

BSGF – Earth Science Bulletin

Supplementary Material for

Vertical strain partitioning in hot Variscan crust: Syn-convergence escape of the Pyrenees in the Iberian-Armorican syntax

Bryan Cochelin^{1,2}, Dominique Chardon^{1,3,4}, Yoann Denèle¹,

Charles Gumiaux⁵, Benjamin Le Bayon²

¹ Géosciences Environnement Toulouse, Université de Toulouse, CNRS, IRD, UPS, CNES, F-31400, France

² BRGM DGR/GSO, BP 36009, F-45060 Orléans, France

³ IRD, 01 BP 182, Ouagadougou 01, Burkina Faso

⁴ Département des Sciences de la Terre, Université Ouaga I – Professeur Joseph Ki-Zerbo, BP 7021, Ouagadougou, Burkina Faso

⁵ ISTO, UMR 7327 CNRS-Univ. Orléans-BRGM, 1A Rue de la Ferrollerie, F-45071 Orléans, France

Introduction

Figure S1 is a map showing our own field stations and all the stations for which structural data were retrieved from the literature and the geological maps. The text comprises i) a brief description of the type of sources and the nature of compiled structural data and ii) the references of those sources. Table S1 summarizes the type and locations of structural data extracted from the literature (other than geological maps published by geological surveys).

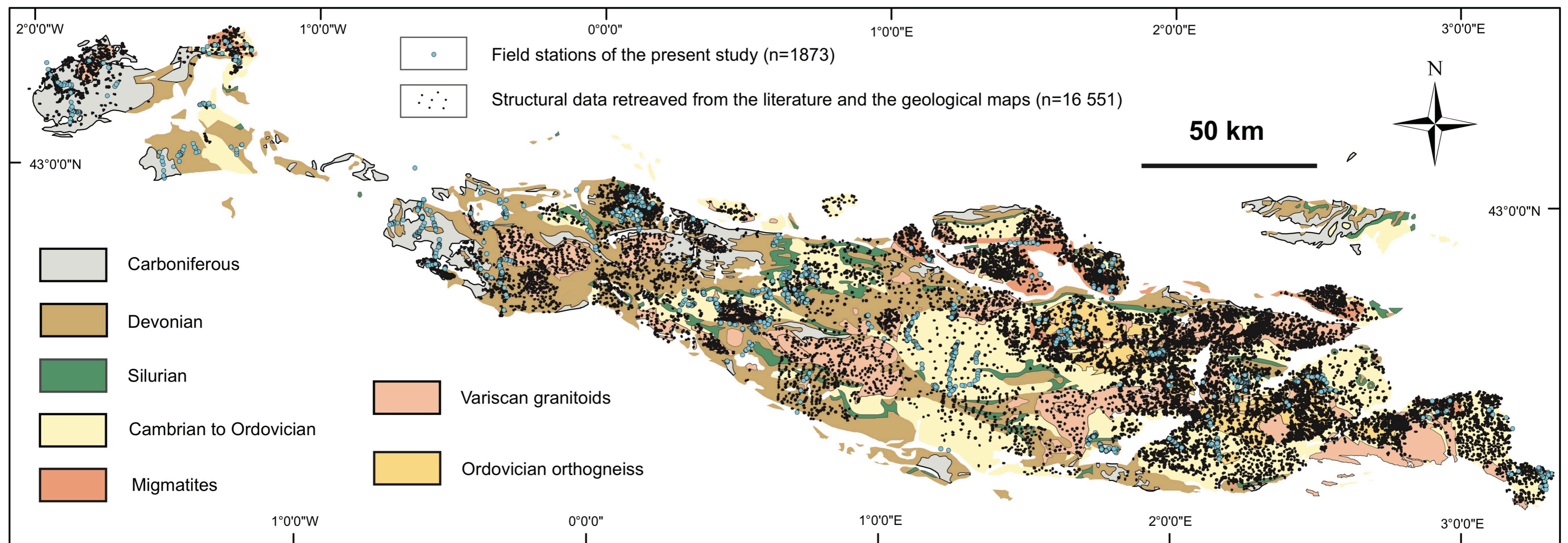


Figure S1. Simplified Pre-Permian geology of the Pyrenees showing i) the field stations of the present study and ii) the location of the structural data retrieved from the literature and the geological maps.

1. Structural database

Data sources include PhD theses, maps published with scientific articles (Table S1), and geological maps from the French, Spanish and Catalan geological surveys (see references below). Planar fabrics (cleavage, schistosity, foliation) are available from most sources, whereas stretching / mineral lineations or kinematics data come mainly from detailed published studies and the present work. Table S1 is a list of the published studies and the type of structural data extracted for each of them.

2. References compiled in Table S1

- Antolín-Tomás, B., T. Román-Berdiel, A. Casas-Sainz, I. Gil-Peña, B. Oliva, and R. Soto (2007), Structural and magnetic fabric study of the Marimanha granite (Axial Zone of the Pyrenees), *Int. J. Earth Sci.*, **98**(2), 427–441, doi:10.1007/s00531-007-0248-1.
- Aurejac, J. B., G. Gleizes, H. Diot, and B. J.L. (2004), Le complexe granitique de Quérigut (Pyrénées, France) ré-examiné par la technique de l'ASM: un pluton syntectonique de la transpression dextre hercynienne, *Bull Soc Géol Fr.*, **175**, 660–661.
- Bichot, F. (1986), La tectonique distensive carbonifère dans les Pyrénées. Corrélations est-canadiennes et ouest-européennes, PhD thesis, Univ. Bordeaux, Bordeaux, France.
- Bon, A., B. Van Den Eeckhout, E. Janzen, C. Klepper, B. Van Moerkeren, and J. D. Van Wees (1994), Timing of Variscan mid-crustal shearing and batholith intrusion in the Central Pyrenees, *Geol. Mijnb.*, **73**, 53–61.
- Bouchez, J. L., G. Gleizes, T. Djouadi, and P. Rochette (1990), Microstructure and magnetic susceptibility applied to emplacement kinematics of granites: the example of the foix pluton (French pyrenees), *Tectonophysics*, **184**(2), 157–171, doi:10.1016/0040-1951(90)90051-9.
- Bourke, D. J. (1979), Etude géologique de la terminaison orientale du massif de la Maladetta et de ses abords, région d'Espert (province de Lerida, Pyrénées espagnoles), PhD thesis, Univ. Lille, Lille, France.
- Clariana, P., and J. García-sansegundo (2009), Variscan structure in the eastern part of the Pallaresa massif, Axial Zone of the Pyrenees (NW Andorra). Tectonic implications, *Bull. Soc. Geol. Fr.*, **180**(6), 501–511, doi:10.2113/gssgfbull.180.6.501.
- Debon, F., P. Enrique, and A. Autran (1996), Magmatisme hercynien, in *Synthèse géologique et géophysique des Pyrénées*, vol. 1, BRGM-ITGE, pp. 361–499.
- Denèle, Y., P. Olivier, G. Gleizes, and P. Barbey (2007), The Hospitalet gneiss dome (Pyrenees) revisited: lateral flow during Variscan transpression in the middle crust, *Terra Nova*, **19**(6), Pages 445-453, doi:10.1111/j.1365-3121.2007.00770.x.

- Denèle, Y., P. Olivier, and G. Gleizes (2008), Progressive deformation of a zone of magma transfer in a transpressional regime: The Variscan Mérens shear zone (Pyrenees, France), *J. Struct. Geol.*, 30(9), 1138–1149, doi:10.1016/j.jsg.2008.05.006.
- Denèle, Y., P. Olivier, G. Gleizes, and P. Barbey (2009), Decoupling between the middle and upper crust during transpression-related lateral flow: Variscan evolution of the Aston gneiss dome (Pyrenees, France), *Tectonophysics*, 477(3–4), 244–261, doi:10.1016/j.tecto.2009.04.033.
- Denèle, Y., J.-L. Paquette, P. Olivier, and P. Barbey (2012), Permian granites in the Pyrenees: the Aya pluton (Basque Country), *Terra Nova*, 24(2), 105–113, doi:10.1111/j.1365-3121.2011.01043.x.
- Eeckhout, B. v. d. (1986), A case study of a mantled gneiss antiform, the Hospitalet massif, Pyrenees (Andorra, France), *Geol. Ultraiectina*, 45, 1–189.
- Eeckhout, B. v. d., and H. de Bresser (2014), On the dextral offset of a Variscan shear zone across the Mérens fault in the central Pyrenees (Andorra, France), *Bull. Soc. Geol. Fr.*, 185(2), 131–143, doi:10.2113/gssgfbull.185.2.131.
- Evans, N. G., G. Gleizes, D. Leblanc, and J.-L. Bouchez (1997), Hercynian tectonics in the Pyrenees: a new view based on structural observations around the Bassiès granite pluton, *J. Struct. Geol.*, 19(2), 195–208, doi:10.1016/S0191-8141(96)00080-6.
- Fonteilles, M. (1970), Géologie des terrains métamorphiques et granitiques du massif hercynien de l'Agly (Pyrénées orientales), *Bull. BRGM*, 3, 21–72.
- García-Sansegundo, J. (1996), Hercynian structure of the Axial Zone of the Pyrenees: the Aran Valley cross-section (Spain-France), *J. Struct. Geol.*, 18(11), 1315–1325, doi:10.1016/S0191-8141(96)00050-8.
- García-Sansegundo, J., A. Martin-Izard, and J. Gavalda (2014), Structural control and geological significance of the Zn–Pb ores formed in the Benasque Pass area (Central Pyrenees) during the post-late Ordovician extensional event of the Gondwana margin, *Ore Geol. Rev.*, 56, 516–527, doi:10.1016/j.oregeorev.2013.06.001.
- Geyssant, J., C. Grandjacquet, and G. Guitard (1978), La terminaison de la nappe de gneiss du Canigou au nord-est du massif du Roc de France (Pyrénées orientales) et ses replissements tardifs, *C. R. Acad. Sci., Paris, Sér. D*, 287, 1187–1190.
- Gleizes, G. (1992), Structure des granites hercyniens des Pyrénées de Mont-Louis-Andorre à la Maladeta = Structure of the Variscan granites of the Pyrenees from Mont-Louis-Andorra to the Maladeta, PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Gleizes, G., and J.-L. Bouchez (1989), Le granite de Mont-Louis (zone axiale des Pyrénées): anisotropie magnétique, structures et microstructures, *C.R. Acad. Sci. Paris, Sér. 2*, 309(10), 1075–1082.
- Gleizes, G., D. Leblanc, and J.-L. Bouchez (1991), Le pluton granitique de Bassiès (Pyrénées ariégeoises) : zonation, structure et mise en place, *C. R. Acad. Sci., Paris, Sér. 2*, 312(7), 755–762.

- Gleizes, G., D. Leblanc, V. Santana, P. Olivier, and J. L. Bouchez (1998), Sigmoidal structures featuring dextral shear during emplacement of the Hercynian granite complex of Cauterets–Panticosa (Pyrenees), *J. Struct. Geol.*, 20(9–10), 1229–1245, doi:10.1016/S0191-8141(98)00060-1.
- Gleizes, G., D. Leblanc, P. Olivier, and J. Bouchez (2001), Strain partitioning in a pluton during emplacement in transpressional regime: the example of the Néouvielle granite (Pyrenees), *Int. J. Earth Sci.*, 90(2), 325–340, doi:10.1007/s005310000144.
- Gleizes, G., G. Crevon, A. Asrat, and P. Barbey (2006), Structure, age and mode of emplacement of the Hercynian Bordères-Louron pluton (Central Pyrenees, France), *Int. J. Earth Sci.*, 95(6), 1039–1052, doi:10.1007/s00531-006-0088-4.
- Hartevelt, J. J. A. (1970), Geology of the Upper Segre and Valira valleys, Central Pyrenees, Andorra/Spain, *Leidse Geol. Meded.*, 45, 161–236.
- Hilario-Orús, A. (2004), Relación entre magmatismo y deformación en la transversal de Benasque a Luchon (Zona Axial del Pirineo), PhD thesis, Universidad del País Vasco, Spain.
- Izquierdo-Llavall, E., T. Román-Berdiel, A. M. Casas, B. Oliva-Urcia, I. Gil-Peña, R. Soto, and A. Jabaloy (2012), Magnetic and structural study of the Eaux-Chaudes intrusion: understanding the Variscan deformation in the Western Axial Zone (Pyrenees), *Int. J. Earth Sci.*, 101(7), 1817–1834, doi:10.1007/s00531-012-0760-9.
- Kriegsman, L. M., D. G. A. M. Aerden, R. J. Bakker, S. W. J. den Brok, and P. M. T. M. Schutjens (1989), Variscan tectonometamorphic evolution of the eastern Lys-Caillaouas massif, Central Pyrenees – evidence for late orogenic extension prior to peak metamorphism, *Geol. Mijnb.*, 68, 323–333.
- Laffont, D. (1971), Le Massif granitique de Quérigut-Millas entre Roquefort-de-Sault et Mosset, PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Leblanc, D., G. Gleizes, L. Roux, and J. L. Bouchez (1996), Variscan dextral transpression in the French Pyrenees: new data from the Pic des Trois-Seigneurs granodiorite and its country rocks, *Tectonophysics*, 261, 331–345, doi:10.1016/0040-1951(95)00174-3.
- Marre, J. (1973), Le complexe éruptif de Quérigut. Pétrologie, structurologie, cinématique de mise en place, PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Mercier, A. (1988), Illustration du métamorphisme hercynien dans les Pyrénées: le massif nord-pyrénéen des Trois Seigneurs.-Modalités, implications géodynamiques, PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Messaoudi, H. (1990), Le complexe plutonique de Millas (Pyrénées Orientales): Pétrologie, Géochimie, structurologie et cinématique de mise en place, PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Mey, P. H. W. (1968), The geology of the upper Ribagorzana and Tor Valleys, Central Pyrenees, Spain sheet 8, 1: 50000, *Leidse Geol. Meded.*, 41, 229–292.

- Mezger, J. E. (2005), Comparison of the western Aston-Hospitalet and the Bossòst domes: Evidence for polymetamorphism and its implications for the Variscan tectonic evolution of the Axial Zone of the Pyrenees, *J. Virtual Explor.*, 19, doi:10.3809/jvirtex.2005.00122.
- Mezger, J. E. (2009), Transpressional tectonic setting during the main Variscan deformation: evidence from four structural levels in the Bossòst and Aston-Hospitalet mantled gneiss domes, central Axial Zone, Pyrenees, *Bull. Soc. Geol. Fr.*, 180(3), 199–207, doi:10.2113/gssgfbull.180.3.199.
- Mezger, J. E., and C. W. Passchier (2003), Polymetamorphism and ductile deformation of staurolite–cordierite schist of the Bossòst dome: indication for Variscan extension in the Axial Zone of the central Pyrenees, *Geol. Mag.*, 140(5), 595–612, doi:10.1017/S0016756803008112.
- Müller, J., and P. Roger (1977), L'Evolution structurale des Pyrénées (Domaine central et occidental). Le segment hercynien, la chaîne de fond alpine, *Géol. Alpine*, 2, 1-191.
- Olivier, P., L. Améglio, H. Richen, and F. Vadeboin (1999), Emplacement of the Aya Variscan granitic pluton (Basque Pyrenees) in a dextral transcurrent regime inferred from a combined magneto-structural and gravimetric study, *J. Geol. Soc. London*, 156(5), 991–1002, doi:10.1144/gsjgs.156.5.0991.
- Olivier, P., G. Gleizes, and J. L. Paquette (2004), Gneiss domes and granite emplacement in an obliquely convergent regime: New interpretation of the Variscan Agly Massif (Eastern Pyrenees, France), *Geol. Soc. Am. Spec. Pap.*, 380, 229–242, doi:10.1130/0-8137-2380-9.229.
- Olivier, P., G. Gleizes, J.-L. Paquette, and C. Muñoz Sáez (2008), Structure and U-Pb dating of the Saint-Arnac pluton and the Ansignan charnockite (Agly Massif): a cross-section from the upper to the middle crust of the Variscan Eastern Pyrenees, *Spec. Publ. Geol. Soc. London*, 165, 141-152, doi:10.1144/0016-76492006-185
- Olivier, P., E. Druguet, L. M. Castaño, and G. Gleizes (2016), Granitoid emplacement by multiple sheeting during Variscan dextral transpression: The Saint-Laurent – La Jonquera pluton (Eastern Pyrenees), *J. Struct. Geol.*, 82, 80–92, doi:10.1016/j.jsg.2015.10.006.
- Passchier, C. W. (1982), *Mylonitic deformation in the Saint-Barthelemy Massif, French Pyrenees, with emphasis on the genetic relationship between ultramylonite and pseudotachylyte*, GUA Papers of Geology Series 1, University of Amsterdam, Amsterdam, the Netherlands.
- Pouget, P. (1984), Géologie de la région de Lesponne (Hautes-Pyrénées), PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- Richard, P. (1986), *Structure et évolution alpine des massifs paléozoïques du Labourd (Pays Basque français)*, Doc. BRGM 116, 1-374.
- Román-Berdiel, T., A. M. Casas, B. Oliva-Urcia, E. L. Pueyo, and C. Rillo (2004), The main Variscan deformation event in the Pyrenees: new data from the structural study of the Bielsa granite, *J. Struct. Geol.*, 26(4), 659–677, doi:10.1016/j.jsg.2003.09.001.

- Román-Berdiel, T., A. M. Casas, B. Oliva-Urcia, E. L. Pueyo, C. Liesa, and R. Soto (2006), The Variscan Millares granite (central Pyrenees): Pluton emplacement in a T fracture of a dextral shear zone, *Geodin. Acta*, 19(3–4), 197–211, doi:10.3166/ga.19.197-211.
- Roux, L. (1977), L'évolution des roches du faciès granulite et le problème des ultramafites dans le massif du Castillon (Ariège), PhD thesis, Univ. Paul Sabatier, Toulouse, France.
- de Saint Blanquat, M. de (1989), La faille normale ductile du massif du Saint Barthélémy: âge et signification de l'extension crustale dans la zone nord pyrénéenne, PhD thesis, USTL, Montpellier, France.
- Santana, V. J. (2001), El plutón de Panticosa (Huesca, Pirineos): Estructura y modelo de emplazamiento a partir del análisis de la Anisotropía de la Susceptibilidad Magnética, PhD thesis, País Vasco, Spain.
- Soliva, J. (1992), Les Déformations Ductiles Dans La Zone Axiale Des Pyrénées Orientales: la convergence varisque, la mise en place des granites tardi-hercyniennes, la convergence pyrénéenne, PhD thesis, USTL, Montpellier, France.
- Soula, J.-C. (1982), Characteristics and mode of emplacement of gneiss domes and plutonic domes in central-eastern Pyrenees, *J. Struct. Geol.*, 4(3), 313–342.
- Zandvliet, J. (1960), The geology of the upper Salat and Pallaresa valleys, Central Pyrenees, France/Spain, *Leidse Geol. Meded.*, 25(1), 1–127.

3. French geological maps

- Autran, A., M. Calvet, and M. Delmas (In press), Carte géol. France (1/50 000), feuille Mont-Louis (1094), BRGM, Orléans, France.
- Barrouquère, G., H. Pelissonier, C. Castaing, L. Roux, P. Souquet, J. Rey, and B. Peybernes (1976), Carte géol. France (1/50 000), feuille St-Girons (1074), BRGM, Orléans, France.
- Baudin, T., A. Autran, G. Guitard, and B. Laumonier (In press), Carte géol. France (1/50 000), feuille Arles-sur-Tech (1100), BRGM, Orléans, France.
- Boissonnas, J., J. Lavigne, A. Autran, A. Tegye, and P. Chambolle (1972), Carte géol. France (1/50 000), feuille Pic de Maubermé (1085), BRGM, Orléans, France.
- Calvet, M., A. Autran, M. Wiazemsky, B. Laumonier, and G. Guitard (2015), Carte géol. France (1/50 000), feuille Argelès-sur-mer (1097), BRGM, Orléans, France.
- Colchen, M., Y. Ternet, E. J. Debroas, A. Dommanget, G. Gleizes, B. Guérangé, and L. Roux (1995), Carte géol. France à 1/50 000, feuille Aulus-les-Bains (1086), BRGM, Orléans, France.
- Cosson, J. et al. (1986), Carte géol. France (1/50 000), feuille Foix (1075), BRGM, Orléans, France.
- Debroas, E. J., C. Castaing, T. Gutierrez, and P. Debat (In press), Carte géol. France (1/50 000), Feuille Aspét (1073), BRGM, Orléans, France.

- Donzeau, M., B. Laumonier, G. Guitard, A. Autran, F. Llac, T. Baudin, and M. Calvet (2010), Carte géol. France (1/50 000), feuille Céret (1096), BRGM, Orléans, France.
- Fonteilles, M., D. Leblanc, G. Clauzon, J. L. Vaudin, and G. M. Berger (1993), Carte géol. France (1/50 000), feuille Rivesaltes (1090), BRGM, Orléans, France.
- Guitard, G., J. Geyssant, B. Laumonier, A. Autran, M. Fonteilles, B. Dalmayrach, J.-C. Vidal, M. Mattauer, and Y. Bandet (1992), Carte géol. France (1/50 000), feuille Prades (1095), BRGM, Orléans, France.
- Le Pochat, G., J. P. Destombes, J. Boissonnas, C. Heddebaut, S. Lorsignol, P. Roger, and Y. Ternet (1974), Carte géol. France (1/50 000), feuille Iholdy (1027), BRGM, Orléans
- Le Pochat, G., C. Heddebaut, M. Lenguin, S. Lorsignol, P. Souquet, J. Muller, and P. Roger (1978), Carte géol. France (1/50 000), feuille St-Jean-Pied-de-Port (1049), BRGM, Orléans, France.
- Llac, F., A. Autran, G. Guitard, J. F. Robert, Y. Gourinard, and P. Santanach (1988), Carte géol. France (1/50 000), feuille Saillagouse (1098), BRGM, Orléans, France.
- Mirouse, R. et al. (1993), Carte géol. France (1/50 000), feuille Vielle-Aure (1083), BRGM, Orléans, France.
- Ternet, Y., P. Barrère, J.-P. Bois, F. Debon, Y. Godechot, R. Mirouse, A. Nicolaï, J. Reyx, and M. Villanova (1980), Carte géol. France (1/50 000), feuille Argelès-Gazost (1070), BRGM, Orléans, France.
- Ternet, Y., J.-Y. Lalaurie, R. Ciszak, J.-P. Sierak, M. Debeaux, E. J. Debroas, M. Lanau, C. Lucas, H. Péliissonnier, and A. H. Forghani (1982), Carte géol. France (1:50 000), feuille Arreau (1072), BRGM, Orléans, France.
- Ternet, Y., P. Barrère, S. Dallas, F. Debon, E. J. Debroas, J.-M. François, and P. Pouget (1996), Carte géol. France (1/50 000), feuille Campan (1071), BRGM, Orléans, France.

4. Spanish geological maps

- Barnolas, A., L. M. Rios Aragües, J. M. Lanaja del Busto, F. J. Beltran Cabreta, and J. M. Rios Mitchell (1972), Mapa geologico de Espana (1/50 000), Liena (147), IGME, Madrid, Spain.
- Barnolas, A., L. M. Rios Aragües, J. M. Galera Fernandez, and D. Barettino Fraile (1987a), Mapa geologico de Espana (1/50 000), Bujaruelo (146), IGME, Madrid, Spain.
- Barnolas, A., L. M. Rios Aragües, J. M. Galera Fernandez, and D. Barettino Fraile (1987b), Mapa geologico de Espana (1/50 000), Sallent (145), IGME, Madrid, Spain.
- Barnolas, A., J. A. Muñoz, J. Fleta, J. Escuer, J. Carreras, and J. Pujadas (1994a), Mapa geologico de Espana (1/50 000), Figueres (258), IGME, Madrid, Spain.
- Barnolas, A., J. Cirés, J. Pujadas, J. Escuer, M. Losantos, J. A. Muñoz, X. Berastegui, V. Morales, M. Liesa, and J. Carreras (1994b), Mapa geologico de Espana (1/50 000), La Jonquera (220), IGME, Madrid, Spain.

- Barnolas, A., J.-A. Muñoz, J. Vergés, A. Martínez Rius, F. Domingo, M. Losantos, J. Fleta, and J. Gisbert (1994c), Mapa geológico de España (1/50 000), La Pobla de Lillet (255), IGME, Madrid, Spain.
- Barnolas, A., J.-A. Muñoz, J. Cirés, J. M. Casas, P. Santanach, J. Fleta, and D. Serrat (1994d), Mapa geológico de España (1/50 000), Mollo (218), IGME, Madrid, Spain.
- Barnolas, A., J. A. Muñoz, J. Carreras, J. Palau, and J. Cirés (1994e), Mapa geológico de España (1/50 000), Portbou (221), IGME, Madrid, Spain.
- Barnolas, A., J. Cirés, E. Roca, F. Domingo, J. Escuer, J. C. Sirvent, and P. Santanach (1994f), Mapa geológico de España (1/50 000), Puigcerda (217), IGME, Madrid, Spain.
- Barnolas, A., J. A. Muñoz, J. Vergés, A. Martínez Rius, J. Fleta, J. Cirés, J. M. Casas, and F. Sabat (1994g), Mapa geológico de España (1/50 000), Ripoll (256), IGME, Madrid, Spain.
- Barnolas, A., J.-A. Muñoz, J. Carreras, M. Losantos, and J. Palau (1994h), Mapa geológico de España (1/50 000), Roses (259), IGME, Madrid, Spain.
- Barnolas Cortinas, A., J. García Senz, and J. Ignacio Ramírez (1997), Mapa geológico de España (1/50 000), Pont de Suerst (213), IGME, Madrid, Spain.
- Campos Fernández, J., A. Olivé Davo, J. I. Ramírez Merino, J. Solé Sédó, L. Villalobos Vilches, and V. Gabaldon (1983), Mapa geológico de España (1/50 000), Tolosa (89), IGME, Madrid, Spain.
- Campos, J., and García-Duenas (1972), Mapa geológico de España (1/50 000), San Sebastián (64), IGME, Madrid, Spain.
- Gabaldon, V., L. M. Ríos, J. M. Galera, D. Baretino, and J. M. Charlet (1997), Mapa geológico de España (1/50 000), Benasque (180), IGME, Madrid, Spain.
- Knausse, H. F., D. Müller, H. Requadt, J. Campos, V. García-Duenas, A. Garrote, F. Navarro-Villa, F. Velasco, J. Sole, and L. Villalobos (1972), Mapa Geológico de España (1/50 000), Vera de Bidasoa (65), IGME, Madrid, Spain.
- del Valle, J. et al. (1973), Mapa geológico de España (1/50 000), Sumbilla (90), IGME, Madrid, Spain.

Reference	Structural domain / area	Planar fabrics	Mineral – stretching lineations	Kinematics
Antolín-Tomás et al. (2007)	Pluton (Marimanha)	X		
Aurejac et al. (2004)	Superstructure and pluton (Quérigut)	X	X	X
Bichot (1986)	Superstructure	X		
Bon et al. (1994)	Superstructure	X		
Bouchez et al. (1990)	Pluton (Foix)	X		
Bourke (1979)	Superstructure	X		
Clariana and Garcia-Sanegundo (2009)	Superstructure	X		
Debon et al. (1996)	Pluton (Marimanha)	X		
Denèle et al. (2007)	Infrastructure (Hospitalet gneiss dome)	X	X	X
Denèle et al. (2008)	Pluton and transitional zone	X	X	X
Denèle et al. (2009)	Infrastructure (Aston gneiss dome) and superstructure	X	X	X
Denèle et al. (2012)	Superstructure	X		
Van den Eeckhout and Bresser (2014)	Infrastructure (Aston gneiss dome)	X		
Van den Eeckhout (1986)	Infrastructure (Hospitalet gneiss dome)	X		
Evans et al. (1997)	Superstructure (Central Pyrenees)	X	X	X
Fonteilles (1970)	Infrastructure (Agly Massif)	X		
García-Sansegundo et al. (2014)	Superstructure	X		
García-Sansegundo (1996)	Infrastructure and superstructure (Bossost dome area)	X		
Geyssant et al. (1978)	Infrastructure (Roc de France massif)	X		
Gleizes and Bouchez (1989)	Pluton (Mont-Louis)	X		
Gleizes et al. (1991)	Pluton (Bassiès)	X		
Gleizes et al. (1998)	Pluton (Cauterets-Panticosa)	X		
Gleizes et al. (2001)	Pluton (Néouvielle)	X		
Gleizes et al. (2006)	Pluton (Bordères)	X		
Gleizes (1992)	Pluton (Maladeta, Trois-Seigneurs, Ercé, Lacourt)	X		
Hartevelt (1970)	Superstructure	X		
Hilario-Orús (2004)	Pluton (Lys-Caillaouas pluton)	X	X	
Izquierdo-Llavall et al. (2012)	Pluton (Eaux-Chaudes)	X		
Kriegsman et al. (1989)	Infrastructure (Lys-Caillaouas dome)	X		
Laffont (1971)	Pluton (Quérigut, Millas)	X		
Leblanc et al. (1996)	Superstructure and pluton (Trois-Seigneurs massif)	X		
Marre (1973)	Pluton (Quérigut) and country-rock (Superstructure)	X		
Mercier (1988)	Infrastructure & Superstructure (Trois Seigneurs massif)	X		
Messaoudi (1990)	Pluton (Millas)	X		
Mey (1968)	Superstructure	X		
Mezger and Passchier (2003)	Infrastructure (Bossost dome)	X	X	X
Mezger (2005)	Infrastructure (Aston gneiss dome)	X	X	
Mezger (2009)	Infrastructure (Aston gneiss dome)	X	X	X
Muller and Roger (1977)	Superstructure	X		
Olivier et al. (1999)	Pluton (Aya)	X		
Olivier et al. (2004)	Infrastructure (Agly massif)	X	X	X
Olivier et al. (2008)	Pluton (Agly massif)	X		
Olivier et al. (2016)	Pluton (La Jonquera)	X	X	
Passchier (1982)	Infrastructure (Saint-Barthélémy massif)	X		
Pouget (1984)	Infrastructure (Chiroulet and Lesponne domes) & Superstructure	X		
Richard (1986)	Superstructure	X		

Román-Berdiel et al. (2004)	Pluton (Bielsa)	X		
Román-Berdiel et al. (2006)	Pluton (Millares)	X		
Roux (1977)	Infrastructure (Castillon)	X	X	
de Saint Blanquat (1989)	Infrastructure (St Barthélémy)	X	X	X
Santana (2001)	Superstructure	X		
Soliva (1992)	Infrastructure (Les Albères dome)	X	X	
Soula (1982)	Infrastructure & Superstructure	X		
Zandvliet (1960)	Superstructure	X		

Table S1. Type and location of structural data extracted from articles and PhD theses.