorial libraries on macro- and microarrays: bioinformatic treatment of data. Pompon, D., Truan, G. and Abecassis, V. In *Methods in Molecular Biology* (2003), 231: 199-211. *Directed Evolution Library Creation: Methods and Protocols*. Humana Press edited by F. H. Arnold. *Pubmed*.

Microarray based method for combinatorial library sequence mapping and characterization. Abecassis V., Jaffrelo L., Rickman D., Aggerbeck L., Herbert C., Truan G. and Pompon D. *Biotechniques* (2003), 34: 1272-1279. *Pubmed*.

Computational methods for sequence mapping of large combinatorial libraries and deduced sequence signatures. Abecassis V., Aggerbeck L., Truan G. and Pompon D. *Biotechniques* (2003), 34: 1280-1286. *Pubmed*.

Exploration of natural and artificial sequence spaces: towards a functional remodelling of membrane-bound cytochrome P450s. Abecassis V., Urban P., Truan G. and Pompon D. *Biocatalysis and Biotransformation* (2003), 21 (2): 55-66.

2002

Yeast as a versatile tool for functional expression, characterization and engineering of P450s and associated redox enzymes. Pompon, D., Abecassis, V., Truan, G., Urban, P. May 21.–26th 2002. FEBS course: "Cytochrome P450 systems: from structure to application". Kranjska gora, Slovenija

2001

Design and characterization of a novel "family-shuffling" technology adapted to membrane enzyme: application to P450s involved in xenobiotic metabolism. Abecassis, V., Pompon, D. and Truan, G. *Advance in Experimental Medicine and Biology* (2001), 500: 319-322. *Pubmed*.

2000

High efficiency family shuffling based on multi-step PCR and *in vivo* DNA recombination in yeast: statistical and functional analysis of a combinatorial library between human cytochrome P450 1A1 and 1A2. Abecassis V., Pompon D. and Truan G. *Nucleic Acid Research* (2000), 28: e88. *Pubmed*.

PATENTS

Improved combinatorial libraries by recombination in yeast and analysis method. Abecassis, V., Pompon, D. and Truan, G. (WO/2001/096555).

Compositions and methods for *in vitro* sorting of molecular and cellular libraries. Tawfik, D., Bernath, K. , Aharoni, A., Peisaj E., Magdassis, S., Taly, V., Chanudet, E. WO/2005/049787.

Fluorocarbon emulsion stabilizing surfactants. Holtze, C., Guerra, R.E., Agresti, J., Weitz, D., El Harrak, A., Miller, O., Baret, J., Griffiths, A.D. WO/2008/021123.