A review on the p-type transparent Cu-Cr-O delafossite materials

Marco Moreira*[1,2], Joao Afonso*[1,2], Jonathan Crepelliere[1], Damien Lenoble[1] and Petru Lunca-Popa[1]

[1] Material and Research Department (MRT), Luxembourg Institute of Science and Technology (LIST), 41 rue de Brill, L-4422, Belvaux, Luxembourg

[2] University of Luxembourg, 2 Avenue de l'Université, Esch-sur-Alzette L-4365, Luxembourg

Table SI

Compilation of optoelectronic properties reported in literature for various ABO_2 delafossite materials

The columns depicts (if reported within the article): First Author, Journal, Year, Synthesis Method; Material; Dopant; Dopant level; Electrical conductivity at room temperature; Direct or/and indirect band gap; carrier concentration; carrier mobility; Seebeck coefficient; Activation energy; thin film's thickness; Average optical transmission.

List of abbreviations for the deposition techniques:

ALD - Atomic Layer Deposition

Comb. – Combustion

Crystal Growth

CSD - Chemical Solution Deposition

CVD - Chemical Vapour Deposition

ER - Exchange Reaction

HT – Hydrothermal

MR – Metathesis Reaction

MS - Magnetron Sputtering

OPERE - Oxygen Plasma Enhanced Reactive Evaporation

PLD - Pulsed Laser Deposition

SG - Sol-gel

SS – Solid State

Th. Co. - Thermal Co-evaporation

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
W. C. Sheets Inorg. Chem. 2008 HT	$AgAlO_2$	-	-	9.00E-3	3.6	-	-	-	-	-	-	-
D. B. Rogers Inorg. Chem. 1971 SS	$AgCoO_2$	-	-	6.67E-5	-	-	-	-	-	0.11	-	-
J. Tate Thin Solid Films 2002 MS	$AgCoO_2$	-	-	2.00E-1	4.15	-	-	-	220	0.07	150	40-60
S. Ajimsha Thin Solid Films 2007 PLD	$AgCoO_2$	-	-	8.77E-4	3.89	-	-	-	230	-	200	55
D. Xiong J. Alloys Compd. 2015 HT	$AgCrO_2$	-	-	2.22E-6	3.32	-	4.33E11	-	-	-	-	60-75
R. Nagarajan Int. J. Inorg. Mater. 2001 SS	$AgCrO_2$	-	-	1.40E-6	-	-	-	-	-	-	-	-
	$AgCrO_2$	Mg	0.05	5.6E-5	-	-	-	-	-	-	-	-
R. Wei J. Mater. Chem. C 2017 SG	$AgCrO_2$	Mg	0.12	6.77E-2	-	-	-	50	-	0.154	120	55
D. B. Rogers Inorg. Chem. 1971 SS	$AgFeO_2$	-	-	3.33E-8	-	-	-	-	-	0.7	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
D. B. Rogers Inorg. Chem. 1971 SS	$AgGaO_2$	-	-	2.00E-8	-	-	-	-	-	0.5	-	-
K. A. Vanaja Appl. Phys. Lett. 2006 PLD	$AgGaO_2$	-	-	3.20E-4	4.12	-	-	-	70	0.068	180	50
R. Nagarajan Int. J. Inorg. Mater. 2001 SS	$AgGaO_2$	-	-	5.00E-6	-	-	-	-	-	-	-	-
W. C. Sheets Inorg. Chem. 2008 HT	$AgGaO_2$	-	-	<1.00E-4	-	-	-	-	-	-	-	-
D. B. Rogers Inorg. Chem. 1971 SS	$AgInO_2$	-	-	1.00E-4	-	-	-	-	-	0.15	-	-
R. Nagarajan Int. J. Inorg. Mater. 2001 SS	$AgInO_2$	Mg	0.1	1.00E-5	-	-	-	-	-	-	-	-
T. Otabe Appl. Phys. Lett. 1998 MS	$AgInO_2$	-	-	1.00E-5	4.2	-	-	-	-	0.24	-	-
T. Otabe Appl. Phys. Lett. 1998 MS	$AgInO_2$	Sn	0.05	6.00E+0	4.4	-	2.7E19	0.47	-50	-	-	-
W. C. Sheets Inorg. Chem. 2008 HT	$AgInO_2$	-	-	8.00E-3	-	-	-	-	-	-	-	-
A. Wichainchai J. Solid State Chem. 1988 ER	$AgNiO_2$	-	-	1.00E+2	-	-	-	-	-	-	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
W. C. Sheets Inorg. Chem. 2008 HT	$AgScO_2$	-	-	4.00E-2	3.8	-	-	-	-	-	-	-
A.N. Banerjee Sol. Energy Mater. Sol. Cells 2005 MS	$CuAlO_2$	-	-	9.00E-2	-	-	2.8E17	-	-	0.27	500	-
		-	-	1.60E-1	-	-	4.5E17	-	-	0.245	500	-
		-	-	3.90E-1	-	-	1.2E18	-	-	0.196	500	-
		-	-	1.40E-2	-	-	-	-	-	0.325	500	-
A. N. Banerjee Thin Solid films 2003 MS	$CuAlO_2$	-	-	8.00E-2	3.66	2.1	-	-	128	0.26	700	-
B. L. Stevens J. Vac. Sci. Technol., A 2011 MS	$CuAlO_2$	-	-	1.83E0	3.9	-	5E19	0.03	-	0.27	185	75
B. J. Ingram Chem. Mater. 2004 SS	$CuAlO_2$	-	-	3.00E-2	-	-	1.20E21	8.9E-3	670	-	-	-
B. J. Ingram Chem. Mater. 2004 HT	$CuAlO_2$	-	-	2.00E-1	-	-	3.8E21	-	-	-	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
CT. Su J. Cryst. Growth 2011 MS	$CuAlO_2$	-	-	1.01E0	3.3	-	-	-	-	0.285	150	70
F.A. Benko J. Phys. Chem. Solids 1984 SS	$CuAlO_2$	-	-	1.70E-3	-	1.65	1.1E19	1E-4	670	.	-	-
H. Gong Appl. Phys. Lett. 2000 CVD	$CuAlO_2$	-	-	2.00E0	3.75	-	2.6E19	0.5	-	0.12	250	-
H. Kawazoe MRS Bull. 2000 PLD	$CuAlO_2$	-	-	9.50E-1	3.5	-	1.3E17	0.13	183	0.2	500	80
K.R. Murali Mater. Sci. Semicond. Process. 2013 SG	$CuAlO_2$	-	-	4.00E-2	3.43	-	4.99E16	5	-	-	450	-
	$CuAlO_2$	-	-	5.00E-2	3.6	-	4.16E16	7.5	-	-	200-450	-
	$CuAlO_2$	-	-	1.00E-1	3.68	-	5.94E16	10.5	-	-	200-450	-
	$CuAlO_2$	-	-	5.00E-1	3.75	-	2.08E17	15	-	-	200	75
M. Ohashi J. Am. Ceram. Soc. 2001 SG	$CuAlO_2$	-	-	4.00E-3	-	-	-	-	-	-	1100	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
N. Daichakomphy J. Phys. Chem. Solids 2019 SS	$CuAlO_2$	Fe	0.1	5.37E-1	-	-	8.09E17	4.149	-	-	-	-
	$CuAlO_2$	Fe	0.1	5.77E-1	-	-	9.08E17	3.97	-	-	-	-
RS. Yu Thin Solid films 2012 MS	$CuAlO_2$	-	-	4.12E-3	3.26	-	-	-	-	-	460	-
	$CuAlO_2$	-	-	4.31E-3	3.33	-	-	-	-	-	460	-
S. Götzendörfer Thin Solid Films 2009 SG	$CuAlO_2$	-	-	1.43E-3	-	-	-	-	440	-	530	65
S. Gao Nanotechnology 2003 MR	$CuAlO_2$	-	-	2.4E0	3.75	-	5.4E18	3.6	-	0.14	420	55
Y. Wang Chem. Vap. Deposition 2000 CVD	$CuAlO_2$	-	-	7.31E0	3.75	-	4.51E19	2.1	-	-	120	45
	$CuAlO_2$	-	-	1.60E+1	3.6	-	9.19E19	2.29	-	-	120	52
	$CuAlO_2$	-	-	1.68E+1	3.64	-	1.64E20	1.56	-	-	120	52

First Author **Journal** **Year** **Synthesis Method**	**Material**	**Dop.**	**Dop. level**	**σ (S cm^{-1})**	**E_G D (eV)**	**E_G I (eV)**	**n (cm^{-3})**	**μ (cm^{2}V^{-1}s^{-1})**	**S (μV/K)**	**E_{act} (V)**	**t (nm)**	**T (%)**
Y. Wang Chem. Vap. Deposition 2000 CVD	$CuAlO_2$	-	-	1.71E+1	3.67	-	1.17E20	1.96	-	-	120	52
C. Ruttanapun J. Appl. Phys. 2013 SS	$CuBO_2$	-	-	4.12E-4	3.6	-	-	-	-	0.58	-	-
K. L. Sanal Mater. Sci. Eng., B 2014 MS	$CuBO_2$	-	-	1.10E-1	3.2	-	-	-	-	-	150	-
Michael Snure Appl. Phys. Lett 2007 PLD	$CuBO_2$	-	-	1.65E0	4.5	2.2	1E17	100	-	-	200	85
D. B. Rogers Inorg. Chem. 1971 SS	$CuCoO_2$	-	-	5.00E-6	-	-	-	-	-	0.2	-	-
M. Beekman J. Alloys Compd. 2009 MR	$CuCoO_2$	-	-	2.00E-3	0.4	-	-	-	-175	0.2	-	-
A. Barnabé, J. Mater. Chem. C, 2015 MS	$CuCrO_2$	Mg	0.03	2.00E-3	-	-	5.19E17	2.530	804	-	100	-
	$CuCrO_2$	Mg	0.03	1.78E+1	-	-	1.09E21	0.074	140	-	100	54.2
	$CuCrO_2$	Mg	0.03	3.46E+1	-	-	8.07E20	0.408	167	-	100	-

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A. Barnabé, J. Mater. Chem. C, 2015 MS	$CuCrO_2$	Mg	0.03	3.78E+1	-	-	1.32E21	0.192	122	-	100	65.4
	$CuCrO_2$	Mg	0.03	5.22E+1	-	-	1.18E21	0.163	133	-	100	68.7
	$CuCrO_2$	Mg	0.03	5.25E+1	3.3	-	1.34E21	0.155	121	0.055	100	63.3
	$CuCrO_2$	Mg	0.03	6.43E+1	-	-	1.42E21	0.103	116	-	100	60.1
A. C. Rastogi, J. Appl. Phys. 2008 Spray	$CuCrO_2$	Mg	0.03	2.00E-1	3.14	2.79	2.1E19	0.014	-	0.22	305	70
	$CuCrO_2$	Mg	0.07	1.00E0	3.08	2.58	1.2E19	0.25	70	0.22	155	80
CH. Sun Ceram. Int. 2016 MS	$CuCrO_2$	-	-	2.88E-2	3.08	-	4.7E17	0.39	-	-	-	61.8
	$CuCrO_2$	-	-	3.64E-2	-	-	2.85E18	0.18	-	-	173	-
	$CuCrO_2$	-	-	6.79E-2	3.13	-	1.42E18	0.3	-	-	-	-

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CH. Sun Ceram. Int. 2016 MS	$CuCrO_2$	-	-	8.14E-2	-	-	2.51E19	0.09	-	-	172	-
	$CuCrO_2$	-	-	1.95E-1	3.17	-	2.54E18	0.48	-	-	170	58.3
C. Taddee Appl. Surf. Sci. 2016 Comb.	$CuCrO_2$	-	-	9.62E-3	3.62	-	-	-	-	0.33	-	-
	$CuCrO_2$	Fe	0.05	2.63E-2	3.53	-	-	-	-	0.27	-	-
	$CuCrO_2$	Fe	0.1	4.17E-2	3.61	-	-	-	-	0.28	-	-
D. Li J. Phys. D: Appl. Phys. 2009 SG	$CuCrO_2$	-	-	2.94E-4	-	-	-	-	-	-	-	-
	$CuCrO_2$	Mn	0.05	2.41E-6	-	-	-	-	-	-	-	-
	$CuCrO_2$	Mn	0.1	4.08e-6	-	-	-	-	-	-	-	-
	$CuCrO_2$	Mn	0.2	2.22E-5	-	-	-	-	-	-	-	-

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Da Li Vacuum 2010 PLD	$CuCrO_2$	-	-	1.10E-2	3.2	-	-	-	-	-	134	60
	$CuCrO_2$	-	-	1.50E-2	3.2	-	-	-	-	-	57	55
	$CuCrO_2$	-	-	3.30E-1	3.2	-	-	-	-	-	127	60
DC. Tsai J. Mater. Res. Technol. 2018 MS	$CuCrO_2$	-	-	3.60E-2	-	-	2.63E18	0.086	-	-	315	17.74
	$CuCrO_2$	-	-	9.50E-2	-	-	3.39E18	0.176	-	-	212.8	37.17
	$CuCrO_2$	-	-	1.77E-1	-	-	3.79E18	0.292	-	-	170.6	51.28
	$CuCrO_2$	-	-	1.95E-1	3.18	-	4.02E18	0.303	-	-	166.9	58.31
E. Norton AIP Adv. 2018 Spray	$CuCrO_2$	-	-	2.00E+1	-	2.4	2.50E22	0.006	-	0.2	90	-
F.A. Benko Mater. Res. Bull. 1986 SS	$CuCrO_2$	Ca	0.05	1.00E-2	-	1.28	-	-	1210	-	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
F. Lin J. Alloys Compd. 2013 PLD	$CuCrO_2$	-	-	1.78E0	3.17	-	1.40E18	7.7	-	0.11	26	75
	$CuCrO_2$	Fe	0.05	2.53E0	3.12	-	2.52E18	6.27	-	0.067	36	72
	$CuCrO_2$	Fe	0.1	5.56E-3	3.08	-	6.51E18	5.32	-	0.064	38	68
	$CuCrO_2$	Fe	0.15	2.78E+1	3.05	-	4.09E19	4.2	-	0.04	52	65
G. Dong Appl. Surf. Sci. 2012 MS	$CuCrO_2$	-	-	8.00E-2	3.05	-	4.5E18	0.11	-	0.035	280-300	70
	$CuCrO_2$	-	-	1.80E-1	3.07	-	8.7E18	0.14	-	0.035	280-300	70
	$CuCrO_2$	-	-	1.10E0	3.13	-	3E19	0.25	-	0.035	280-300	70
	$CuCrO_2$	-	-	1.70E+1	3.19	-	1.4E20	0.81	-	0.035	280-300	70
HY. Chen Appl. Surf. Sci 2013 SG	$CuCrO_2$	-	-	1.10E-3	2.95	-	2.8E14	25	-	0.285	190	45-55

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
HY. Chen Appl. Surf. Sci 2013 SG	$CuCrO_2$	-	-	3.20E-3	2.9	-	3.8E15	5.3	-	-	190	45-55
	$CuCrO_2$	-	-	4.40E-3	3.03	-	5.9E15	4.7	-	0.275	190	60
	$CuCrO_2$	-	-	1.60E-1	3.06	-	1.8E16	56	-	0.18	210	60
HY. Chen, ECS J. Solid State Sci. Technol. 2013 SG	$CuCrO_2$	-	-	2.00E-2	3	-	1.3E17	0.96	-	-	150-180	55-65
	$CuCrO_2$	-	-	2.30E-2	3.05	-	1.9E17	0.76	-	-	180	60
	$CuCrO_2$	-	-	3.80E-2	-	-	1.7E17	1.4	-	-	-	-
HY. Chen Surf. Coat. Technol 2013 SG	$CuCrO_2$	-	-	1.50E-1	3	-	1.7E18	0.56	20	-	190	50-55
	$CuCrO_2$	Zn	0.01	2.60E-1	3.05	-	2.15E18	0.76	40	-	220	50
	$CuCrO_2$	Zn	0.03	4.70E-1	3.05	-	3.2E18	0.92	113	-	205	50

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
HY. Chen Appl. Surf. Sci. 2012 SG	$CuCrO_2$	-	-	2.70E-2	3.08	-	2.8E13	3.2	230	-	125	66
Hui Sun J. Phys. D : Appl. Phys. 2016 MS	$CuCrO_2$	Mg	0.07	2.74E-1	3.12	-	-	-	-	-	370	54
I. Sinnarasa Nanomaterials 2017 MS	$CuCrO_2$	Mg	0.03	5.10E-1	-	2.73	1.17E22	-	329	0.175	-	-
I. Kaya J. Mater. Sci.: Mater Electron. 2015 HT	$CuCrO_2$	-	-	8.47E-5	3	-	-	-	-	-	-	83
	$CuCrO_2$	Fe	0.05	9.09E-5	2.87	-	-	-	-	-	-	-
	$CuCrO_2$	Fe	0.01	1.00E-4	3.05	-	-	-	-	-	-	-
	$CuCrO_2$	Fe	0.03	1.56E-4	3.09	-	-	-	-	0.0925	-	89
	$CuCrO_2$	Mg	0.01	1.06E-3	3.01	-	-	-	-	-	-	-
	$CuCrO_2$	Mg	0.05	4.55E-3	3.07	-	-	-	-	-	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
I. Kaya J. Mater. Sci.: Mater Electron. 2015 HT	$CuCrO_2$	Mg	0.03	1.47E-2	3.06	-	-	-	-	0.0454	-	91
J. Crêppelière J. Mater. Chem. C 2016 CVD	$CuCrO_2$	-	-	1.70E+1	3.1	-	9E21	0.01	110	0.063	150	50
J.H.L. Monteiro Ceram. Int. 2018 Comb.	$CuCrO_2$	-	-	2.90E-3	3.4	-	-	-	-	-	-	-
	$CuCrO_2$	Mg	0.005	9.00E-1	3.3	-	-	-	-	-	-	-
	$CuCrO_2$	Ag; Mg	0.007; 0.005	1.60E0	3.4	-	-	-	-	-	-	-
J. Afonso J. Mater. Sci.: Mater. Electron. 2018 CVD	$CuCrO_2$	-	-	2.00E+1	3.2	-	2E21	-	-	-	250	-
L. Farrel J. Mater. Chem. C 2016 Spray	$CuCrO_2$	-	-	1.20E+1	-	-	1.20E22	0.006	76	0.065	90	55
M. Ahmadi Appl. Phys. A 2018 MS	$CuCrO_2$	-	-	5.50E-4	3.08	-	5.23E16	0.063	-	-	95	82
	$CuCrO_2$	-	-	1.43E-3	3.01	-	8.98E17	0.673	-	-	150	53

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
M. Ahmadi Appl. Phys. A 2018 MS	$CuCrO_2$	-	-	4.75E-3	2.94	-	3.42E18	0.866	-	-	130	62
	$CuCrO_2$	-	-	1.89E-2	3	-	1.47E19	0.8	-	-	120	73
M. Ahmadi Appl. Phys. Lett. 2018 MS	$CuCrO_2$	-	-	1.00E-2	3.38	-	3.4E17	2.2	-	-	150	66
	$CuCrO_2$	-	-	1.30E0	3.42	-	5.4E19	0.173	-	-	150	69
	$CuCrO_2$	Mg	0.05	5.20E0	3.2	-	1.3E20	0.011	-	-	150	64
	$CuCrO_2$	Mg	0.025	1.04E+1	3.25	-	3.1E20	0.18	-	-	150	66
	$CuCrO_2$	Mg	0.05	1.04E+2	3.6	-	9.1E20	0.023	-	-	150	67
	$CuCrO_2$	Mg	0.025	2.78E+2	3.52	-	1.18E21	0.006	-	-	150	69
M. J. Han J. Appl. Phys. 2013 SG	$CuCrO_2$	-	-	8.80E-4	3.14	2.79	1.42E15	3.89	-	0.292	-	70-75

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
M. J. Han J. Appl. Phys. 2013 SG	$CuCrO_2$	Mg	0.02	2.37E-	3.11	2.77	1.36E17	1.09	-	0.187	-	70-75
	$CuCrO_2$	Mg	0.04	8.32E-1	3.1	2.75	2.11E19	0.25	-	0.087	320	70-75
	$CuCrO_2$	Mg	0.06	2.03E0	3	2.56	3.29E19	0.39	-	0.07	-	70-75
	$CuCrO_2$	Mg	0.08	2.21E0	3.02	2.58	4.07E20	0.03	-	0.055	-	70-75
	$CuCrO_2$	Mg	0.1	2.94E0	3.04	2.64	8.73E20	0.02	-	0.047	-	70-75
	$CuCrO_2$	Mg	0.12	3.85E0	3.06	2.66	8.66E20	0.03	-	0.042	-	70-75
M. O'Sullivan J. Phys. Conf. Ser. 2010 PLD	$CuCrO_2$	Mg	0.1	6.67E+1	-	-	1E22	0.042	-	0.003	135	-
M. Han J. Alloys Compd. 2015 SG	$CuCrO_2$	-	-	4.90E-3	3.1	-	2.15E15	14.1	-	0.003	239	-
	$CuCrO_2$	-	-	1.10E-3	3.08	-	1.34E15	5.28	-	0.219	240	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
M. Han J. Alloys Compd. 2015 SG	$CuCrO_2$	-	-	4.00E-4	3.06	-	1.22E15	2.43	-	0.283	242	-
P. L. Popa Appl. Mater. Today 2017 CVD	$CuCrO_2$	-	-	7.00E-4	3.17	-	-	-	410	0.19	150	55
	$CuCrO_2$	-	-	1.02E+2	3.2	-	1.5E21	0.33	87	0.06	150	45
P. L. Popa Thin Solid Films 2016 CVD	$CuCrO_2$	-	-	5.00E-3	2.91	-	3E18	-	647	0.283	120	-
	$CuCrO_2$	-	-	4.00E-2	3.07	-	3.2E20	-	249	0.158	200	-
	$CuCrO_2$	-	-	4.50E-2	3.05	-	7.6E20	-	172	0.095	50	-
	$CuCrO_2$	-	-	5.00E-2	3.16	-	4.8E20	-	213	-	120	-
P. L. Popa Thin Solid Films 2016 CVD	$CuCrO_2$	-	-	3.00E-1	3.18	-	5.6E20	-	200	0.1	70	-
	$CuCrO_2$	-	-	4.90E-1	3.21	-	9.2E20	-	155	0.09	70	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
P. L. Popa Thin Solid Films 2016 CVD	$CuCrO_2$	-	-	8.00E-1	2.75	-	1.28E21	-	125	0.064	70	-
	$CuCrO_2$	-	-	1.00E+1	3.22	-	1.49E21	-	111	0.053	50	-
	$CuCrO_2$	-	-	3.00E+1	2.31	-	1.46E21	-	113	0.057	50	-
P. L. Popa Sci. Rep. 2018 CVD	$CuCrO_2$	-	-	1.00E0	-	-	1.7E21	0.08	100	-	-	-
	$CuCrO_2$	-	-	7.00E0	-	-	3E17	0.031	850	-	-	-
	$CuCrO_2$	-	-	1.00E+1	-	-	1.1E20	0.002	340	-	-	-
	$CuCrO_2$	-	-	1.00E+1	-	-	8.9E19	0.004	360	-	-	-
P. L. Popa Sci. Rep. 2018 CVD	$CuCrO_2$	-	-	1.10E+1	-	-	6.6E20	0.001	184	-	-	-
	$CuCrO_2$	-	-	1.10E+1	-	-	-	-	-	-	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
P. L. Popa Sci. Rep. 2018 CVD	$CuCrO_2$	-	-	1.20E+1	-	-	-	0.004	100	-	-	-
	$CuCrO_2$	-	-	1.70E+1	-	-	1.5E21	0.07	110	-	-	-
	$CuCrO_2$	-	-	1.90E+1	-	-	9.4E16	0.086	947	-	-	-
	$CuCrO_2$	-	-	2.10E+1	-	-	7.3E19	0.0001	374	-	-	-
	$CuCrO_2$	-	-	2.30E+1	-	-	9.3E17	0.007	753	-	-	-
	$CuCrO_2$	-	-	3.10E+1	-	-	2.9E20	0.002	257	-	-	-
P. Mandal Curr. Appl Phys. 2021 SS	$CuCrO_2$	Li	0.015	5.00E-2	-	-	4.77E14	65.51	-	0.2194	-	-
	$CuCrO_2$	Li	0.0124	2.00E-2	3.51	-	5.32E15	23.5	-	0.2266	-	-
P. Mandal J. Phys. D: Appl. Phys. 2016 SG	$CuCrO_2$	Mg	0.05	2.20E-2	3.45	-	2.23E15	61.7	-	0.0547	-	-

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P. Mandal J. Phys. D: Appl. Phys. 2016 SG	$CuCrO_2$	Mg	0.05	4.50E-2	3.48	-	1.73E16	16.26	-	0.068	-	-
R. Nagarajan J. Appl. Phys. 2001 MS	$CuCrO_2$	-	-	1.00E0	3.1	-	-	-	-	-	250	30
	$CuCrO_2$	Mg	0.05	2.20E+2	3.1	2.75	-	-	153	0.02	250	30
R. Nagarajan Int. J. Inorg. Mater. 2001 SS	$CuCrO_2$	Mg	0.05	7.70E-2	-	-	-	-	-	-	-	-
	$CuCrO_2$	-	-	3.50E-5	-	-	-	-	-	-	-	-
R.I. Sánchez-Alarcón J. Phys. D : Appl. Phys. 2016 Spray	$CuCrO_2$	-	-	3.50E+1	3.17	-	1E21	-	119	0.09	100-200	51
RS. Yu Coatings 2016 SG	$CuCrO_2$	-	-	3.00E-2	3.09	-	1.1E15	-	-	-	165	40
	$CuCrO_2$	Zn	0.18	5.00E-2	3.09	-	8.8E15	-	-	-	165	50
	$CuCrO_2$	Zn	0.26	2.60E-1	3.1	-	1.8E17	-	-	-	165	50

First Author **Journal** **Year** **Synthesis Method**	**Material**	**Dop.**	**Dop. level**	**σ (S cm^{-1})**	**E_G D (eV)**	**E_G I (eV)**	**n (cm^{-3})**	**μ (cm^{2}V^{-1}s^{-1})**	**S (μV/K)**	**E_{act} (V)**	**t (nm)**	**T (%)**
RS. Yu Coatings 2016 SG	$CuCrO_2$	Zn	0.44	2.50E-1	3.11	-	1.7E17	-	-	-	165	50
RS. Yu Appl. Surf. Sci. 2016 MS	$CuCrO_2$	-	-	1.22E-1	3.12	-	6.05E17	1.22	-	-	-	67
	$CuCrO_2$	-	-	2.32E-1	3.14	-	4.17E18	0.33	-	-	-	62
S. Götzendörfer Thin Solid Films 2009 SG	$CuCrO_2$	-	-	1.67E-2	-	-	-	-	-	202	280	32
S. Mahapatra Chem. Vap. Deposition 2003 CVD	$CuCrO_2$	-	-	8.60E-1	3.08	2.63	4.75E17	11.16	-	0.108	390	40-50
T. S. Tripathi Physics Procedia 2015 ALD	$CuCrO_2$	-	-	1.00E0	3.09	-	-	-	300-325	-	125	74-79
T. S. Tripathi Adv. Electron. Mater. 2017 ALD	$CuCrO_2$	Mg	0.025	2.17E+2	3	-	2.17E20	-	120	0.186	120-150	70
TW. Chiu Ceram. Int. 2012 CSD	$CuCrO_2$	Mg	0.05	1.40E-1	3.08	-	1E18	0.7	-	-	195	70
	$CuCrO_2$	Mg	0.05	2.80E-1	3.1	-	8E18	0.2	-	-	197	50

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TW. Chiu Ceram. Int. 2012 CSD	$CuCrO_2$	Mg	0.05	3.13E0	3.1	-	5E19	0.7	-	-	195	70
U. Sidik J. Nanosci. Nanotechnol. 2015 PLD	$CuCrO_2$	-	-	8.30E0	-	-	-	-	-	-	50	65
	$CuCrO_2$	Mg	0.02	1.64E+1	-	-	-	-	-	-	50	-
	$CuCrO_2$	Mg	0.02	2.96E+1	3.22	-	-	-	-	-	50	60
X. Zhou J. Alloys. Compd. 2014 PLD	$CuCrO_2$	-	-	4.80E0	3.13	-	3.13E19	0.97	-	0.169	130	67
	$CuCrO_2$	Mn	0.05	1.70E-2	3.06	-	1.63E17	0.64	-	0.191	130	66
	$CuCrO_2$	Mn	0.1	8.00E-3	3.04	-	6.59E16	0.76	-	0.256	130	64
	$CuCrO_2$	Mn	0.15	8.00E-2	3.16	-	1.26E17	4.12	-	0.195	130	70
Y. Wang J. Sol-Gel Sci. Technol. 2011 SG	$CuCrO_2$	-	-	1.35E-2	3.25	-	1E17	-	-	-	89	60

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Y. Wang J. Sol-Gel Sci. Technol. 2011 SG	$CuCrO_2$	Mn	0.05	9.43E-6	3.22	-	1E17	-	-	-	89	60
	$CuCrO_2$	Mn	0.1	8.62E-6	3.18	-	1E17	-	-	-	89	60
Y. Wang J. Alloys. Compd. 2011 SG	$CuCrO_2$	-	-	1.84E-2	3.15	2.8	3.14E15	6.75	266	-	103	75
	$CuCrO_2$	Mg	0.03	2.75E-2	3.12	2.77	2.53E16	3.47	202	-	107	68
	$CuCrO_2$	Mg	0.05	1.36E-1	3.11	2.76	3.14E18	2.13	180	-	113	66
	$CuCrO_2$	Mg	0.07	1.97E-2	3.1	2.75	6.23E15	6.12	248	-	105	65
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuEuO_2$	-	-	3.01E-1	-	-	-	-	-	-	-	-
A. Barnabé, Mater Lett, 2006 MS	$CuFeO_2$	-	-	1.03E-3	2	-	-	-	-	-	30	70
A. Wuttig, J. Mater. Chem. A, 2016 SS	$CuFeO_2$	-	-	1.00E-1	-	-	8E15	90	-	0.053	-	-

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A. Wuttig, J. Mater. Chem. A, 2016 SS	$CuFeO_2$	Mg (Cu)	0.005	2.00E-1	-	-	2.2E16	50	-	-	-	-
	$CuFeO_2$	Mg (Cu)	0.02	2.00E-1	-	-	2E18	60	-	-	-	-
	$CuFeO_2$	Mg	0.0005	1.00E0	-	-	8E18	1	-	0.034	-	-
	$CuFeO_2$	Mg	0.005	2.00E0	-	-	1E18	10	-	-	-	-
	$CuFeO_2$	Mg	0.02	6.00E0	-	-	1E17	400	-	0.021	-	-
C. Rudradawong Physica B 2017 SS	$CuFeO_2$	-	-	3.60E0	3.6	2.6	-	-	-	0.049	-	-
C. Ruttanapun J. Alloys Compd. 2011 SS	$CuFeO_2$	-	-	3.50E0	-	-	1.56E18	8.6	261	0.049	-	-
	$CuFeO_2$	Pt (Cu)	0.01	5.00E0	-	-	3.86E18	6	249	0.046	-	-
	$CuFeO_2$	Pt (Cu)	0.03	8.00E0	-	-	8.08E18	4.5	242	0.033	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
C. Ruttanapun J. Alloys Compd. 2011 SS	$CuFeO_2$	Pt (Cu)	0.05	1.10E1	-	-	4.04E19	1.8	240	0.028	-	-
D. B. Rogers Inorg. Chem. 1971 SS	$CuFeO_2$	-	-	2.00E0	-	-	-	-	-	0.05	-	-
F.A. Benko J. Phys. Chem. Solids 1987 SS	$CuFeO_2$	-	-	1.53E0	-	-	-	0.27	544	-	-	-
	$CuFeO_2$	Sn	0.01	3.19E-3	-	-	-	1.1E-6	-415	-	-	-
	$CuFeO_2$	Sn	0.05	2.4E-4	-	-	-	2.7E-6	-318	-	-	-
	$CuFeO_2$	Mg	0.02	9.01E0	-	-	-	0.17	359	-	-	-
	$CuFeO_2$	Mg	0.05	8.93E0	-	-	-	0.12	330	-	-	-
	$CuFeO_2$	Mg	0.08	6.13E0	-	-	-	0.06	304	-	-	-
HY. Chen Thin Solid Films 2012 SG	$CuFeO_2$	-	-	2.80E-1	3.05	-	1.2E18	1.42	330	0.14	90	50

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HY. Chen Thin Solid Films 2012 SG	$CuFeO_2$	-	-	3.60E-1	3.05	-	5.3E18	0.7	315	0.11	90	50
R. Nagarajan Int. J. Inorg. Mater. 2001 SS	$CuFe_{0.5}V_{0.5}O_2$	-	-	4.8E-6	-	-	-	-	-	-	-	-
F.A. Benko Phys. Status Solidi A 1986 SS	$CuGaO_2$	Ca	0.05	5.56e-3	-	1.19	-	0.015	790	-	-	-
H. Kawazoe MRS Bull. 2000 PLD	$CuGaO_2$	-	-	6.30E-2	3.6	-	1.7E18	0.23	560	-	500	80
J. Tate Thin Solid Films 2002 MS	$CuGaO_2$	-	-	2.00E-2	4.3	-	-	-	360	0.1	150	70-85
	$CuGaO_2$	Fe	0.5	1.00E0	3.4	-	-	-	500	0.1	150	50-70
M. Han J. Mater. Chem. 2012 SG	$CuGaO_2$	-	-	1.70E-2	3.56	3.24	2.93E16	3.37	-	0.21	-	-
	$CuGaO_2$	Cr	0.1	3.30E-2	-	-	9.56E16	2.15	-	-	-	-
	$CuGaO_2$	Cr	0.2	7.10E-2	3.34	2.88	2.25E17	1.92	-	0.175	-	60

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
M. Han J. Mater. Chem. 2012 SG	$CuGaO_2$	Cr	0.4	1.30E-2	3.28	2.83	2.84E16	2.79	-	0.222	-	-
	$CuGaO_2$	Cr	0.6	2.40E-3	3.18	2.78	7.29E15	2.18	-	0.252	-	-
	$CuGaO_2$	Cr	0.8	1.70E-3	3.13	2.72	2.19E15	5.05	-	0.284	-	-
N. Ashmore J. Mater. Sci. 2005 SS	$CuGaO_2$	-	-	5.70E-3	-	-	-	-	-	0.21	-	-
	$CuGaO_2$	-	-	6.90E-3	-	-	-	-	-	0.22	-	-
	$CuGaO_2$	-	-	7.10E-3	-	-	-	-	-	0.21	-	-
	$CuGaO_2$	-	-	1.10E-2	-	-	-	-	-	0.21	-	-
N. Ashmore J. Mater. Sci. 2005 SS	$CuGaO_2$	-	-	1.40E-2	-	-	-	-	-	0.2	-	-
	$CuGaO_2$	-	-	1.40E-2	-	-	-	-	-	0.18	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
N. Ashmore J. Mater. Sci. 2005 SS	$CuGaO_2$	-	-	1.60E-2	-	-	-	-	-	0.2	-	-
	$CuGaO_2$	-	-	1.60E-2	-	-	-	-	-	0.21	-	-
B. Yang Mater. Res. Soc. Symp. Proc. 2005 MS	$CuInO_2$	-	-	5.60E-2	3.7	-	1.6E19	0.2	-	-	-	70
B. G. Nair Mater. Sci. Eng., B 2020 OPERE	$CuInO_2$	Al	0.02	2.25E0	3.29	-	1.28E19	1.09	-193.9	-	-	-
	$CuInO_2$	Al	0.07	3.68E0	3.05	-	1.12E18	20.4	5.7	-	-	-
	$CuInO_2$	Al	0.12	3.45E0	3.01	-	5.84E17	37.28	53.4	-	-	-
C. W. Teplin Appl. Phys. Lett. 2004 PLD	$CuInO_2$	Ca	0.05	3.00E-3	4.15	-	-	-	472	-	1000	-
H. Yanagi Appl. Phys. Lett. 2001 PLD	$CuInO_2$	Ca	0.07	2.80E-3	3.9	-	-	-	480	0.19	170	70
	$CuInO_2$	Sn	0.05	3.80E-3	3.9	-	-	-	-50	0.077	280	70

First Author Journal Year Synthesis Method	**Material**	**Dop.**	**Dop. level**	**σ (S cm^{-1})**	**E_G D (eV)**	**E_G I (eV)**	**n (cm^{-3})**	**μ (cm^{2}V^{-1}s^{-1})**	**S (μV/K)**	**E_{act} (V)**	**t (nm)**	**T (%)**
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuLaO_2$	-	-	1.35E-1	-	-	-	-	-	-	-	-
G. Dong J. Phys. Chem. Solids 2012 SS	$CuNdO_2$	-	-	2.70E-2	3.14	-	1.38E17	1.24	-	-	-	-
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuNdO_2$	-	-	1.35E0	-	-	-	-	-	-	-	-
J. Tate Thin Solid Films 2002 MS	$CuNi_{2/3}Sb_{1/3}O_2$	Sn	0.1	5.00E-2	3.4	-	-	-	250	0.7	150-200	60
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuPrO_2$	-	-	3.68E-1	-	-	-	-	-	-	-	-
H. Kuriyama The 25th Proceedings of the International Conference on Thermoelectrics, Vienna, Austria 2006 SS	$CuRhO_2$	Mg	0.1	1.67E+2	-	-	-	-	270	-	-	-
B. J. Ingram Chem. Mater. 2004 SS	$CuScO_2$	-	-	3.70E-1	-	-	4.5E19	0.05	-	0.22	-	-
	$CuScO_2$	Mg	0.05	2.28E0	-	-	4.48E20	0.03	-	0.25	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
J. Tate Thin Solid Films 2002 MS	$CuScO_2$	Mg	0.05	2.00E1	3.3-3.6	-	-	-	-	-	250	15
R. Nagarajan Int. J. Inorg. Mater. 2001 MS	$CuScO_2$	-	-	3.00E1	3.3	-	-	-	-	-	110	40
Y. Kakehi J. Appl. Phys. 2005 PLD	$CuScO_2$	-	-	1.08E-7	3.7	-	-	-	-	-	135	75
	$CuScO_2$	Mg	0.1	2.50E-1	3.7	-	-	-	10	0.27	124	65
Y. Kakehi Thin Solid films 2003 PLD	$CuScO_2$	-	-	1.20E-4	3.7	-	-	-	-	-	-	70
Y. Kakehi J. Cryst. Growth 2009 PLD	$CuScO_2$	-	-	1.00E-3	3.7	-	4.5E16	0.14	968	0.62	250	60
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuSmO_2$	-	-	4.97E-1	-	-	-	-	-	-	-	-
B. J. Ingram Chem. Mater. 2004 SS	$CuYO_2$	-	-	1.80E-2	-	-	2.6E18	0.04	-	0.23	-	-
	$CuYO_2$	Ca	0.05	2.60E-1	-	-	3.3E19	0.05	-	0.28	-	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ (cm^{2}V^{-1}s^{-1})	S (μV/K)	E_{act} (V)	t (nm)	T (%)
F.A. Benko Can. J. Phys. 1985 SS	$CuYO_2$	Ca	0.05	2.20E-3	-	1.2	-	0.004	720	-	-	-
K. Isawa Phys. Rev. B: Condens. Matter 1997 SS	$CuYO_2$	-	-	4.98E-2	-	-	-	-	-	-	-	-
M. K. Jayaraj Thin Solid films 2001 MS	$CuYO_2$	Ca	0.01-0.02	1.00E0	3.5	-	-	1	275	0.135	240	40-50
R. Manoj Bull. Mater. Sci. 2007 MS	$CuYO_2$	Ca	0.02	8.00E0	3.15	-	-	-	274	0.59	120	45
R. Nagarajan Int. J. Inorg. Mater. 2001 Th. Co.	$CuYO_2$	Ca	0.01-0.02	1.05E0	3.5	-	-	-	284	-	330	50
C. W. Hicks Phys. Rev. Lett. 2012 SS	$PdCoO_2$	-	-	3.85E+5	-	-	-	-	-	-	6000	-
H. Takatsu J. Phys. Soc. Jpn. 2007 SS	$PdCoO_2$	-	-	1.45E+5	-	-	-	-	-	-	-	-
D. B. Rogers Inorg. Chem. 1971 SS	$PdCoO_2$	-	-	5.00E+5	-	-	-	-	-	-	-	-
R. Wei Adv. Funct. Mater. 2020 SG	$PdCoO_2$	-	-	1.60E+5	-	-	-	-	-	-	50	-

First Author Journal Year Synthesis Method	Material	Dop.	Dop. level	σ (S cm^{-1})	E_G D (eV)	E_G I (eV)	n (cm^{-3})	μ ($cm^2V^{-1}s^{-1}$)	S (μV/K)	E_{act} (V)	t (nm)	T (%)
T. Harada APL Mater. 2018 PLD	$PdCoO_2$	-	-	3.33E+4	-	-	-	-	-	-	4.1	65
T. Harada APL Mater. 2018 PLD	$PdCoO_2$	-	-	2.62E+4	-	-	-	-	-	-	2.1	50
C. W. Hicks Phys. Rev. B: Condens. Matter 2015 Flux	$PdCrO_2$	-	-	1.22E+5	-	-	-	-	-	-	-	-
J. M. Ok APL Mater. 2020 PLD	$PdCrO_2$	-	-	1.22E+5	-	-	-	-	-	-	-	-
D. B. Rogers Inorg. Chem. 1971 SS	$PtCoO_2$	-	-	3.33E+5	-	-	-	-	-	-	-	-
	$PtCoO_2$	Mn	0.03	8.33E+4	-	-	-	-	-	-	-	-
	$PtCoO_2$	Mn	0.05	1.67E+5	-	-	-	-	-	-	-	-
P. Kushwaha Mater. Sci. 2015 SS	$PtCoO_2$	-	-	4.76E+5	-	-	-	-	-	-	-	-
R. Wei Adv. Funct. Mater. 2020 SG	$PtCoO_2$	-	-	2.90E+5	-	-	-	-	-	-	-	-

Table S II

Compilation of Cu-Cr-O delafossite properties reported in literature (organized after methods and reports). The methods are separated using by thicker border lines, the references are separated by thinner border lines. Some reports contain sets of data, depending on the deposition conditions or various post-treatments

On the columns are depicted the followings:

Methods: The used abbreviations: ALD - Atomic Layer Deposition; CSD – Chemical Solution Deposition; **Dopant**: The chemical symbol of the dopant. For the Nitrogen (N,) the processes are described as in the presence of Nitrogen (as no detection of N in the films thereafter). For deposition methods using target the method used for target synthesis is underlined (SG- Solid Gel, SS - Solid State). **Level of the dopant**. The minus sign corresponds to a mentioned deficit. The gaseous percentages) are referring mostly to the deposition process (as "reactive" gases). ND – non doped phase. Generally, the articles mentioned first measure for non-doped material and then the measures for altered phases. Within a report, the non-doped data are separated by a double thin border line. **Electrical conductivity**; Room temperature data are presented; **Activation energy**: Mixed values for mobility and conduction activation are presented. **Carrier Concentration**; **Electric Mobility:** The H subscript refers to values measures by Hall effect. The underlined values indicate values calculated by us using $\sigma = ne\mu$ (if conductivity and concentrations are presented); **Optical transmission**; **Seebeck coefficient**; **Direct or/and Indirect Band Gap; Thickness**; **The reference within the article**

Method	Dopant	Level of doping	Cond (RT) (S/ m^{-1})	Activ Energy (eV)	Concentration cm^{-3}	mobility $cm^2 V^{-1} s^{-1}$	Seebeck coef. $\mu V K^{-1}$	T (%)	Band gap (eV) Direct	Band gap (eV) Indirect	Thick (nm)	REF
SOL GEL	ND	-	0.0009	0.292	1.421E+15	3.89^{H}		70-75	3.14	2.79	320	181
	Mg	0.02	0.0237	0.187	1.36E+17	1.09^{H}			3.11	2.77		
		0.04	0.832	0.087	2.11E+19	0.25^{H}			3.1	2.75		
		0.06	2.03	0.07	3.29E+19	0.39^{H}			3	2.56		
		0.08	2.21	0.055	4.07E+20	0.03^{H}			3.02	2.58		
		0.1	2.94	0.047	8.73E+20	0.02^{H}			3.04	2.64		
		0.12	3.85	0.042	8.66E+20	0.03^{H}			3.06	2.66		
	ND	-	0.038		1.70E+17	0.96		60-75	3		180	185
		-	0.02		1.30E+17	1.4						
		-	0.023		1.90E+17	0.76						
	ND	-	0.0048					<50	3.16	2.7	88	186
									3.16	2.66		
									3.15	2.62		
	ND	-	0.017				202	40			280	184
	ND	-	0.15		1.70E+18	0.56^{H}	20	47	3		190	182
	Zn	0.01	0.26		2.15E+18	0.76^{H}	40	50	3.05		220	
		0.03	0.47		3.20E+18	0.92^{H}	113	55	3.05		205	
	ND	-	0.0006	0.321	2.90E+14	14.3^{H}		60-80	3.09	2.72	251	84
	Ga	0.2	0.0017	0.284	2.19E+15	5.05^{H}		60-80	3.13	2.78	254	
		0.4	0.0024	0.252	7.29E+15	2.18^{H}		60-80	3.18	2.83	242	
	ND		0.0011	0.285	2.80E+14	25		45-55	2.95		190	180
	Cr def	0.05	0.0032		3.80E+15	5.3		45-55	2.85			
		0.1	0.0044	0.275	5.90E+15	4.7		60	3.05			
		0.2	0.16	0.18	1.80E+16	56		60	3.08		210	
	ND		0.018	0.301	3.14E+15	6.75	266	65-70	3.15	2.8	103	187
	Mg	0.03	0.027	0.275	2.53E+16	3.47	202	60	3.12	2.77	107	
		0.05	0.14	0.18	3.14E+18	2.13	180	60	3.11	2.76	113	
		0.07	0.2	0.306	6.23E+15	6.12	248	60	3.1	2.75	115	

	ND	0	0.03		1.09E+15	172.02		<50	3.09		165	247
	Zn	0.025	0.05		8.80E+15	35.51		<50	3.09			
		0.065	0.26		1.88E+17	8.64		<50	3.1			
		0.085	0.25		1.67E+17	9.36		<50	3.11			
	ND								3.52			242
	Mg	0.05	0.022	0.055	2.20E+15	61.7			3.45			
	S	0.1							3.5			
	Mg+S	0.05+ 0.1	0.045	0.068	1.70E+16	16.3			3.48			
	ND		0.001	0.28			1100					144
	Mg	0.005	0.05	0.17			600					
		0.01	0.1	0.17			390					
		0.02	1.25	0.19			260					
	ND		0.004	0.278			350					142
	Mg	0.005	0.67	0.119		0.034						
		0.01	1.21	0.095		0.031						
		0.02	8.33	0.036		0.11						
		0.03	15.62	0.026		0.13						
SOLID STATE		0.04	11		8.70E+20	0.085	50					
	ND		0.001	0.29								233
	Ni	0.02	0.01	0.24								
		0.04	0.03	0.23								
		0.06	0.047	0.23								
	ND	0.03	0.85	0.351			950		3.1			246
	Sn	0.01		0.41								
		0.03		0.407								
	ND				1.00E+17		1600					237
	Mg	0.03	1		1.10E+19		200					
	Ca	0.03	0.05		5.00E+18		800					
	Sr	0.03	0.05		3.00E+18		750					
	Ba	0.03			3.00E+17		900					
	ND								3.35	1.28		177

	ND SG		0.25	0.52			60-80	3.2	90	189
	ND SS		4.76	0.169	3.13E+19	0.97	55	3.13		243
	Mn	0.05	0.017	0.191	1.60E+17	0.64		3.06		
		0.1	0.008	0.256	6.59E+16	0.76		3.04		
		0.15	0.08	0.195	1.26E+17	4.12		3.16		
	ND SS		0.11	1.79	1.40E+18	7.7	<60	3.17	26	145
	Fe	0.05	2.53	0.067	2.52E+18	6.27	<50	3.12	36	
		0.1	5.55	0.064	6.51E+18	5.32	<50	3.08	38	
		0.15	27.8	0.04	4.09E+19	4.2	<50	3.05	52	
PULSED LASER DEPOSITION	ND SG		0.015				55	3.2	57	205
			0.33				60	3.2	127	
			0.011				60	3.2	134	
	ND SG		0.067	0.147			60	3.2	134	239
	Mg	0.02	0.4	0.032			60	3.2	127	
		0.05	0.025	0.019				3.2	57	
	ND SS						60	3.2	63	265
	Mg	0.05					65	3.1	27	
		0.1	25		1.00E+22	0.042		3.2	135	
	ND SS		8.3				65	3.2-3.2	50	207
	Mg	0.02	16.35				60		50	
	Mg+ V_{Cr}	0.02+ 0.03	29.63							
	ND SS		0.0002		5.10E+14			3.25		204
	Ni	0.01	0.01		2.50E+15		<50	3.24		
		0.03	0.0125		1.90E+16			3.24		
		0.05	0.1		2.30E+17			3.22		

SPUTTERING	Mg SS	0.05	220				150	30	3.1	1.45	250	117
	Mg SS	0.03	0.002		5.90E+17	2.53	804	<50	3.3		300	196
	Mg	0.03	17.76	0.055	1.09E+21	0.074	140					
		0.03	64.27	0.055	1.42E+21	0.103	116					
		0.03	52.82	0.063	1.34E+21	0.155	121					
		0.03	37.78	0.063	1.32E+21	0.182	122					
		0.03	52.16		1.18E+21	0.163	133					
		0.03	34.6		8.07E+20	0.408	167					
	ND		0.38		1.19E+19	0.19		60-65	3.18		100	203
	ND		0.42		1.43E+19	0.18		<50	3.17			
	ND SS		0.08	0.035	4.50E+18	0.11		<40	3.05		300	210
	N gas	0.1	0.018	0.035	8.70E+18	0.14			3.07			
	N gas	0.2	0.11	0.035	3.00E+19	0.25			3.13			
	N gas	0.3	1.7	0.035	1.40E+20	0.81			3.19			
	Mg SS	0.05	0.057		1.00E+17	0.2			3.2		135	202
			0.17		2.50E+18	0.25						
			0.4		6.00E+18	0.4						
	ND	Dual Cu Cr	0.19		4.00E+18	0.3		58			167	201
			0.17		3.80E+18	0.29		52			171	
			0.09		3.40E+18	0.18		37			213	
			0.04		2.63E+18	0.09		18			315	
	ND SS	0 0	0.01		3.40E+17	2.2		66	3.38		150	47
	N		1.3		5.40E+19	0.173		69	3.42			
	Mg	0.025	10.4		3.10E+20	0.018		66	3.25			
	Mg+ N	0.025 + N	278		1.20E+21	0.006		69	3.52			
	Mg	0.05	5.2		1.30E+20	0.011		64	3.2			
	Mg+ N	0.05+ N	104		9.10E+20	0.023		67	3.6			
	Mg SS	0.03	0.6	0.175	1.17E+20		329			2.73	300	257
CSD	Mg	0.05	0.28		1.00E+19	0.2		50	3.1		197	238
			3.13		5.00E+19	0.7		70			195	

			0.14		1.00E+18	0.7		70			195	
CHEMICAL VAPOUR DEPOSITION	ND		0.86	0.108	4.75E+17	11		40-50	3.08		390	218
	Off stoic	0.66 Cu 1.33 Cr	17	0.063	9.00E+21	0.011	110	40-50	3.1		150	215
			0.0007	190	9.40E+16		410	55	3.2		150	161
			102	60	1.50E+21	0.33	87	45				
	Off stoic	0.66 Cu 1.33 Cr	15		1.70E+21	0.08	100	55	3.2		150	216
			5		1.20E+21	0.004	128	60	3.2			
			0.11		6.60E+20	0.001	184					
			0.0001		2.90E+20	0.0001	257					
			2.0E-05		9.30E+17	0.007	753					
			17		1.50E+21	0.07	110					
			0.0002		3.00E+17	0.03	850					
	Off stoic	Cu rich	10		9.30E+18	0.65		60	3.15		80	252
		Cu poor	0.001									
SPRAY	Off stoic	Cu 0.4	20	0.2	2.50E+22	0.006					90	225
	Off stoic	Cu deff	12	0.07	1.20E+22	0.006	76	50			90	222
ALD	Mg	0.025	217	0.186	2.20E+22	3.4	120	70	3	2.4	150	219
SELF COMBUSTION	ND	0	0.003						3.4			240
	Mg	0.05	0.9						3.3			
	Mg+ Ag	0.05 0.07	1.6						3.4			
HYDRO THERMAL	O exc	0.01	5E-5	0.222								255
	O Co	0.01 0.02	2E-4	0.199								