

個人情報

所属学会

日本化学会、日本物理学会、分子科学会、米国物理学会

非常勤講師

お茶の水女子大学（1985年-1987年）
上智大学（1987年）
東京都立大学（1984年、1996年）
東京大学（1988年、1991年、1993年、1995年、1997年）
大阪大学（1997年）
東北大学（1997年）
熊本大学（1999年）
名古屋大学（1998年、1999年、2004年）
東京工業大学（2001年）
北海道大学（2011年）

学協会役員・委員

日本化学会関東支部幹事（1984-1985年）
日本化学会東海支部常任幹事（1993-1994年, 1997-1998年）
日本分光学会東海支部支部長（1999-2000年）
日本化学会欧文誌編集委員（1985-1986年）
新エネルギー・産業技術総合開発機構（NEDO）国際共同研究評価委員（1990年）
チバ・ガイギー科学振興財団、選考委員（1993-1996年）
日本学術振興会特別研究員等審査会専門委員（2000-2001年）
科学研究費委員会専門委員（2002-2006年）
CIOST-D35 評価委員（書面審査、2005年）
東京大学物性研究所付属軌道放射物性研究施設運営委員会委員（1992-1993年）
東京大学物性研究所共同利用施設専門委員会委員（1997-1998年, 2001-2002年）

2007-2008 年)

東京大学物性研究所 物質設計評価施設運営委員会委員（1998-1999 年）

国際会議委員

第 3, 4, 5, 6, 7, 8, 9, 10 回日中合同シンポジウム組織委員（1989, 1992, 1995, 1998, 2001, 2004, 2007, 2010）（第 5 回、7 回、9 回は日本側代表、6 回、8 回は組織委員長）

第 5, 6, 7 回日韓共同シンポジウム組織委員（第 6 回、7 回は日本側代表）（1993, 1995, 1997）

ISCOM2009、プログラム編集委員（2009）

その他

JPSJ Papers of Editor's Choice（2005 年、2008 年）

Editor's Suggestion paper in Phys. Rev. B（2008 年）

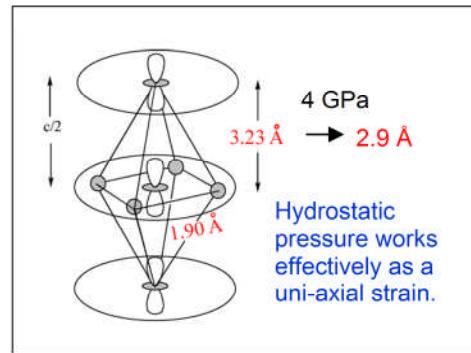
BCSJ Award Article（2008 年）

これまでの主な研究成果

これまで、顕微反射分光法と赤外ラマン分光法を用いて、分子導体（導電性の有機電荷移動塩）を中心として、価数変化を伴う相転移の研究を行ってきた。その中から、いくつかの成果について概要を説明する。

（1）圧力で誘起した分子内電荷移動

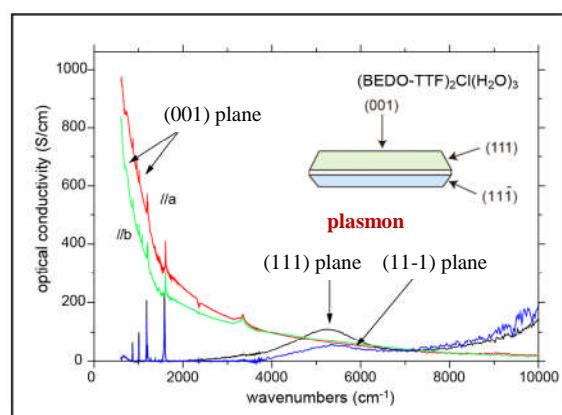
金属フタロシアニンを電気化学的に酸化して作成した電荷移動塩 ($(\text{MPc})_2\text{AsF}_6$, M=Ni, Co) 結晶では、フタロシアニン分子が分子面に垂直方向に積層して、一次元導体を作る。この物質に静水圧を加えると、金属の3d軌道から配位子の π 軌道へ電子が流れ込む「分子内電荷移動」が発生して絶縁化することを振動分光法により明らかにした。分子内電荷移動の理由は、静水圧が分子の積層方向に実効的な一軸圧を発生して3d軌道を押し上げることに起因する。分子内電荷移動は5千気圧から6万気圧まで徐々に起こり、 $\text{M}^{2+}\text{Pc}^{1.5-} \rightarrow \text{M}^{2.5+}\text{Pc}^{2-}$ のような価数変化をもたらす。一次元鎖を形成している3d軌道間の重なりが小さいため、電子の抜けた後の3d軌道の正孔は局在して乱雑ポテンシャルを発生する。この乱雑ポテンシャルによって遍歴性の π 電子が局在化して絶縁化すると考えている。



T. Hiejima and K. Yakushi, *J. Chem. Phys.*, **103**, 3950 (1995).
T. Hiejima, et al., *Mol. Cryst. Liq. Cryst.* **296**, 255 (1997).

（2）反射分光法でプラズモンを観測する。

プラズモンは縦波であるから、横波の光で直接励起することはできない。しかし、観測する光の波長よりも小さな粒子では粒子表面に誘起された電荷により電気双極子が発生する。通常金属微粒子のプラズモンの観測はこのような原理に基づいている。光の波長より大きな単結晶でも異方性の強い物質では光の入射方向をうまく選択するとプラズモンを直接観測することができるが、その観測例は非常に少ない。これまで、一次元金属については観測例があるが、2次元金属についてはな



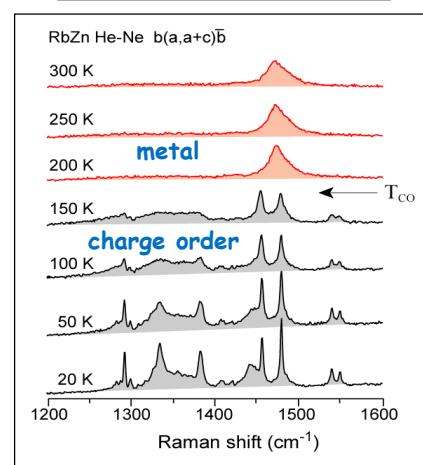
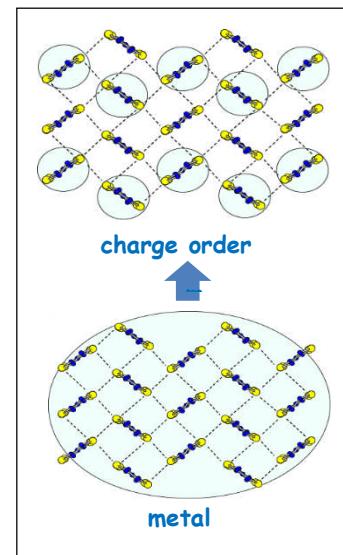
かった。 $(BO)_2Cl(H_2O)_3$ という 2 次元金属物質で大きな単結晶が得られたので、図に示す (001) 伝導面と傾いた結晶面で反射率を測定することにより、前頁に示すプラズモンピークを観測することに成功した。フレネルの式より導いた誘電関数のスペクトルは実測と非常によく一致している。

K. Yakushi *et al.*, *Phys. Rev. B* **61**, 9891 (2000).

(3) 電荷秩序状態の赤外・ラマン分光

(2-1) BEDT-TTF 塩の電荷秩序状態におけるラマンスペクトルの解析方法

電荷秩序状態とは右図上のように結晶全体に広がっていた（非局在）電子の波動関数が分子の中に閉じ込められ（局在）て、規則正しく配列している状態のことをいい、この状態を電子の結晶化になぞらえてウイグナー結晶と呼ぶことがある。この状態では 0 に近い価数の分子と淡緑色の円で示す 1+ に近い価数の分子とに分かれている。BEDT-TTF 分子では分子の価数に応じて C=C 伸縮振動の振動数が 100 cm^{-1} 以上シフトする。BEDT-TTF にはラマン活性な C=C 伸縮振動が二つあって互いに接近しているために、右図下に示す θ - $(BEDT-TTF)_2RbZn(SCN)_4$ の電荷秩序状態のラマンスペクトルは非常に複雑である。 ^{13}C を中央の C=C 結合部位に置換した分子を合成して、この領域の振動モードをすべて帰属した。その結果、中央の C=C 伸縮振動は振電相互作用によって 4 つのモードに分裂しているのに対し、5 員環の C=C 伸縮振動は振電相互作用が小さいために縮退しており、分子のもつ電荷によって 2 つのモードに分裂していることを明らかにした。この解釈は 4 分子クラスター一模型によって偏光依存性を含めて再現することができた。この解析方法はすべての BEDT-TTF の電荷移動塩について適用できる。



K. Yamamoto *et al.*, *Phys. Rev. B* **65**, 85110 (2002).

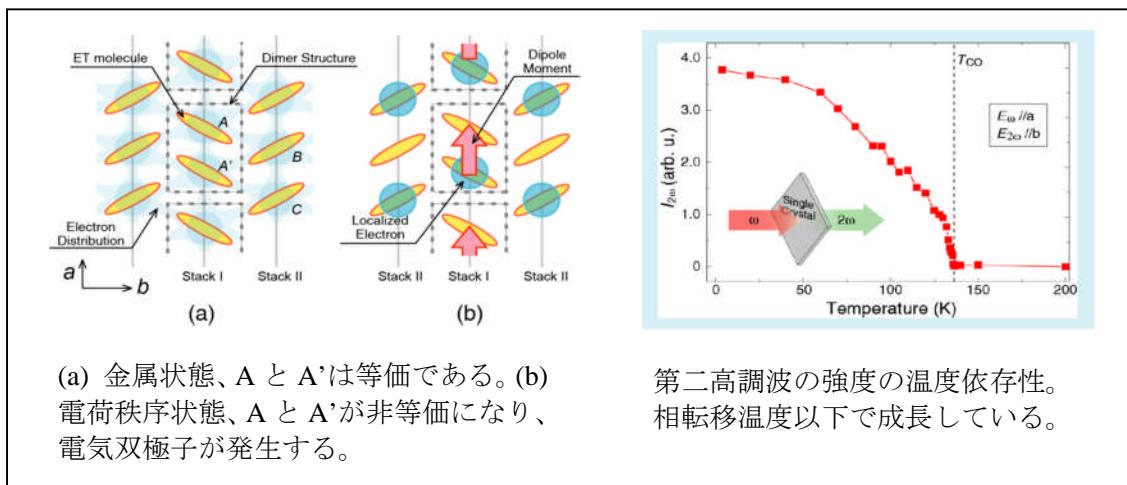
K. Suzuki *et al.*, *Phys. Rev. B* **69**, 085114 (2004).

T. Yamamoto *et al.*, *J. Phys. Chem. B* **109**, 15226 (2005).

(2-2) 電子の結晶化に伴う強誘電性

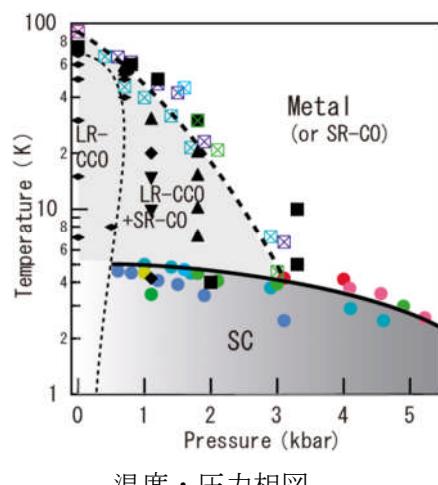
α - $(BEDT-TTF)_2I_3$ は 135 K で金属から絶縁体へ相転移する分子導体である。絶

縁相では電荷秩序状態になっていることを赤外ラマン分光法によって明らかにしたが、赤外とラマンの交互禁制則が破れていることから、電荷の配列は対称心を破るような配列をしている。この状態で第二高調波発生（SHG）の実験を行ったところ、下の図のように相転移温度以下で第二高調波の強度が成長してくるのを発見した。この高調波の強度は極めて強く、2次の非線形感受率はレーザー一分光で用いられている BBO の 40 倍にも達する。この事実は対称心の破れた電荷配列は光の波長よりも大きな領域にわたってコヒーレントに成長していることを意味している。つまり、巨視的な大きさの自発電気分極が発生している。後に光干渉と SHG 顕微鏡を用いた実験を行って、コヒーレントに成長した分域（ドメイン）の大きさが 0.1 mm 以上にも及ぶことを明らかにした。このことはこの物質が強誘電性を有することを強く示唆している。従来の強誘電性は変位型と秩序・無秩序型に大別できるが、いずれもイオンが強誘電性を担っている。この物質は電子の結晶化に起因する強誘電性であり、従来の強誘電性と異なる新しい型の強誘電体であり、電子強誘電体と呼ばれている。



(2-3) 超伝導相に隣接する絶縁相の電子状態

超伝導相に隣接するモット絶縁体は反強磁性相である。このことから、反強磁性ゆらぎがクーパー対の生成を媒介していると考えられている。電荷秩序系物質でも同様な考えがあり、超伝導相に隣接する絶縁相の電子状態を特定することが求められている。 β -(DMBEDT-TTF)₂PF₆ は 100 K 付近から徐々に絶縁化する物質であるが、4 千気圧まで加圧すると 5 K で超伝導相へ転移する。赤外ラマン分光法を用いてこの物質



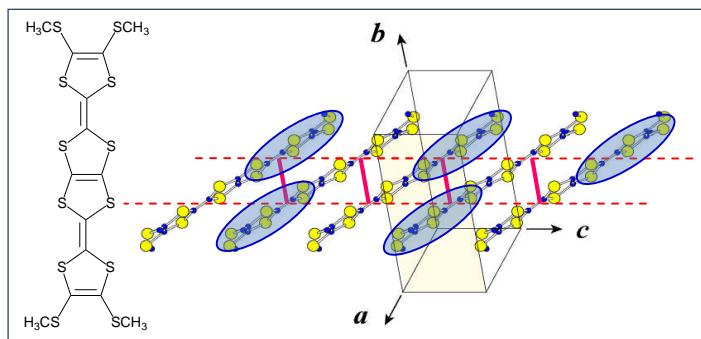
の絶縁相が電荷秩序状態であることを明らかにした。そして、低温高圧下のラマン分光を我々のグループで行い、電気抵抗と磁気抵抗を東大物性研森初果グループが行って、この物質の温度・圧力相図を作成した。この相図のように、超伝導相に長距離電荷秩序相と短距離電荷秩序相が混在する電子相が隣接している。この実験は電荷秩序ゆらぎが超伝導に関与している可能性を示唆している。

M. Tanaka *et al.*, *J. Phys. Soc. Jpn.* **77**, 024714 (2008).

N. Morinaka *et al.*, *Phys. Rev. B* **80**, 092508 (2009).

(4) 相転移に伴う分子内電荷分布の偏り

TTM-TTP は下図の様な細長い分子である。この分子の電荷移動塩(TTM-TTP)I₃は 160 K 付近より徐々に絶縁化する。この温度近傍で単位格子は 2 倍に拡張し、分子は結晶の対称心からはずれる。そして、この温度以下で 5 つの C=C 伸縮振動モードのうち分子の両端の C=C 伸縮振動モードのみが二本に分裂する。これは分子全体で $M^{(1+\delta)+}M^{(1-\delta)+}$ のように電荷の偏りが起こっているのではなく、分子の上半分と下半分の電荷が非等価になって、分子内の電荷分布が下図のように青い楕円部分に偏っていることを意味している。通常は π 軌道の分子内共鳴積分は分子間のトランスファー積分に比べてはるかに大きいので、分子の周りの結晶場が非対称になっても、対称的な分子の電荷が偏ることはない。最近、発表された土射津らの理論はこの物質の特殊な状況をよく説明している。この物質の電子状態は破線と実践で描いた two-leg ladder model で記述できるというが、分子の上半分と下半分を結ぶ分子内トランスファー積分よりも、実線で描いた分子間のトランスファー積分のほうが大きくなっている。この理論はラマンスペクトルをよく説明するのみならず、近赤外領域に現れる梯子の横木に相当する方向に偏光した電子遷移もよく説明する。この理論は我々の実験から得られた提案を強く支持している。



K. Yakushi *et al.*, *Synth. Met.* **135**, 583 (2003).

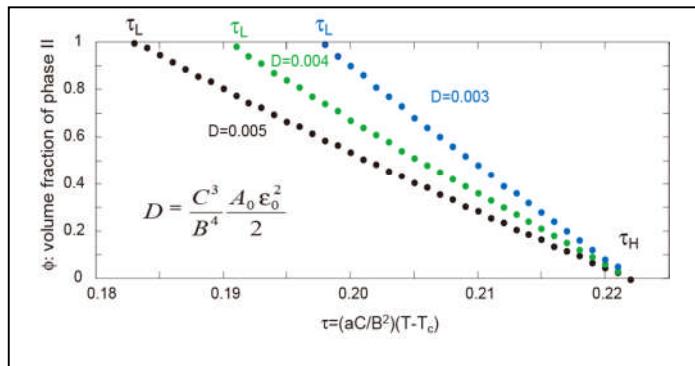
R. Swietlik *et al.*, *Synth. Met.* **150**, 83 (2005).

M. Tsuchiizu *et al.*, *J. Phys. Soc. Jpn.* **80**, 013703 (2011).

(5) 広い温度領域で二相の共存する相転移

ギブスの相律によると、1成分2相の自由度は1、つまり、二つの相が共存できる温度は、圧力を決めると、1点しかない。例えば、水と氷が共存できる温度は常圧では0℃のみである。 $(npBifc)(F_1TCNQ)_3$ の価数変化相転移 ($A^{1+}B^{1-} \rightarrow A^{2+}B^{2-}$) は約50Kの温度範囲で $A^{1+}B^{1-}$ 相から $A^{2+}B^{2-}$ 相への変換が連続的に起こる。このような連続転移はリラクサーラやスピンドロスオーバー錯体などで知られているが、これらの物質ではナノメーターサイズのミクロドメインが徐々に転換する事が知られている。ところが、この物質では、相転移温度領域で $A^{1+}B^{1-}$ 相と $A^{2+}B^{2-}$ 相の巨視的な分域が共存していることがX線回折と顕微ラマン分光法によって明らかになった。この物質の単位格子の体積は $A^{2+}B^{2-}$ 相で3%も収縮する。通常このような大きな体積変化を伴う相転移では結晶の破壊が起って、体積収縮に伴うひずみエネルギーを一挙に解放する。しかし、この物質は相転移温度領域を何回往復させても極めて安定である。つまり、結晶内部に蓄積されたひずみエネルギーが徐々に解消されている。このような考えに基づきギンツブルグ・ランダウの自由エネルギー曲線にひずみエネルギーを加えた現象論的な模型を組んで、体積分率の温度依存性を求めた。下図は $A^{2+}B^{2-}$ 相の体積分率 ϕ が無次元化した温度 τ に対してどのように変化するかを描いた図である。

この模型は無次元化したひずみエネルギー D を大きくするにつれて、相転移幅が増大する事を再現している。この物質がひずみエネルギーを蓄える事ができる理由はおそらく $npBifc$ 分子がかさ高く柔軟な分子構造をもっていることに関係していると推測している。



T. Mochida *et al.*, *J. Phys. Soc. Jpn.* **74**, 2214 (2005).
M. Uruichi *et al.*, *J. Phys. Soc. Jpn.* **76**, 124707 (2007).

LIST OF PUBLICATION

Kyuya Yakushi
March 30, 2018

Original Papers

- 239 Charge and lattice fluctuations in molecule-based spin liquids, T. Yamamoto, T. Fujimoto, T. Naito, Y. Nakazawa, M. Tamura, K. Yakushi, Y. Ikemoto, T. Moriwaki, R. Kato, *Scientific Reports*, **7**: 12930 (9) (2017).
DOI:10.1038/s41598-017-13118-4
- 238 Intra- versus inter-dimer charge inhomogeneity in the triangular lattice compounds of β' -Cs[Pd(dmit)₂]₂: A degree of freedom characteristic of an interchange of energy levels in the molecular orbitals, T. Yamamoto, M. Tamura, K. Yakushi, and R. Kato, *J. Phys. Soc. Jpn.* **85**, 104711 (13) (2016).
DOI.org/10.7566/JPSJ.85.104711
- 237 Charge order in (TMTTF)₂TaF₆ by infrared spectroscopy, Y. Oka, N. Matsunaga, K. Nomura, A. Kawamoto, K. Yamamoto, and K. Yakushi, *J. Phys. Soc. Jpn.* **84**, 114709 (5) (2015). DOI.org/10.7566/JPSJ.84.114709
- 236 Raman spectroscopy study of charge fluctuation in the spin-liquid candidate κ -(BEDT-TTF)₂Cu₂(CN)₃, K. Yakushi, K. Yamamoto, T. Yamamoto, Y. Saito, and A. Kawamoto, *J. Phys. Soc. Jpn.* **84**, 084711 (5) (2015).
DOI.org/10.7566/JPSJ.84.084711
- 235 Optical freezing of charge motion in an organic conductor, T. Ishikawa, Y. Sagae, Y. Naitoh, Y. Kawakami, H. Itoh, K. Yamamoto, K. Yakushi, H. Kishida, T. Sasaki, S. Ishihara, Y. Tanaka, K. Yonemitsu, and S. Iwai, *Nature Commun.* **5**, 5528-5533 (2014). DOI: 10.1038/ncomms6528
- 234 Efficient terahertz-wave generation and its ultrafast optical modulation in charge ordered organic ferroelectrics, Hirotake Itoh, Keisuke Itoh, Kazuki Goto,¹ Kaoru Yamamoto, Kyuya Yakushi, and Shinichiro Iwai, *Appl. Phys. Lett.* **104**, 173302 (4) (2014). DOI: 10.1063/1.4871735

- 233 Property of the valence-bond ordering in molecular superconductor with the quasi-triangular lattice, Takashi Yamamoto, Yasuhiro Nakazawa, Masafumi Tamura, Akiko Nakao, Atsuko Fukaya, Reizo Kato, and Kyuya Yakushi, *J. Phys. Soc. Jpn.* **83**, 053703 (5) (2014). DOI: 10.7566/JPSJ.83.053703
- 232 Structural and Physical Properties of (EDO-TTF-Cl)₂XF₆ (X = As, Sb): Geometrical Aspects for monosubstituted EDO-TTF (EDO-TTF=4,5-ethylenedioxytetraphiafulvalene), M. Ishikawa, Y. Nakano, M. Uruichi, A. Otsuka, K. Yakushi, and H. Yamochi, *Euro. J. Inorg. Chem.* 3941-3948 (2014). DOI:10.1002/ejic.201400128
- 231 Metallic and Mott insulating spin-frustrated antiferromagnetic states in ionic fullerene complexes with two-dimensional hexagonal C₆₀^{•-} packing motif, D. V. Konarev, S. S. Khasanov, A. Otsuka, M. Maesato, M. Uruichi, K. Yakushi, A. F. Shevchun, H. Yamochi, G. Saito, R. N. Lyubovskaya, *Chem. Eur. J.* **20**, 7268-7277 (2014). DOI; 10.1002/chem.201304763.
- 230 Kosterlitz-Thouless-type transition in a charge ordered state of the layered organic conductor α -(BEDT-TTF)₂I₃, S. Uji, K. Kodama, K. Sugii, Y. Takahide, T. Terashima, N. Kurita, S. Tsuchiya, M. Kohno, M. Kimata, K. Yamamoto, and K. Yakushi, *Phys. Rev. Lett.* **110**, 196602 (2013). DOI: 10.1103/PhysRevLett.110.196602
- 229 Infrared and Raman studies of charge ordering in organic conductors, BEDT-TTF salts with quarter-filled band, K. Yakushi, *Crystals* **2**, 1291-1346 (2012). DOI: 10.3390/crust2031291
- 228 Charge transport in charge-ordered states of two-dimensional organic conductors, α -(BEDT-TTF)₂I₃ and α' -(BEDT-TTF)₂IBr₂, K. Kodama, M. Kimata, Y. Takahide, N. Kurita, A. Harada, H. Satsukawa, T. Terashima, S. Uji, K. Yamamoto, and K. Yakushi, *J. Phys. Soc. Jpn.* **81**, 044703 (7 pages) (2012). DOI: 10.1143/JPSJ.81.044703
- 227 Charge-order driven proton arrangement in a hydrogen-bonded charge-transfer complex based on a pyridyl-substituted TTF derivative, S. C. Lee, A. Ueda, H. Kamo, K. Takahashi, M. Uruichi, K. Yamamoto, K. Yakushi, A. Nakao, R. Kumai, K. Kobayashi, H. Nakao, Y. Murakami, and H. Mori, *Chem. Commun.* **48**, 8673-8675 (2012). DOI: 10.1039/C2CC34296K

- 226 Aromaticity and π -bond covalency: prominent intermolecular covalent bonding interaction of a Kekule hydrocarbon with very significant singlet biradical character, A. Shimizu, Y. Hirao, K. Matsumoto, H. Kurata, T. Kubo, M. Uruichi, K. Yakushi, *Chem. Commun.* **48**, 5629-5631 (2012). DOI: 10.1039/c2cc31955a
- 225 Intradimer charge disproportionation in *Triclinic*-EtMe₃P[Pd(dmit)₂]₂ (dmit: 1,3-Dithiole-2-thione-4,5-dithiolate), T. Yamamoto, Y. Nakazawa, M. Tamura, A. Nakao, Y. Ikemoto, T. Moriwaki, A. Fukaya, R. Kato, and K. Yakushi, *J. Phys. Soc. Jpn.* **80**, 123709 (4) (2011). DOI: 10.1143/JPSJ.80.123709
- 224 Synthesis, crystal structure and physical properties of sterically unprotected hydrocarbon radicals, T. Kubo, Y. Katada, A. Shimizu, Y. Hirao, K. Sato, T. Takui, M. Uruichi, K. Yakushi, and R. C. Haddon, *J. Am. Chem. Soc.* **133**, 14240-14243 (2011). DOI: 10.1021/ja2065768
- 223 Vibrational spectra of [Pd(dmit)₂] dimer
[dmit=1,3-dithiole-2-thione-4,5-ditiolate] —Methodology for examining charge, intermolecular interaction and orbital —, T. Yamamoto, M. Tamura, T. Fukunaga, A. Fukaya, R. Kato, and K. Yakushi, *J. Phys. Soc. Jpn.* **80**, 074717 (16) (2011). DOI: 10.1143/JPSJ.80.074717
- 222 Vibronic activation of molecular vibrational overtones in the infrared spectra of charge-ordered organic conductors, K. Yamamoto, A. A. Kowalska, Y. Yue, and K. Yakushi, *Phys. Rev. B* **84**, 064306 (13) (2011). DOI: 10.1103/PhysRevB.84.064306
- 221 Infrared and Raman studies of the anion ordering transitions in paramagnetic organometallic radical cation salts [Cp₂Mo(dmit)]X (X=PF₆, SbF₆), R. Swietlik, D. Jankowski, M. Fourmigue, and K. Yakushi, *Vib. Spectrosc.* **55**, 195-200 (2011). DOI: 10.1016/j.vibspec.2010.11.005
- 220 Spin dynamics of charge carriers in the process of their localization in α' -(BEDT-TTF)₂IBr₂ single crystals, R. B. Morgunov, A. I. Dmitriev, A. S. Chernen'kaya, K. Yakushi, K. Yamamoto, and Y. Tanimoto, *J. Exp. Theor. Phys.* **111**, 857-864 (2010). (JETP) DOI: 10.1134/S1063776110110166

- 219 Alternating Covalent Bonding Interactions in One-Dimensional Chain of Phenalenyl-Based Singlet Biradical Molecule Having Kekule Structures, A. Shimizu, T. Kubo, M. Uruichi, K. Yakushi, M. Nakano, D. Shiomi, K. Sato, T. Takui, Y. Hirao, K. Matsumoto, H. Kurata, Y. Morita, K. Nakasuji, *J. Am. Chem. Soc.* **132**, 14421-14428 (2010).
- 218 Early-stage dynamics of light-matter interaction leading to the insulator-to-metal transition in a charge ordered organic crystal, K. Kawakami, T. Fukatsu, Y. Sakurai, H. Unno, H. Itoh, S. Iwai, T. Sasaki, K. Yamamoto, K. Yakushi, and K. Yonemitsu, *Phys. Rev. Lett.*, **105**, 246402 (2010).
- 217 Field-induced successive phase transitions in the CDW organic conductor HMTSF-TCNQ, K. Murata, K. Yokogawa, K. Kobayashi, K. Masuda, T. Sasaki, Y. Seno, N. R. Tamilselvan, H. Yoshino, J. S. Brooks, D. Jerome, K. Bechgaard, M. Uruichi, K. Yakushi, Y. Nogami, and R. Kato, *J. Phys. Soc. Jpn.* **79**, 103702 (2010).
- 216 Second-Harmonic Generation Study of Ferroelectric Organic Conductors α -(BEDT-TTF)₂X (X=I₃ and I₂Br), K. Yamamoto and K. Yakushi, *Molecular Electronic and Related Materials - Control and Probe with Light*, T. Naito, Ed., Transworld Research Network, Kerala 185-201 (2010).
- 215 Non-uniform site charge distribution and fluctuation of charge order in the metallic state of α -(BEDT-TTF)₂I₃, Y. Yue, K. Yamamoto, M. Uruichi, C. Nakano, K. Yakushi, S. Yamada, T. Hiejima, and A. Kawamoto, *Phys. Rev. B*, **82** 075134 (8) (2010).
- 214 Reexamination of ¹³C-NMR in (TMTTF)₂AsF₆: Comparison with infrared spectroscopy, S. Hirose, A. Kawamoto, N. Matsunaga, K. Nomura, K. Yamamoto, and K. Yakushi, *Phys. Rev. B*, **81**, 205107 (6) (2010).
- 213 Low-temperature far-infrared absorption in the antiferromagnetic organic superconductor κ -(BETS)₂FeBr₄, N. Hossein Khah, G. V. Sudhakar Rao, M. Reedyk, H. Fujiwara, H. Kobayashi, T. Nakamura, K. Yakushi, M. A. Tanatar, *Phys. Rev. B* **81**, 092508 (2010).
- 212 Tuning of multi-instabilities in organic alloy, [(EDO-TTF)_{1-x}(MeEDO-TTF)_x]₂PF₆, T. Murata, X. Shao, Y. Nakano, H. Yamochi, M. Uruichi, K. Yakushi, G. Saito, and K. Tanaka, *Chem. Mater.* **22**,

3121-3132 (2010).

- 211 Direct observation of ferroelectric domains created by Wigner crystallization of electrons in α -[bis(ethylenedithio)tetrathiafulvalene]₂I₃, K. Yamamoto, A. Kowalska, and K. Yakushi, *Appl. Phys. Lett.*, **96**, 122901 (3) (2010).
- 210 Terahertz responses of high-temperature metallic phase and photoinduced metallic state in ferroelectric charge-ordered organic salt, H. Nakaya, K. Itho, Y. Takahashi, H. Itoh, S. Iwai, S. Saito, K. Yamamoto, and K. Yakushi, *Phys. Rev. B*, **81**, 15511 (6) (2010)..
- 209 Evidence for an exchange interaction between donor and acceptor layers in β' -(BEDT-TTF)(TCNQ), Y. Eto, A. Kawamoto, N. Matsunaga, K. Kumagai, K. Yamamoto, and K. Yakushi, *Phys. Rev. B*, **80**, 174506 (5) (2009).
- 208 Flexibility of paramagnetic (d¹) organometallic dithiolene complex [Cp₂Mo(dmit)]⁺ studied by Raman spectroscopy, Roman Świętlik, Andrzej Łapiński, Marc Fourmigué, and Kyuya Yakushi, *J. Raman Spectrosc.* **40**, 2092-2098 (2009).
- 207 Superconductivity competitive with checkerboard-type charge ordering in organic conductor β -(meso-DMBEDT-TTF)₂PF₆, N. Morinaka, K. Takabayashi, R. Chiba, F. Yoshikane, S. Niizeki, M. Tanaka, K. Yakushi, M. Koeda, M. Hedo, T. Fujiwara, Y. Uwatoko, Y. Nishio, K. Kajita, and H. Mori, *Phys. Rev. B*, **80**, 092508 (4) (2009).
- 206 Resonance Balance Shift in Stacks of Delocalized Singlet Biradicals, Akihiro Shimizu, Mikio Uruichi, Kyuya Yakushi, Hiroyuki Matsuzaki, Hiroshi Okamoto, Masayoshi Nakano, Yasukazu Hirao, Kouzou Matsumoto, Hiroyuki Kurata, and Takashi Kubo, *Angew. Chem. Int. Ed.* **48**, 5482-5486 (2009).
- 205 Charge order-disorder phase transition in α' -(BEDT-TTF)₂IBr₂, Y. Yue, C. Nakano, K. Yamamoto, M. Uruichi, R. Wojciechowski, M. Inokuchi, and K. Yakushi, *J. Phys. Soc. Jpn.* **78**, 044701 (10) (2009).
- 204 Room Temperature First-Order Phase Transition in a Molecular Conductor (MeEDO-TTF)₂PF₆, Xiangfeng Shao,^{P*} Yoshiaki Nakano,^P Masafumi Sakata,^P Hideki Yamochi,^{P*} Yukihiro Yoshida,^P Mitsuhiko Maesato,^P Mikio Uruichi,^P Kyuya Yakushi,^P Tsuyoshi Murata,^P Akihiro Otsuka,^P Gunzi Saito,^P Shin-ya Koshihara, Koichiro Tanaka, *Chem. Mater.*, **20**, 7551-7562 (2008).

- 203 Infrared and Raman spectroscopic study of BDA-TTP [1,5-bis(1,3-dithian-2-ylidene)-1,3,4,6-tetrathiapentalene] and its charge-transfer salts, M. Uruichi, C. Nakano, M. Tanaka, K. Yakushi, T. Kaihatsu, and J. Yamada, *Solid State Commun.* **47**, 484-489 (2008).
- 202 Electrical Properties and Electronic States of Molecular Conductors Based on Unsymmetrical Organometallic-Dithiolene Gold(III) Complexes, Kubo, Kazuya; Nakao, Akiko; Ishii, Yasuyuki; Yamamoto, Takashi; Tamura, Masafumi; Kato, Reizo; Yakushi, Kyuya; Matsubayashi, Gen-etsu, *Inorg. Chem.* **47**, 5495-5502 (2008).
- 201 Complex formation between a nucleobase and tetracyanoquinodimethane derivatives: Crystal structures and transport properties of charge-transfer solids of cytosine, T. Murata, G. Saito, Y. Enomoto, G. Honda, Y. Shimizu, S. Matsui, M. Sakata, O. Drozdova, and K. Yakushi, *Bull. Chem. Soc. Jpn.* **81**, 331-344 (2008).
- 200 Strong optical nonlinearity and its ultrafast response associated with electron ferroelectricity in an organic conductor, K. Yamamoto, S. Iwati, S. Boyko, A. Kashiwazaki, F. Hiramatsu, C. Okabe, N. Nishi, and K. Yakushi, *J. Phys. Soc. Jpn.* **77**, 074709 (6) (2008).
- 199 30 fs infrared spectroscopy of photo-induced phase transition in 1/4 filling organic salt. H. Nakaya, F. Hiramatsu, Y. Kawakami, S. Iwai, K. Yamamoto, and K. Yakushi, *J. Luminescence* **128**, 1065–1068 (2008)
- 198 Inhomogeneous site-charges at the boundary between the insulating, superconducting, and metallic phases of β'' -type ET molecular charge-transfer salts, (ET=bisethylene-dithiatetrathiafulvalene), T. Yamamoto, H. M. Yamamoto, R. Kato, M. Uruichi, K. Yakushi, H. Akutsu, A. Sato-Akutsu, A. Kawamoto, S. S. Turner, and P. Day, *Phys. Rev. B*, **77**, 205120 (14) (2008).
- 197 Hydrostatic pressure effect on photoinduced insulator-to-metal transition in layered organic salt α -(BEDT-TTF)₂I₃, S. Iwai, K. Yamamoto, F. Hiramatsu, H. Nakaya, Y. Kawakami, and K. Yakushi, *Phys. Rev. B*, **77**, 125131 (5) (2008).
- 196 Infrared and Raman study of the charge-ordeed state in the vicinity of the superconducting state in the organic conductor β -(DMBEDT-TTF)₂PF₆, M. Tanaka, K. Yamamoto, M. Uruichi, T. Yamamoto, K. Yakushi, S. Kimura, and

H. Mori, *J. Phys. Soc. Jpn.* **77**, 024714 (8) (2008).

- 195 Syntheses and characterizations of acetylene-linked bisphenalenyl and metallic-like behavior in its charge-transfer complex, T. Kubo, Y. Goto, M. Uruichi, K. Yakushi, M. Nakano, A. Fuyuhiro, Y. Morita, and K. Nakasaji, *Chem. Asian J.* **2**, 1370-1379 (2007).
- 194 Singlet Biradical Character of Phenalenyl-Based Kekulé Hydrocarbon with Naphthoquinoid Structure, Takashi Kubo, Akihiro Shimizu, Mikio Uruichi, Kyuya Yakushi, Masayoshi Nakano, Daisuke Shiomi, Kazunobu Sato, Takeji Takui, Yasushi Morita, and Kazuhiro Nakasaji, *Org. Lett.*, **9**, 81-84, (2007).
- 193 Two-phase coexistence in the monovalent-to-divalent phase transition in dineopentylbiferrocene-fluorotetracyanoquinodimethane, (npBifc-(F₁TCNQ)₃), charge-transfer salt, M. Uruichi, Y. Yue, K. Yakushi, and T. Mochida, *J. Phys. Soc. Jpn.* **76**, 124707 (2007).
- 192 Charge ordered state and frustration of the site-charges in (ET)₃Te₂I₆ and (BETS)₂Te₂I₆, T. Yamamoto, J. Eda, A. Nakao, R. Kato, and K. Yakushi, *Phys. Rev. B*, **75**, 205132 (17) (2007).
- 191 Photoinduced melting of stripe-type charge order and metallic-domain formation in layered BEDT-TTF based salt, S. Iwai, K. Yamamoto, A. Kashiwazaki, H. Nakaya, K. Yakushi, H. Okamoto, and H. Mori, and Y. Nishio, *Phys. Rev. Lett.*, **98**, 09740 (4) (2007).
- 190 Infrared and Raman study of the charge-ordering phase transition at ~170 K in a quarter-filled narrow-band system, β''-(ET)(TCNQ), M. Uruichi, K. Yakushi, H. M. Yamamoto, and R. Kato, *J. Phys. Soc. Jpn.* **75**, 074720 (10) (2006).
- 189 Charge ordering in organic conductors, T. Takahashi, Y. Nogami, and K. Yakushi, *J. Phys. Soc. Jpn.* **75**, 051008 (17) (2006).
- 188 Charge ordering state of β''-(ET)₃(HSO₄) and β''-(ET)₃(ClO₄)₂ by temperature-dependent infrared and Raman spectroscopy, T. Yamamoto, M. Uruichi, and K. Yakushi, *Phys. Rev. B*, **73**, 125116 (12) (2006).
- 187 Evaluation of charge transfer degree in the bis(ethylenethio)tetrathiafulvalene salts by Raman spectroscopy, A. Kowalska, R. Wojciechowski, J. Ulanski, M. Mas-Torrent, E. Laukhina, C. Rovira, and K. Yakushi, *Synthetic Metals*, **156**,

75-80 (2006).

- 186 Synthesis, intermolecular interaction, and semiconductive behavior of a delocalized singlet biradical hydrocarbon, T. Kubo, A. Shimizu, M. Sakamoto, M. Uruichi, K. Yakushi, M. Nakano, D. Hiomi, K. Sato, Takui, Y. Morita, K. Nakasuji, *Angew. Chem. Int. Ed.* **44**, 6564-6568 (2005).
- 185 Infrared and Raman studies of θ -(BEDT-TTF)₂CsZn(SCN)₄: Comparison with the rapidly cooled state of θ -(BEDT-TTF)₂RbZn(SCN)₄, K. Suzuki, K. Yamamoto, K. Yakushi, and A. Kawamoto, *J. Phys. Soc. Jpn.* **74**, 2631-2639 (2005).
- 184 The robust superconducting state in the low-quasiparticle-density organic metals β'' -(BEDT-TTF)₄[$(\text{H}_3\text{O})\text{M}(\text{C}_2\text{O}_4)_3$]Y; superconductivity due to proximity to a charge-ordered state, A. F. Bangura, A. I. Coldea, J. Singleton, A. Ardavan, A. Akutsu-Sato, H. Akutsu, S. S. Turner, P. Day, T. Yamamoto, and K. Yakushi, *Phys. Rev. B*, **72**, 014543 (13) (2005).
- 183 Examination of the charge sensitive vibrational modes in ET molecule, T. Yamamoto, M. Uruichi, K. Yamamoto, K. Yakushi, A. Kawamoto, and H. Taniguchi, *J. Phys. Chem. B* **109**, 15226-15235 (2005).
- 182 Infrared and Raman studies of the phase transition in the organic conductor (TTM-TTP)I₃, R. Swietlik, K. Yakushi, K. Yamamoto, T. Kawamoto, and T. Mori, *Synthetic Metals* **150**, 83-92 (2005).
- 181 Influence of the cooling rate on low-temperature Raman and infrared-reflection spectra of partially deuterated κ -(BEDT-TTF)₂Cu[N(CN)₂]Br, M. Maksimuk, K. Yakushi, H. Taniguchi, K. Kanoda, A. Kawamoto, *Synthetic Metals*, **149**, 13-18 (2005).
- 180 Bond and charge density waves in the charge localized phase of (DI-DCNQI)₂Ag studied by single-crystal infrared and Raman spectra, K. Yamamoto, K. Yakushi, M. Meneghetti, and C. Pecile, *Phys. Rev. B*, **71**, 045118 (10) (2005).
- 179 Infrared and Raman evidence for the charge-ordering in β'' -(BEDT-TTF)₃(ReO₄)₂, T. Yamamoto, M. Uruichi, K. Yakushi, J. Yamaura, and H. Tajima, *Phys. Rev. B*, **70**, 125102 (11) (2004).

- 178 Infrared and Raman study of the phase transition of θ -(ET)₂Cu₂(CN)[N(CN)₂]₂, T. Yamamoto, K. Yakushi, Y. Shimizu, and G. Saito, *J. Phys. Soc. Jpn.* **73**, 2326-2332 (2004).
- 177 Optical characterization of $2k_F$ bond-charge-density wave in quasi-one-dimensional 3/4-filled (EDO-TTF)₂X (X=PF₆, and AsF₆), O. Drozdova, K. Yakushi, K. Yamamoto, A. Ota, H. Yamochi, G. Saito, H. Tashiro, D. B. Tanner, *Phys. Rev. B*, **70**, 075107 (8) (2004).
- 176 Infrared and Raman studies of TTM-TTP and TSM-TTP charge-transfer salts, R. Swietlik, K. Yakushi, K. Yamamoto, T. Kawamoto, and T. Mori, *J. Mol. Structure*, **704**, 89-93 (2004).
- 175 Charge-ordering transition in two crystal modifications of θ -(BEDT-TTF)₂TlZn(SCN)₄ studied by vibrational spectroscopy, K. Suzuki, K. Yamamoto, and K. Yakushi, *Phys. Rev. B*, **69**, 085114 (11) (2004).
- 174 Shear stress effects on electronic spectra on the one-dimensional bis(diphenylglyoximato)metal(II) complexes, M(dpg)₂ [M=Ni and Pt] under high pressure, I. Shirotani, J. Hayashi, K. Hirano, H. Kawamura, M. Inokuchi, K. Yakushi, and H. Inokuchi, *Proc. Japan Acad.*, **79**, Ser B, 267-273 (2003).
- 173 Charge ordering in the κ -phase BEDT-TTF salts with Co(CN)₆ and Fe(CN)₆ anions studied by infrared and Raman spectroscopy, R. Swietlik, A. Lapinski, L. Ouahab, and K. Yakushi, *C. R. Acad. Sci. (Paris) Chimie* **3/6**, 395-403 (2003). [Les Compte Rendus de l'Academie de Sciences (Pairs)]
- 172 High-pressure Raman study of the charge ordering in α -(BEDT-TTF)₂I₃, R. Wojciechowski, K. Yamamoto, K. Yakushi, M. Inokuchi, and A. Kawamoto, *Phys. Rev. B* **67**, 224105(11) (2003).
- 171 Study of the phase transitions of (DI-DCNQI)₂M (M=Ag, Li, Cu) through the analysis of the temperature dependent vibronic and vibrational infrared absorptions. M. Meneghetti, C. Pecile, K. Yakushi, K. Yamamoto, K. Kanoda, and K. Hiraki, *J. Solid State Chem.*, **168**, 632-638 (2002).
- 170 Optical study of two-dimensional organic metal (EO-TTP)₂AsF₆ (EO-TTP=2-(4,5-ethylenedioxy-1,3-dithiol-2-ylidene)-5-(1,3-dithiol-2-ylidene)-1,3,4,6-tetrathiapentalene), O. Drozdova, K. Yakushi, Y. Misaki, and K. Tanaka, *J. Solid State Chem.*, **168**, 497-502 (2002).

- 169 Electronic states and infrared spectroscopy of nickel and cobalt phthalocyanines: *Ab initio* calculations for the neutral and cation state, P. Toman, S. Nespurek, and K. Yakushi, *J. Porphyrin and Phthalocyanine*, **6**, 556-562 (2002).
- 168 Charge-ordering and magnetic phase transitions in θ -(BDT-TTP)₂Cu(NCS)₂, K. Yakushi, K. Yamamoto, M. Simonyan, J. Ouyang, C. Nakano, Y. Misaki, and K. Tanaka, *Phys. Rev. B*, **66**, 235102 (5) (2002).
- 167 Structural phase transition in quasi-1D conductors, (BDTFP)₂X(PhCl)_{0.5} (X=PF₆, AsF₆) [BDTFP=5,7-bis(1,3-dithiol-2-ylidene)-5,7-dihydrofuro[3,4-*b*]pyrazine], M. Uruichi, K. Yakushi, T. Shirahata, K. Takahashi, T. Mori, and T. Nakamura, *J. Mater. Chem.*, **12**, 2696-2700 (2002).
- 166 Magnetic Investigation of Possible Quasi-One-dimensional Two-Leg Ladder Systems, (BDTFP)₂X(PhCl)_{0.5} (X=PF₆, AsF₆), T. Nakamura, K. Takahashi, T. Shirahata, M. Uruichi, K. Yakushi, T. Mori, *J. Phys. Soc. Jpn.*, **71**, 2022-2030 (2002).
- 165 Raman spectra of (Me₂-DCNQI)₂CuxLi_{1-x} (0<x<1). The evidence of charge separation at room temperature in a one-dimensional conductor having a quarter-filled band, T. Yamamoto, H. Tajima, R. Kato, M. Uruichi, and K. Yakushi, *J. Phys. Soc. Jpn.*, **71**, 1956-1964 (2002).
- 164 Complex formation of ethylenedioxoethylenedithiotetrathiafulvalene (EDOEDT-TTF: EOET) and its self-assembling ability, G. Saito, H. Sasaki, T. Aoki, Y. Yoshida, A. Otsuka, H. Yamochi, O. O. Drozdova, K. Yakushi, H. Kitagawa, and T. Mitani, *J. Mater. Chem.*, **12**, 1640-1649 (2002).
- 163 The assignment of the in-plane molecular vibrations of the BDT-TTP electron-donor molecule based on the polarized Raman and infrared spectra, where BDT-TTP is 2,5-bis(1,3-dithiol-2-ylidene)-1,3,4,6-tetrathiapentalene, J. Ouyang, K. Yakushi, T. Kinoshita, N. Nanbu, M. Aoyagi, Y. Misaki, and K. Tanaka, *Spectrochim. Acta A*, **58**, 1643-1656 (2002).
- 162 Charge ordering in θ -(BEDT-TTF)₂RbZn(SCN)₄ studied by vibration spectroscopy, K. Yamamoto, K. Yakushi, K. Miyagawa, K. Kanoda, and A. Kawamoto, *Phys. Rev. B*, **65**, 85110 (8) (2002).

- 161 The C=C stretching vibrations of κ -(BEDT-TTF)₂Cu[N(CN)₂]Br and its deuterated analogues, M. Maksimuk, K. Yakushi, H. Taniguchi, K. Kanoda, and A. Kawamoto, *J. Phys. Soc. Jpn.*, **70**, 3728-3738 (2001).
- 160 Pressure-induced insulator-to-metal transition and superconductivity in iodanil, C₆I₄O₂, I. Shirotani, J. Hayashi, K. Yakushi, K. Takeda, T. Yokota, K. Shimizu, K. Amaya, A. Nakayama, and K. Aoki, *Physica B*, **304**, 6-11 (2001).
- 159 Composition and structure of the anion layer in the organic superconductor κ' -(ET)₂Cu₂(CN)₃: optical study, O. Drozdova, G. Saito, H. Yamochi, K. Ookubo, K. Yakushi, M. Uruichi, and L. Ouahab, *Inorg. Chem.*, **40**, 3265-3266 (2001).
- 158 Preparation and characterization of organic alloy Co_xNi_{1-x}Pc(AsF₆)_{0.5} (0≤x≤1), Y. Ding, M. Simonyan, Y. Yonehara, M. Uruichi, and K. Yakushi, *J. Mater. Chem.*, **11**, 1469-1475 (2001).
- 157 Angle-resolved photoemission measurements of ω -(*n*-pyrrolyl)alkanethiol self-assembled monolayers using *in-situ* sample preparation apparatus, S. Hasegawa, T. Horigome, K. Yakushi, H. Inokuchi, K. Okudaira-Kamiya, N. Ueno, K. Seki, R. J. Willicut, R. L. McCarley, E. Morikawa, and V. Saile, *J. Electron Spectrosc.*, **113** 101-107 (2001).
- 156 Crystal Chemistry and Physical Properties of Superconducting and Semiconducting Charge Transfer Salts of the Type (BEDT-TTF)₄[A^IM^{III}(C₂O₄)₃]·PhCN (A^I = H₃O, NH₄, K; M^{III} = Cr, Fe, Co, Al; BEDT-TTF = Bis(ethylenedithio)tetrathiafulvalene), Lee Martin, Scott S. Turner, Peter Day, Philippe Guionneau, Judith A. K. Howard, Dai E. Hibbs, Mark E. Light, Michael B. Hursthouse, Mikio Uruichi, and Kyuya Yakushi *Inorg. Chem.*, **40** 1363-1371 (2001).
- 155 Charge ordering and optical transitions of Li₂VO₅ and NaV₂O₅, M. J. Konstantinovic, J. Dong, M. E. Ziae, B. P. Clayman, J. C. Irwin, K. Yakushi, M. Isobe, and Y. Ueda, *Phys. Rev B*, **63**, 121102(4) (2001).
- 154 Hyperfine structure and exchange coupling between local and itinerant magnetic moments in quasi-one-dimensional organic metal Co_{0.01}Ni_{0.99}Pc(AsF₆)_{0.5}, M. Simonyan, Y. Yonehara, Y. Ding, and K. Yakushi, *Phys. Rev. B*, **63**, 113103(4) (2001).

- 153 Spectroscopic Studies of Solid Phthalocyanines and their Charge-transfer Salts, K. Yakushi, M. Simonyan, and Y. Ding, *J. Porphyrins Phthalocyanines*, **5**, 13-24 (2001).
- 152 Raman spectroscopic evidence for the charge disproportionation in a quasi-two-dimensional organic conductor θ -(BDT-TTP)₂Cu(NCS)₂, J. Ouyang, K. Yakushi, Y. Misaki, and K. Tanaka, *Phys. Rev. B*, **63**, 54301(6) (2001).
- 151 Reflection spectroscopic study of organic conductors, K. Yakushi, *Bull. Chem. Soc. Jpn.*, **73**, 2643-2662 (2000).
- 150 Optical Properties and Metal-Insulator Transitions in (BEDT-ATD)₂X(solvent) (X=PF₆, AsF₆, BF₄; solvent=THF, DHF, DO)
[BEDT-ATD=4,11-bis(4',5'-ethylenedithio-1',3'-dithiole-2'-ylidene)-4,11-dihydroanthra[2,3-c][1,2,5] thiadiazole], M. Uruichi, Y. Yamashita, and K. Yakushi, *J. Mater. Chem.*, **10**, 2716-2722 (2000).
- 149 Metal to insulator transition of one-dimensional bis(1,2-benzoquinonedioximato) platinum(II), Pt(bqd)₂, at low temperatures and high pressures, K. Takeda, I. Shirotani, C. Sekine, and K. Yakushi, *J. Phys.: Condens. Matter*, **12**, L483-L488 (2000).
- 148 A new stable organic metal based on the BEDO-TTF donor and the doubly charged nitroprusside anion, (BEDO-TTF)₄[Fe(CN)₅NO], L. V. Zorina , S. S. Khasanov, R. P. Shibaeva , M. Gener , R. Rousseau , E. Canadell, L. A. Kushch , E. B. Yagubskii , O. O. Drozdova, and K. Yakushi, *J. Mater. Chem.*, **10** (9) 2017–2023 (2000).
- 147 Synthesis, Characterization, and Magnetic Properties of Intercalation Compound of 1,10-Phenanthroline with Layered MnPS₃, C. Yang, X. Chen, J. Qin, K. Yakushi, Y. Nakazawa, and K. Ichimura, *J. Solid State Chem.*, **150**, 281-285 (2000).
- 146 Pressure-induced insulator-to-metal-to-insulator transitions in one-dimensional bis(dimethylglyoximato)platinum(II), Pt(dmg)₂, K. Takeda, I. Shirotani, and K. Yakushi, *Chemistry of Materials*, **12**, 912-916 (2000).
- 145 Determination of the Charge on BEDO-TTF in its Complexes by Raman Spectroscopy, Olga Drozdova, Hideki, Yamochi, Kyuya Yakushi, Mikio Uruichi, Sachio Horiuchi, and Gunzi, Saito, *J. Am. Chem. Soc.*, **112**, 4436-4442

(2000).

- 144 The intercalation reaction of 1,10-phenanthroline with layered compound FePS₃, X. Chen, C. Yang, J. Qin, K. Yakushi, Y. Nakazawa, K. Ichimira, *J. Solid State Chem.*, **150**, 258-265 (2000).
- 143 Observation of Plasmons by Normal-incidence Reflectivity in Two-dimensional Organic Metals, K. Yakushi, J. Ulanski, H. Yamochi, and G. Saito, *Phys. Rev.B*, **61**, 9891-9894 (2000-I).
- 142 Estimation of the Site-Energy difference In the crystal of Et₄N(DMTCNQ)₂, C. Nakano, K. Yakushi, M. Kohama, K. Ueda and T. Sugimoto, *Solid State Commun.* **113**, 677-682 (2000).
- 141 Phase Transition in Narrow-band Organic Metals (BEDT-ATD)₂X(solvent) (X=PF₆, AsF₆, BF₄; solvent=THF, DHF, DO), Kyuya Yakushi, Mikio, Uruichi, and Yoshiro Yamashita, *Synthetic Metals*, **109**, 33-37 (2000).
- 140 Spectroscopic Study of Isostructural Charge-Transfer Salts: Non-metallic DMTTA-BF₄ and Metallic DMTSA-BF₄, J. Ouyang, J. Dong, K. Yakushi , K. Takimiya, and T. Otsubo, *J. Phys. Soc. Jpn.* **68**, 3708-3716 (1999).
- 139 Synthesis, crystal structure and properties of the semiconducting molecular charge-transfer salt (bedt-ttf)₂Ge(C₂O₄)₃.PhCN [bedt-ttf=bis(ethylenedithio)tetrathiafulvalene], L. Martin, S. Turner, P. Day, P. Guionneau, J. A. K. Howard, M. Uruichi, K. Yakushi, *J. Mater. Chem.*, **9**, 2731-2736 (1999).
- 138 A Stable Neutral Hydrocarbon Radical: Synthesis, Crystal Structure, and Physical Properties of 2,5,8-Tri-tert-butyl-phenalenyl, Kosaburo Goto, Takashi Kubo, Kagetoshi Yamamoto, Kazuhiro Nakasaji, Kazunobu Satob, Daisuke Shiomi, Takeji Takui, Mari Kubota, Tunetoshi Kobayashi, Kyuya Yakusi, and Jianyong Ouyang, *J. Am. Chem. Soc.*, **121**, 1619-1620 (1999).
- 137 Low-Energy Electronic Transition in Organic metal, DMTSA-BF₄, J. Ouyang, K. Yakushi, K. Takimiya, T. Otsubo, H. Tajima, *Solid State Commun.*, **110**, 63-68 (1999).
- 136 Spectroscopic Study of Narrow-Band Metal (BEDT-ATD)₂PF₆(THF) without Dimerized Structure, Mikio Uruichi, Kyuya Yakushi, and Yoshiro Yamashita, *J.*

Phys. Soc. Jpn., **68**, 531-538 (1999).

- 135 Origin of the photoemission intensity oscillation of C₆₀, S. Hasegawa, T. Miyamae, K. Yakushi, H. Inokuchi, K. Seki, and N. Ueno, *Phys. Rev. B*, **58**, 4927-4933 (1998-II).
- 134 Two-Dimensional Band Structure of Organic Metals (BDT-TTP)₂X (X=SbF₆, AsF₆) Studied by Polarized Reflection Spectroscopy, J. Ouyang, K. Yakushi, Y. Misaki, and K. Tanaka, *J. Phys. Soc. Jpn.*, **67**, 3191-3198 (1998).
- 133 Metallic properties of 1:1 Charge-Transfer Salt, Dimethyltetraselenoanthracene-tetrafluoroborate (DMTSA-BF₄), J. Dong, K. Yakushi, K. Takimiya, and T. Otsubo, *J. Phys. Soc. Jpn.*, **67**, 971-977 (1998).
- 132 Electrochemical and spectroelectrochemical properties of a new stable composite film electrode. Platinum phthalocyanine-poly-bisphenol-A-carbonate, I. L. Kogan and K. Yakushi, *Electrochimica Acta*, **43**, 2053-2060 (1998).
- 131 Comparison between calculated and measured photoemission spectra of C₆₀ thin films, S. Hasegawa, T. Miyamae, K. Yakushi, H. Inokuchi, K. Seki, and N. Ueno, *J. Electron Spectrosc.*, **88**, 891-895 (1998).
- 130 Charge-Transfer Salts of M(mnt)₂, (M=Ni, Pd, Pt, Au) with BDNT: Ferromagnetic Interaction in Conductive (BDNT)₂-[Ni(mnt)₂], M. Uruichi, K. Yakushi, Y. Yamashita, and J. Qin, *J. Mater. Chem.* **8**, 141-146 (1998).
- 129 High-pressure study of one-dimensional phthalocyanine conductor, NiPc(AsF₆)_{0.5}, Y. Yonehara and K. Yakushi, *Synthetic Metals*, **94**, 149-155 (1998).
- 128 New conducting composite material based on a platinum phthalocyanine (PtPc) charge transfer (CT) salt and poly-bisphenol-A-carbonate (PBC), I. L. Kogan and K. Yakushi, *J. Mater. Chem.* **7**, 2231-2234 (1997).
- 127 Spin-glass behaviour of nanocrystalline diamond intercalated with potassium, M. E. Kozlov, H. Uwe, M. Tokumoto, and K. Yakushi, *J. Phys.: Condens. Matter* **9**, 8325-8332 (1997).
- 126 Electronic Structure and Mott Transition in κ-(BEDT-TTF)₂X Salts, V. A. Ivanov and K. Yakushi, *Physica C* **282-287**, 1907-1908 (1997).

- 125 Flux Trapping on Multi-Superconducting Phase PAT12-C₆₀-Rb Composite: Low-Field Microwave Absorption Study, H. Araki, H. Kajii, K. Tada, A. A. Zakhidov, K. Yakushi, T. Sekino, K. Niihara, and K. Yoshino, *Solid State Commun.*, **103**, 607-614 (1997).
- 124 Microwave heating effect on two Josephson-junction systems in granular PAT12-C₆₀-Rb composites: low-field microwave absorption study, H. Kajii, H. Araki, A. A. Zakhidov, K. Tada, K. Yakushi, K. Yoshino, *Physica C* **227**, 277-284 (1997).
- 123 New Spiro Donor Molecules: Bis(tetrathiafulvalenyldithio)-methane and -germane, K. Ueda, M. Yamanoha, T. Sugimoto, H. Fujita, A. Ugawa, K. Yakushi, and K. Kano, *Chem. Lett.* 461-462, (1997).
- 122 Electronic structure of κ -ET₂X salts, where "ET" is bis(ethylenedithio)tetrathiafulvalene (BEDT-TTF) molecule, V. Ivanov, K. Yakushi, and E. Ugolkova, *Physica C* **275**, 26-36 (1997).
- 121 Spectroscopic characterization of pressure modified C₆₀, M. E. Kozlov, M. Tokumoto, and K. Yakushi, *Appl. Phys. A*, **64** 241-245 (1997).
- 120 Galvanomagnetic, Optical Properties and Ultraviolet Photoelectron Spectra of Potassium-Oxygen-Graphite Intercalation Compounds, Tetsuo Yamashita, Toshiaki Enoki, Mikio Uruichi, Kyuya Yakushi, Takayuki Miyamae, and Takafumi Miyazaki, *J. Phys. Soc. Jpn.*, **66**, 158-168 (1997).
- 119 ESR Study of High-Pressure Phases of C₆₀ Fullerene, M. E. Kozlov, A. A. Zakhidov, and K. Yakushi, *phys. stat. sol. (b)* **197**, 187-194 (1996).
- 118 Synthesis and Properties of a New Ferromagnetic 2,2'-Bipyridine-MnPS₃ Intercalation Compound, J. Qin, C. Yang, K. Yakushi, Y. Nakazawa, and K. Ichimura, *Solid State Commun.*, **100**, 427-431 (1996).
- 117 π -d Interaction in Phthalocyanine Conductors, K. Yakushi, T. Hiejima, and H. Yamakado, "Materials and Measurements in Molecular Electronics" ed. by K. Kajimura and S. Kuroda, Springer Proceedings in Physics 81, p.203-216 (1996).
- 116 Multiphase superconductivity in OO-PPV/C₆₀ composite doped by alkali metals. Low-field microwave absorption and SQUID study, K. Yoshino, A. A. Zakhidov, H. Kajii, H. Araki, K. Tada, T. Noguchi, T. Ohnishi, K. Yakushi,

Physica C, **264** 161-171 (1996).

- 115 Alkali-metal doping of fullerene-conducting polymer composite: evolution of conductivity and ESR, H. Araki, A. A. Zakhidov, K. Tada, K. Yakushi, K. Yoshino, *Synthetic Metals*, **77**, 291-297 (1996).
- 114 A new metastable superconductor $\text{Li}_2\text{Na}_2\text{N}_y\text{C}_{60}$ prepared from azides, N. Yamasaki, H. Araki, A. A. Zakhidov, H. Misobuchi, K. Yakushi, and K. Yoshino, *Physica C*, **259** 265-270 (1996).
- 113 A key to the understanding of electron-molecular vibration coupling in organic charge-transfer salts: application of the two-side Hubbard model, M. E. Kozlov, V. A. Ivanov, and K. Yakushi, *J. Phys.: Condens. Matter* **8**, 1011-1020 (1996).
- 112 Photoconductivity of Poly(2,5-diheptyloxy-p-phenylene vinylene) in the Air Atmosphere. Magnetic Field Effect and mechanism of Generation and Recombination of Charge Carriers, E. Frankevich, A. A. Zakhidov, K. Yoshino, Y. Maruyama, and K. Yakushi, *Phys. Rev B*, **53**, 4498-4508(1996-II).
- 111 Electronic and Vibronic Structure of Organic Charge-Transfer Salt, *m*-BDNT-PF₆, J. Dong, K. Yakushi, Y. Yamashita, K. Imaeda, and H. Inokuchi, *phys. stat. sol. (b)* **195**, 611-625 (1996).
- 110 Resonant Raman Scattering in Single Crystals of BDNT, BDNT⁺, and BDNT²⁺, V. N. Denisov, A. N. Ivlev, B. N. Mavrin, K. Yakushi, J. Dong, and Y. Yamashita, *Chem. Phys. Lett.*, **246**, 176-182 (1995).
- 109 Spectroscopic Study of BDNT and its Monocation and Dication Salts, J. Dong, K. Yakushi, Y. Yamashita, *J. Mater. Chem.*, **5**, 1735-1740 (1995).
- 108 Pressure-induced d- π charge transfer in One-dimensional Phthalocyanine conductors, NiPc(AsF₆)_{0.5} and CoPc(AsF₆)_{0.5}, T. Hiejima and K. Yakushi, *J. Chem. Phys.*, **103**, 3950-3959 (1995).
- 107 Pressure-induced Charge-Transfer in One-dimensional Phthalocyanine conductor, NiPc(AsF₆)_{0.5}, T. Hiejima and K. Yakushi, *Solid State Commun.*, **95**, 661-666 (1995).
- 106 Granular Superconductivity in "Conducting Polymer-Fullerene-Alkali Metal" Composite, A. A. Zakhidov, H. Araki, K. Tada, K. Yakushi, and K. Yoshino, *Physics Lett. A*, **205**, 317-326 (1995).

- 105 Superconductivity in Conducting Polymer-Fullerene Composite doped by Alkali Metal, H. Araki, A. A. Zakhidov, J. Saiki, N. Yamazaki, K. Yakushi, and K. Yoshino, *J. J. Appl. Phys.*, **34**, L1041-L1044 (1995).
- 104 Preparation and Properties of Lithium-Doped C₆₀ by Lithium Azide, K. Imaeda, K. Yakushi, and H. Inokuchi, *Fullerene Science and Technology*, **3**, 545-552 (1995).
- 103 Optical Properties of High-Pressure Phases of C₆₀ Fullerene, M. E. Kozlov and K. Yakushi, *J. Phys.: Condens. Matter*, **7**, L209-L216 (1995).
- 102 Thermoelectric Power Study on High-Tc Bi-2212 and 2223 Oxides Intercalated with Organic Molecules Zincphthalocyanine, Z. J. Huan, J. G. Lin, J. J. Lin, C. Y. Huang, L. Grigoryan, and K. Yakushi, *Physica C*, **244**, 305-310 (1995).
- 101 The 130 K Transition in Bi-Oxides Heavily Doped by Iron Phthalocyanine: Superconductivitiy vs Magnetism. L. Grigoryan, K. Yakushi, and N. Chakravarty, *phys. stat. sol. (b)*, **187**, 205-215 (1995).
- 100 High Pressure Study on High-Tc (ZnPc)Bi-2223 Oxides. J. G. Lin, C. Y. Huang, Y. Y. Xue, C. W. Chu, L. Grigoryan, and K. Yakushi, *Physica C*, **231**, 177- 181 (1994).
- 99 Electronic Structure and Transport Properties of AuCl₃-GIC, T. Ishii, Y. Komatsu, K. Suzuki, T. Enoki, A. Ugawa, K. Yakushi, and S. Bandow, *Mol. Cryst. Liq. Cryst.*, **245**, 1-6 (1994).
- 98 Metal-Semiconductor Transition and Structural Change in (BEDT-TTF)₃(ClO₄)₂. T. Enoki, K. Tsujikawa, K. Suzuki, A. Uchida, Y. Ohashi, H. Yamakado, K. Yakushi, and G. Saito, *Phys. Rev. B* **50**, 16287-16294 (1994-II).
- 97 Superconducting properties of Na-doped C₆₀ prepared from sodium azide. I. I. Khairullin, K. Imaeda, K. Yakushi, and H. Inokuchi, *Physica C*, **231**, 26-36 (1994).
- 96 Hydrogen Uptake Effects on Structures and Solid State Properties in K₃C₆₀, T. Enoki, Y. Ohtsu, K. Suzuki, K. Imaeda, A. A. Zakhidov, K. Yakushi, K. Kikuchi, S. Suzuki, and Y. Achiba, *Synthetic Metals*, **64**, 329-333 (1994).

- 95 X- and Q-band ESR Study of new Poly-CuPc Compounds synthesized under high Pressure: The Possibility of Two-dimensional Sheet Polymers, I. I. Khairullin, I. Shirotani, and K. Yakushi, *Synthetic Metals*, **64**, 217-225 (1994).
- 94 Structure and solid state properties of stable ring-oxidized conductor CoPc(AsF₆)_{0.5}: Interaction between ring π-electrons and cobalt d-electrons. H. Yamakado, T. Ida, A. Ugawa, K. Yakushi, K. Awaga, Y. Maruyama, K. Imaeda, and H. Inokuchi, *Synthetic Metals*, **62**, 169-178 (1994).
- 93 Contribution of Interblock Coupling to *T_c* in High-T_c Bi-Oxides. L. Grigoryan, K. Yakushi, A. V. Narlikar, and S. B. Samanta, *Modern Physcs Letters B*, **8**, 251-259 (1994).
- 92 Role of Double Bi-O Layers in Flux Pinning Properties of Bi-Oxides, L. S. Grigoryan and K. Yakushi, *Physica C*, **219**, 74-80 (1994).
- 91 Evolution of Optical Absorption and Superconductivity in Bi-2212 and 2223 Oxides Intercalated by Metal-Phthalocyanines: A Systematical Study as a Function of Intercalation Level, L. Grigoryan, K. Yakushi, C.-J. Liu, S. Takano, M. Wakata, and H. Yamauchi, *Physica C*, **218**, 153-163 (1993).
- 90 Modification of Normal-State Superconducting Properties of High-T_c Oxides via Treatment by Metal-Phthalocyanines, L. S. Grigoryan, K. Yakushi, A. V. Narlikar, P. K. Dutta, and S. B. Samanta, *Int. J. Modern Phys. B*, **8**, 615-639 (1993).
- 89 New Superconducting Sodium-Nitrogen-C₆₀ Ternary Compound, K. Imaeda, I. I. Khairullin, K. Yakushi, M. Nagata, N. Mizutani, H. Kitagawa, and H. Inokuchi, *Solid State Commun.*, **87**, 375-378 (1993).
- 88 Intercalation of High-T_c Oxides with Organic Molecules, L. S. Grigoryan, Y. Nakazawa, and K. Yakushi, *Advances in Superconductivity* **V**, 287-290 (1993).
- 87 Ultraviolet photoelectron spectra of C₈₂ and K_xC₈₂, S. Hino, K. Matsumoto, S. Hasegawa, K. Iwasaki, K. Yakushi, T. Morikawa, T. Takahashi, K. Seki, K. Kikuchi, S. Suzuki, I. Ikemoto, and Y. Achiba, *Phys. Rev., B*, **48**, 8418-8423 (1993).
- 86 Magnetic Properties of TDAE-C₆₀ and TDAE-C₇₀, K. Tanaka, A. A. Zakhidov, K. Yoshizawa, K. Okahara, and T. Yamabe, K. Yakushi, K. Kikuchi, S. Suzuki,

- I. Ikemoto, and Y. Achiba, *Phys. Rev. B*, **47**, 7554-7559 (1993).
- 85 ESR and Low-Field Microwave Absorption Studies of Potassium Doped C₇₀: Observation of Possible Metallic State in K_xC₇₀., K. Imaeda, K. Yakushi, H. Inokuchi, K. Kikuchi, I. Ikemoto, S. Suzuki, and Y. Achiba, *Solid State Commun.*, **84**, 1019-1024 (1992).
- 84 Crystal Structures of Metallic and Insulating Molecular Complexes between Naphthaceno[5,6-*cd*:11,12-*c'd'*]bis[1,2]diselenole and 4,8-Bis(dicyanomethylene)-4*H*,8*H*-benzo[1,2-*c*:4,5-*c'*]bis[1,2,5]thiadiazole: (TSeN)(BTDA-TCNQ) and (TSeN)(BTDA-TCNQ)(C₆H₅Cl), K. Iwasaki, A. Ugawa, A. Kawamoto, Y. Yamashita, K. Yakushi, T. Suzuki, and T. Miyashi, *Bull. Chem. Soc. Jpn.*, **65**, 3350-3357 (1992).
- 83 Structure of the Charge-Transfer Complex of (DBTTF)(BTDA-TCNQ), K. Iwasaki, T. Ida, A. Kawamoto, A. Ugawa, Y. Yamashita, K. Yakushi, and T. Suzuki, *Acta Cryst. C*, **48**, 1982-1984 (1992).
- 82 Magnetic Properties of TDAE-C₆₀ and TDAE-C₇₀. A Comparative Study, K. Tanaka, A. A. Zakhidov, K. Yoshizawa, K. Okahara, T. Yamabe, K. Yakushi, K. Kikuchi, S. Suzuki, I. Ikemoto, and Y. Achiba, *Phys. Letters A*, **164**, 221-226 (1992).
- 81 Enhanced Isotope Effect in ¹³C-rich Superconducting M_xC₆₀ (M=K, Rb): Support for Vibronic Pairing, A. A. Zakhidov, K. Imaeda, D. M. Petty, K. Yakushi, H. Inokouchi, K. Kikuchi, I. Ikemoto, S. Suzuki, and Y. Achiba, *Phys. Letters A*, **164**, 355-361 (1992).
- 80 Ferromagnetic Interaction in Solid Octabutoxyphthalocyaninato cobalt, H. Yamakado, K. Yakushi, K. Awaga, Y. Maruyama, T. Nakano, and K. Kasuga, *Mol. Cryst. Liq. Cryst.*, **218**, 219-222 (1992).
- 79 Microwave Spectroscopy of Fullerene-based Molecular Superconductors in Low Magnetic Field: M_xC₆₀ (M=K, Rb, I₂, Ga, In), M_xC_n (n = 70, 76, 78, 84, 90) and M_x(C₆₀)_{1-y}(C₇₀)_y (M=K, Rb), A. A. Zakhidov, K. Yakushi, K. Imaeda, H. Inokuchi, K. Kikuchi, S. Suzuki, I. Ikemoto, and Y. Achiba, *Mol. Cryst. Liq. Cryst.*, **218**, 299-306 (1992).

- 78 Low Energy Electronic Excitations and Fano Resonance in K Doped C₆₀ from Raman Scattering Excited at 1.16 eV, R. Danieli, V. Denisov, G. Ruani, R. Zamboni, C. Taliani, A. A. Zakhidov, A. Ugawa, K. Imaeda, K. Yakushi, H. Inokuchi, K. Kikuchi, I. Ikemoto, S. Suzuki, and Y. Achiba, *Solid State Commun.* **81**, 257-260 (1992).
- 77 Design of an Instrument for Far-Infrared Microspectroscopy using a SR Source, A. Ugawa, H. Ishii, K. Yakushi, H. Okamoto, T. Mitani, M. Watanabe, K. Sakai, K. Suzuki, and S. Kato, *Rev. Sci. Instr.*, **63**, 1551-1554 (1992).
- 76 Structure and Property of C₆₀ Single Crystal, I. Ikemoto, K. Kikuchi, K. Saito, S. Suzuki, Y. Achiba, A. Ugawa, and K. Yakushi, *Jpn. J. Appl. Phys., Series 7, Mechanism of Superconductivity*, 367-369 (1992).
- 75 Reflectance spectra of κ-(BEDT-TTF)₂I₃: Electronic Structure of Dimeric BEDT-TTF Salt. M. Tamura, H. Tajima, K. Yakushi, H. Kuroda, A. Kobayashi, R. Kato and H. Kobayashi, *J. Phys. Soc. Jpn.*, **60**, 3861-3873 (1991).
- 74 High pressure study on the polarized reflectance spectra of the solid Perylene-HCBD charge-transfer complex. T. Ida, K. Yakushi, H. Kuroda, H. Yamochi, and G. Saito, *Chem. Phys.*, **156**, 113-123 (1991).
- 73 Polarized Reflectance Spectra of the Single Crystals of Phthalocyanine Radical, NiPc(AsF₆)_{0.5}, H₂Pc(AsF₆)_{0.67}, and LiPc. K. Yakushi, T. Ida, A. Ugawa, H. Yamakado, H. Ishii, and H. Kuroda, *J. Phys. Chem.*, **95**, 7636-7641 (1991).
- 72 Evolution of Superconductivity of K_xC₆₀ upon K-doping: Microwave Low-Filed Signal and ESR Study, A. A. Zakhidov, A. Ugawa, K. Imaeda, K. Yakushi, H. Inokuchi, K. Kikuchi, I. Ikemoto, S. Suzuki, and Y. Achiba, *Solid State Commun.*, **79**, 939-946 (1991).
- 71 Metallic Behavior Stable against Peierls Instability on a One-Dimensional Organic Conductor, Tetraselenatetracene-Bis(1,2,5-thiadiazoro)tetracyanoquinodimethane, (TSeT)(BTDA-TCNQ), A. Ugawa, K. Iwasaki, A. Kawamoto, K. Yakushi, Y. Yamashita, and T. Suzuki, *Phys. Rev. B* **43**, 14718-14721 (1991).
- 70 d-π Interaction in Conducting Phthalocyaninatcobalt Hexafluoroarsenate, CoPc(AsF₆)_{0.5}. K. Yakushi, H. Yamakado, T. Ida, and A. Ugawa, *Solid State Commun.*, **78**, 919-923 (1991).

- 69 Transport and Magnetization Studies of β "(BEDT-TTF)₂AuBr₂, A. G. Swanson, J. S. Brooks, M. Tokumoto, A. Ugawa, and K. Yakushi, in "Organic Superconductivity", ed. by V. Z. Kresin and W. A. Little, Prenum pp. 191-200 (1990).
- 68 Photoelectron spectra of metallic conductive Pt-phthalocyanine radical salts. S. Hino, K. Matsumoto, H. Yamakado, K. Yakushi, and H. Kuroda, *Synthetic Metals*, **32**, 301-308 (1989).
- 67 Pressure dependence of the polarized reflectance spectrum on the solid charge-transfer complex, perylene-TCNQ: Estimation of the microscopic parameters. T. Ida, K. Yakushi, and H. Kuroda, *J. Chem. Phys.*, **91**, 3450-3455 (1989).
- 66 Preparation, crystal structure, and solid state properties of highly conductive (phthalocyaninato)platinum radical salts: PtPc(ClO₄)_{0.5} and PtPc(AsF₆)_x. H. Yamakado, K. Yakushi, N. Kosugi, H. Kuroda, A. Kawamoto, J. Tanaka, T. Sugano, M. Kinoshita, S. Hino, *Bull. Chem. Soc. Jpn.* **62**, 2267-2272 (1989).
- 65 Electrochemical prepartion and characterization of the radical salts of (phthalocyaninato)-nickel, NiPc(SbF₆)_{0.5} and NiPc(AsF₆)_{0.5}. K. Yakushi, H. Yamakado, M. Yoshitake, N. Kosugi, H. Kuroda, T. Sugano, M. Kinoshita, A. Kawamoto, and J. Tanaka, *Bull. Chem. Soc. Jpn.* **62**, 687-696 (1989).
- 64 Low-Temperature Polarized Reflectance Spectrum of θ -Bis(ethylenedithio)-tetrathiafulvalenium Iodide, θ -(BEDT-TTF)₂I₃. Estimation of the Band Parameters. M. Tamura, K. Yakushi, H. Kuroda, A. Kobayashi, R. Kato, and H. Kobayashi, *J. Phys. Soc. Jpn.* **57**, 3229-3247 (1988).
- 63 Optical and Electrical Properties of di[bis(ethylenedithio)tetrathiafulvalenium] dithiocyanato cuprate (I), Organic Superconductor, (BEDT-TTF)₂[Cu(SCN)₂]. A. Ugawa, G. Ojima, K. Yakushi, and H. Kuroda, *Phys. Rev., B* **38**, 5122-5125 (1988).
- 62 Synthesis of Optically Active 2,2'-Diselenocyanato-1,1'-binaphthyl and its molecular structure. Hypervalent Nature of Divalent Selenium Atom in Crystal State. S. Tomoda, M. Iwaoka, K. Yakushi, A. Kawamoto, and J. Tanaka, *J. Phys. Org. Chem.*, **1**, 179-184 (1988).

- 61 Temperature Dependence of the Reflectance Spectrum of Bis(ethylenedithio)-tetrathiafulvalenium Perchlorate, (BEDT-TTF)₃(ClO₄)₂, H. Tajima, K. Yakushi, H. Kuroda, G. Saito, and T. Mori, *Synthetic Metals*, **25**, 323-331 (1988).
- 60 Preparation and Characterization of (Tetrabenzoporphyrinato)nickel Hexafluoroarsenate, (NiTBP)₃(AsF₆)₂(C₁₀H₇Cl). A New Type of Metallomacrocyclic Radical Salts, K. Yakushi, M. Yoshitake, H. Kuroda, A. Kawamoto, J. Tanaka, T. Sugano, and M. Kinoshita, *Bull. Chem. Soc. Jpn.*, **61**, 1571-1576 (1988).
- 59 Optical Study on Bis(propylenedithio)tetrathiafulvalenium (BPDT-TTF) Salts, K. Yakushi, T. Ida, H. Tajima, M. Tamura, H. Hayashi, H. Kuroda, A. Kobayashi, H. Kobayashi, and R. Kato, *Synthetic Metals*, **24**, 301-309 (1988).
- 58 Reflectance Spectra of the 1:1 Salts of Bis(methylenedithio)tetrathiafulvalene (BMDT-TTF): The estimation of the on-site Coulomb Energy, M. Yoshitake, K. Yakushi, H. Kuroda, H. Kobayashi, R. Kato, and A. Kobayashi, *Bull. Chem. Soc. Jpn.*, **61**, 1115-1119 (1988).
- 57 Spectroscopic Evidence for the Inter-Chain Charge-Transfer Interaction in Copper-Bis(2,5-Dimethyl-N,N'-Dicyanoquinonediiimine), Cu(2,5-DM-DCNQI)₂, K. Yakushi, G. Ojima, A. Ugawa, and H. Kuroda, *Chem. Lett.*, **1988**, 95-98.
- 56 Crystal Structure and Polarized Reflectance Spectra of α' -(Bis(ethylenedithio)-tetrathiafulvalenium)₂ bromoiodoaurate, α' -(BEDT-TTF)₂IAuBr, A. Ugawa, K. Yakushi, H. Kuroda, A. Kawamoto, and J. Tanaka, *Synthetic Metals*, **22**, 305-315 (1988).
- 55 Temperature Dependence of the Reflectance Spectra of the Single Crystals of Bis(ethylenedithio)tetrathiafulvalenium Salts, α -(BEDT-TTF)₃(ReO₄)₂ and α -(BEDT-TTF)₂I₃, K. Yakushi, H. Kanbara, H. Tajima, H. Kuroda, G. Saito, and T. Mori, , **60**, 4251-4257 (1987).
- 54 Electrococrystallization of Phenothiazine, K. Yakushi, M. Yoshitake, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **60**, 1519-1520 (1987).
- 53 EXAFS Study on One-Dimensional Halogen-Bridged Mixed-Metal (Pd,Pt) Mixed-Valence Complexes, I. Ikemoto, K. Kikuchi, K. Iwai, M. Yamashita, M. Nomura, K. Asakura, N. Kosugi, K. Yakushi, and H. Kuroda, *Bull. Chem. Soc.*

Jpn., **59**, 3271-3272 (1986).

- 52 Crystal Structure and Reflectance Spectrum of α'' -(BEDT-TTF)₂IAuBr, A. Ugawa, K. Yakushi, H. Kuroda, A. Kawamoto, and J. Tanaka, *Chem. Lett.*, **1986**, 1875-1878.
- 51 Temperature Dependence of the Reflectance Spectra of BEDT-TTF Polyhalides, K. Yakushi, H. Tajima, H. Kanbara, M. Tamura, H. Kuroda, G. Saito, H. Kobayashi, R. Kato, and A. Kobayashi, *Physica* **143B**, 463-467 (1986).
- 50 Synthesis and Crystal Structure of a highly conducting (Phthalocyanato)nickel Hexafluoroantimonate, (NiPc)₂SbF₆, K. Yakushi, M. Sakuda, H. Kuroda, A. Kawamoto, and J. Tanaka, *Chem. Lett.*, **1986**, 1161-1164.
- 49 Crystal Structure of α -(BEDT-TTF)₃(ReO₄)₂, H. Kanbara, H. Tajima, S. Aratani, K. Yakushi, H. Kuroda, G. Saito, A. Kawamoto, and J. Tanaka, *Chem. Lett.*, **1986**, 437-440.
- 48 Temperature Dependence of the Reflectance Spectrum of β -(BEDT-TTF)₂I₃, H. Tajima, H. Kanbara, K. Yakushi, H. Kuroda, and G. Saito, *Solid State Commun.*, **57**, 911-914 (1986).
- 47 Structure and Optical Spectrum of (TMTTF)₂IO₄: The role of Coulomb Interaction, K. Yakushi, S. Aratani, K. Kikuchi, H. Tajima, and H. Kuroda, *Bull. Chem. Soc. Jpn.* **59**, 363-366 (1986).
- 46 Polarized Reflectance Spectrum of β -(BEDT-TTF)₂I₃ Single Crystal, H. Tajima, K. Yakushi, H. Kuroda, and G. Saito, *Solid State Commun.*, **56**, 159-163 (1985).
- 45 Polarized Reflectance Spectra of β -(BEDT-TTF)₂PF₆, H. Tajima, K. Yakushi, H. Kuroda, and G. Saito, *Solid State Commun.*, **56**, 251-254 (1985).
- 44 Low-Temperature and High-Pressure Reflectance Spectra of Benzidine-TCNQ Charge-Transfer Complex, K. Yakushi, T. Uesaka, and H. Kuroda, *Mol. Cryst. Liq. Cryst.*, **125**, 355-363 (1985).
- 43 Synthesis, Structure, and Physical Properties of the Charge-Transfer Salts of Diethyltrimethylene-tetraselenafulvalene, K. Kikuchi, K. Yakushi, H. Kuroda, I. Ikemoto, K. Kobayashi, *Mol. Cryst. Liq. Cryst.*, **125**, 345-353 (1985).
- 42 Reflectance Spectra of BEDT-TTF Salts, H. Kuroda, K. Yakushi, H. Tajima, and

- G. Saito, *Mol. Cryst. Liq. Cryst.*, **125**, 135-144 (1985).
- 41 The Crystal Structure of a New Charge-Transfer Salt of Hexamethylenetetra-tellurafulvalene, (HMTTeF)₄(PF₆)₂, K. Kikuchi, K. Yakushi, H. Kuroda, I. Ikemoto, K. Kobayashi, M. Honda, C. Katayama, and J. Tanaka, *Chem. Lett.*, **1985**, 419-422.
- 40 Low-Temperature Reflectance Spectra of Rb-TCNQ Single Crystals, K. Yakushi, S. Miyajima, T. Kusaka, and H. Kuroda, *Chem. Phys. Lett.*, **114**, 168-171 (1985).
- 39 Evidence for Bipolarons in Pyrrole Polymers, J. C. Scott, J. L. Bredas, J. H. Kaufman, P. Pfluger, G. B. Street, and K. Yakushi, *Mol. Cryst. Liq. Cryst.*, **118**, 163-170 (1985).
- 38 Reflection and Photoconduction Spectra of the Single Crystals of Perylene-TCNQ 1:1 and 3:1 Molecular Complexes, K. Ishii, K. Yakushi, H. Kuroda, and H. Inokuchi, *Bull. Chem. Soc. Jpn.*, **57**, 3043-3047 (1984).
- 37 Low-Temperature Reflectance Spectrum of Benzidine-TCNQ Charge-Transfer Complex, K. Yakushi and H. Kuroda, *Chem. Phys. Lett.*, **111**, 165-170 (1984).
- 36 The Crystal Structure of Bis(dimethyltrimethylene-tetraselenafulvalenium) Perrhenate, (DMtTSF)₂ReO₄, K. Kikuchi, K. Yakushi, H. Kuroda, K. Kobayashi, M. Honda, C. Katayama, and J. Tanaka, *Chem. Lett.*, **1984**, 1885-1888.
- 35 Temperature Dependence of the Visible Absorption Band of Cu-Phthalocyanine Single Crystal, Y. Iyechika, K. Yakushi, and H. Kuroda, *Chem. Phys.*, **87**, 101-107 (1984).
- 34 Optical Study of Poly- β,β' -dimethylpyrrole Perchlorate: Evidence for Bipolarons, K. Yakushi, L. J. Lauchlan, G. B. Street, and J. L. Bredas, *J. Chem. Phys.*, **81**, 4133-4137 (1984).
- 33 The Polarized Reflectance Spectrum of a Novel Organic Conductor, (BEDT-TTF)₂ClO₄(C₂H₃Cl₃)_{0.5}, H. Tajima, K. Yakushi, H. Kuroda, G. Saito, and H. Inokuchi, *Solid State Commun.*, **49**, 769-770 (1984).
- 32 The Evidence for Bipolaron in Pyrrole Polymer, J. C. Scott, J. L. Bredas, K. Yakushi, P. Pfluger, G. B. Street, *Synthetic Metals*, **9**, 165-172 (1984).

- 31 Polaron and Bipolaron in a Polypyrrole: Evolution of the Band Structure and Optical Spectrum upon Doping, J. L. Bredas, J. C. Scott, K. Yakushi, and G. B. Street, *Phys. Rev. B* **30**, 1023-1025 (1984).
- 30 Optical Study of Polypyrrole Perchlorate, K. Yakushi, L. J. Lauchlan, T. C. Clarke, and G. B. Street, *J. Chem. Phys.*, **79**, 4774-4778 (1983).
- 29 Temperature Dependence of the Reflectance Spectra of Highly-Conductive TTF Salts, H. Kuroda, K. Yakushi, and Y. Cao, *Mol. Cryst. Liq. Cryst.*, **85**, 325-336 (1982).
- 28 X-Ray Photoelectron Spectroscopy of TMTSF Complexes, I. Ikemoto, K. Kikuchi, K. Yakushi, H. Kuroda, and K. Kobayashi, *Solid State Commun.*, **42**, 257-259 (1982).
- 27 The Structure of 7,7a,8,8a-,9,10,16c-hexahydrophenanthro-[3,4-c]-phenanthrene, I. Ikemoto, Y. Iyechika, K. Yakushi, H. Kuroda, and K. Palewska, *Acta Crystallogr., B* **38**, 988- (1982).
- 26 Structure of Lead Phthalocyanine (triclinic form), Y. Iyechika, K. Yakushi, I. Ikemoto, and H. Kuroda, *Acta Crystallogr., B* **38**, 766-769 (1982).
- 25 Delayed Fluorescence of TMPD (Tetramethyl-p-phenylenediamine) Crystal, G. Katagiri, K. Yakushi, H. Kuroda, K. Suga, N. Iwasaki, and M. Kinoshita, *Chem. Phys. Lett.*, **86**, 81-84 (1982).
- 24 Temperature Dependence of the Reflectance Spectrum of the Single Crystal of Tetrathiafulvalene-Chloranil, K. Kikuchi, K. Yakushi, and H. Kuroda, *Solid State Commun.*, **44**, 151-154 (1982).
- 23 Temperature Dependence of the Reflectance Spectrum of (TMTSF)₂ClO₄, K. Kikuchi, I. Ikemoto, K. Yakushi, H. Kuroda, and K. Kobayashi, *Solid State Commun.*, **42**, 433-435 (1982).
- 22 Cryostat for Microspectroreflectometry by use of a Microminiature Refrigerator, K. Yakushi, H. Kuroda, R. Hollman, and W. A. Little, *Rev. Sci. Instrum.*, **53**, 1292-1293 (1982).
- 21 Polarized Absorption and Reflection Spectra of the Single Crystals of 11,11,12,12-Tetracyano-2,6-naphthoquinodimethane (TNAP) Complexes, K. Yakushi, Y. Sato, I. Ikemoto, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **54**,

- 1946-1949 (1981).
- 20 Low-Temperature Reflection Spectra of the Single Crystals of TCNQ Complex Salts, K. Yakushi, M. Iguchi, G. Katagiri, T. Kusaka, T. Ohta, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **54**, 348-357 (1981).
- 19 Temperature Dependence of the Near-Infrared and Visible Reflectance Spectrum of TTF-TCNQ, Y. Cao, K. Yakushi, and H. Kuroda, *Solid State Commun.*, **35**, 739-743 (1980).
- 18 Temperature Dependence of the Reflectance Spectrum of Tetrathiafulvalene Iodide, (TTF)I_{0.71}, Y. Cao, K. Yakushi, H. Kuroda, *Solid State Commun.*, **35**, 601-605 (1980).
- 17 Reflection Spectrum of the Single Crystal of Wurster's Blue Perchlorate, Y. Iyechika, K. Yakushi, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **53**, 603-610 (1980).
- 16 The Structure of Tetrathiafulvalenium Perchlorate, TTF⁺ClO₄⁻, K. Yakushi, S. Nishimura, T. Sugano, H. Kuroda, and I. Ikemoto, *Acta Crystallogr., B* **36**, 358-363 (1980).
- 15 Low-Temperature Reflection Spectrum of K-TCNQ Single Crystal, K. Yakushi, T. Kusaka, and H. Kuroda, *Chem. Phys. Lett.*, **68**, 139-142 (1979).
- 14 Polarized Absorption and Reflection Spectra of the Single Crystals of Benzidine-7,7,8,8-tetracyano-p-quinodimethane Molecular Complexes, K. Yakushi, M. Iguchi, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **52**, 3180-3191 (1979).
- 13 Structure of N,N,N',N'-Tetramethyl-p-phenylenediamine, I. Ikemoto, G. Katagiri, S. Nishimura, K. Yakushi, and H. Kuroda, *Acta Crystallogr., B* **35**, 2264-2265 (1979).
- 12 Polarized Absorption spectra of Single Crystals of Tetrathiafulvalenium Salts, T. Sugano, K. Yakushi, and H. Kuroda, *Bull. Chem. Soc. Jpn.*, **51**, 1041-1046 (1978).
- 11 The Crystal Structure of the 1:1 Molecular Complex of Phenanthrene and 1,2,4,5-Tetracyanobenzene, J. D. Wright, K. Yakushi, and H. Kuroda, *Acta Crystallogr. B* **34**, 1934-1938 (1978).

- 10 The Crystal and Molecular Structure of an Orthorhombic Modification of 2,3-Dichloro-1,4-naphthoquinone, I. Ikemoto, K. Yakushi, Y. Naito, and H. Kuroda, *Acta Crystallogr. B* **33**, 2076-2079 (1977).
- 9 Solvent Inclusion Effects on the Structure and Electrical Conductivity of Benzidine-TCNQ Complex, N. Takahashi, K. Yakushi, K. Ishii, and H. Kuroda, *Bull. Chem. Soc. Jpn.* **49**, 182-187 (1976).
- 8 The Crystal Structure of Benzidine-s-Trinitrobenzene 1:1 Molecular Complex Benzene Solvate, K. Yakushi, N. Tachikawa, I. Ikemoto, and H. Kuroda, *Acta Crystallogr. B* **31**, 738-742 (1975).
- 7 Benzidine-s-Trinitrobenzene Solvent-Free Molecular Complex, N. Tachikawa, K. Yakushi, and H. Kuroda, *Acta Crystallogr. B* **30**, 2770-2772 (1974).
- 6 The Crystal Structures of the Molecular Complexes between Benzidine and 7,7,8,8-Tetracyano-p-quinodimethane. III. Benzidine-TCNQ Complex containing Benzene, K. Yakushi, I. Ikemoto, and H. Kuroda, *Acta Crystallogr. B* **30**, 1738-1742 (1974).
- 5 The Crystal structures of the Moleculear Complexes between Benzidine and 7,7,8,8-Tetracyano-p-quinodimethane. II. The Benzidine-TCNQ Solvent-Free Complex, K. Yakushi, I. Ikemoto, and H. Kuroda, *Acta Crystallogr. B* **30**, 835-837 (1974).
- 4 N,N,N',N'-Tetramethylbenzidine-Chloranil (1:1) Complex, K. Yakushi, I. Ikemoto, and H. Kuroda, *Acta Crystallogr. B* **29**, 2640-2641 (1973).
- 3 The Crystal Structure of the Molecular Complexes between Benzidine and 7,7,8,8-Tetracyano-p-quinodimethane. I. Benzidine-TCNQ Complex containing Dichloromethane, I. Ikemoto, K. Chikaishi, K. Yakushi, and H. Kuroda, *Acta Crystallogr. B* **28**, 3502-3506 (1971).
- 2 The Crystal and Molecular Structure of the N,N,N',N'-Tetramethylbenzidine Chloranil (2:1) Molecular Complex, K. Yakushi, I. Ikemoto, and H. Kuroda, *Acta Crystallogr. B* **27**, 1710-1718 (1971).
- 1 The Refinement of the Crystal Structure of the Perylene-Tetracyanoethylene Complex, I. Ikemoto, K. Yakushi, and H. Kuroda, *Acta Crystallogr. B* **26**, 800-806 (1970).

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- 128 Rich variety in the ground states of $[Pd(dmit)_2]_2$ salts, and the methodology for analyzing intra-dimer interactions, inter-dimer interactions and MO levels, T. Yamamoto, Y. Nakazawa, M. Tamura, K. Yakushi, and R. Kato, *Phys. Status Solidi B* **249**, 971-974 (2012). DOI 10.1002/pssb.201100685
- 127 E-mv coupling of vibrational overtone in organic conductors: Relationship to optical nonlinearities and ferroelectricity, K. Yamamoto, A. A. Kowalska, Y. Yue, and K. Yakushi, *Physica B* **407**, 1775-1778 (2012). DOI:10.1016/j.physb.2012.01.027
- 126 Inhomogeneous ferroelectric polarization in α' -(BEDT-TTF)₂IBr₂ revealed by second-harmonic generation microscopy, K. Yamamoto, A. Kowalska, C. Nakano, and K. Yakushi, *Physica B*, **405**, S363-364 (2010).
- 125 Charge fluctuation of the superconducting molecular crystals, T. Yamamoto, Y. Nakazawa, R. Kato, K. Yakushi, H. Akutsu, A. S. Akutsu, H. Yamamoto, A. Kawamoto, S. S. Turner, P. Day, *Physica B*, **405**, S237-239 (2010).
- 124 Order-disorder type of charge-ordering phase transition in narrow-bandwidth compound, α' -(BEDT-TTF)₂IBr₂, Y. Yue, K. Yamamoto, C. Nakano, M. Uruichi, K. Yakushi, M. Inokuchi, T. Hiejima, and A. Kawamoto, *Physica B*, **405**, S232-S236 (2010).
- 123 Charge disproportionation in semiconducting θ -type salt of BTM-TTP, Yoshiaki Nakano, Y. Misaki, M. Uruichi, K. Yakushi, H. Yamochi, *Physica B*, **405**, S198-S201 (2010).
- 122 Non-linear current-voltage characteristics in a-(BEDT-TTF)2I₃, K. Kodama, M. Kimata, Y. Takahide, T. Terashima, H. Satsukawa, A. Harada, K. Hazama, S. Uji, K. Yamamoto, K. Yakushi, *Physica B*, **405**, S176-S178 (2010).
- 121 Electronic States of Organic Quasi-Two Dimensional Conductor β'' -(DODHT)₂PF₆: Charge Ordering and Superconductivity, M. Higa, R. Kondo, A. Murata, S. Kagoshima, H. Nishikawa, and K. Yakushi, *Physica B*, **405**, S172-S175 (2010).

- 120 Infrared and Raman studies of α -(BEDT-TTF)₂MHg(SCN)₄ with M=K and NH₄ at low temperature — the charge ordering fluctuation with breaking of the inversion symmetry, T. Hiejima, S. Yamada, M. Uruichi, and K. Yakushi, *Physica B*, **405**, S153-S156 (2010).
- 119 Charge order-disorder phase transition detected by EPR in α' -(BEDT-TTF)₂IBr₂, R. Morganov, A. Dmitriev, A. Chernenkaya, K. Yamamoto, K. Yakushi, and Y. Tanimoto, *Physica B*, **405**, S138-S140 (2010).
- 118 Successive bi-stable quantum phases in HMTSF-TCNQ induced by field-sweep, K. Murata, K. Yokogawa, J. S. Brooks, A. Kismarahardja, E. Steven, M. Kano, Y. Seno, N. R. Tamilselvan, H. Yoshino, T. Sasaki, D. Jerome, P. Senzier, K. Bechgaard, M. Muruichi, K. Yakushi, *Physica B*, **405**, S111-S112 (2010).
- 117 The effect of a methyl group incorporated in EDO-TTF, X. F. Shao, Y. Nakano, G. Saito, K. Yakushi, S. Koshihara, K. Tanaka, H. Yamochi, *Physica B*, **405**, S75-78 (2010).
- 116 Synthesis, crystal structure, and physical property of radical cation salt of 2-(thiopyrana-4-ylidene)-4,5-ethylenedithio-1,3-dithiole (TP-EDTT): (TP-EDTT)₂SbF₆, Yoshiaki Nakano, Toshiaki Nishi, Mikio Uruichi, Kyuya Yakushi, Hideki Yamochi, *Physica B*, **405**, S49-S54 (2010).
- 115 Metal-insulator transition of alloyed radical cation salts, (Me_xEDO-TTF)₂PF₆, T. Murata, X. Shao, Y. Nakano, H. Yamochi, G. Saito, M. Uruichi, K. Yakushi, K. Tanaka, *Physica B*, **405**, S45-S48 (2010).
- 114 X-ray and optical studies of one-dimensional bis(dimethylglyoximato)Pd(II), Pd(dmg)₂ at high pressures, K. Takeda, S. Sasaki, J. Hayashi, S. Kagami, I. Shirotani, and K. Yakushi, *J. Phys. Conf. Ser.* **215**, 012065 (5) (2010).
- 113 Transport properties of HMTSF-TCNQ up to 8 GPa and a novel hysteresis and quantum oscillatory behavior in magnetoresistance in magnetic field up to 31 Tesla, K. Murata, K. yokogawa, J. S. Brooks, a. Kismarahardja, E. Steven, M. Kano, Y. Seno, N. R. Tamilselvan, H. Yoshino, T. Sasaki, D. Jerome, P. senzier, K. Bechgaard, M. Uruichi, and K. Yakushi, *J. Phys. Conf. Ser.* **215**, 012064 (5) (2010).

- 112 Ultrafast THz response of photo-induced insulator to metal transition in charge ordered organic conductor α -(BEDT-TTF)₂I₃, H. Nakaya, Y. Takahashi, S. Iwai, K. Yamamoto, K. Yakushi, S. Saito, *J. Phys. Conf. Ser.* **148**, 012039 (4) (2009).
- 111 Control of metal-insulator transition in (EDO-TTF)₂SbF₆, M. Maesato, Y. Nakano, X. Shao, Y. Yoshida, H. Yamochi, G. Saito, A. Moreac, J.-C. Ameline, E. Collet, M. Uruichi, K. Yakushi, *J. Phys. Conf. Ser.* **148**, 012004 (4) (2009).
- 110 Anion size and isotope effects in (EDO-TTF)₂XF₆, Y. Nakano, H. Yamochi, G. Saito, M. Uruichi, and K. Yakushi, *J. Phys. Conf. Ser.* **148**, 012007 (4) (2009).
- 109 Ferroelectric polarization in α -(ET)₂I₂Br studied by second-harmonic generation microscopy, A. A. Kowalska, K. Yamamoto and K. Yakushi, *J. Phys.: Conf. Ser.* **132**, 012006 (5) (2008).
- 108 Charge-ordering phase transition in α' -(BEDT-TTF)₂IBr₂, Y. Yue, C. Nakano, K. Yamamoto, M. Uruichi, K. Yakushi, and A. Kawamoto, *J. Phys.: Conf. Ser.* **132**, 012007 (7) (2008).
- 107 Isotope Effect on Metal-Insulator Transition of (EDO-TTF)₂XF₆ (X=P, As) with Multi-instability of Metallic State, Y. Nakano, H. Yamochi, G. Saito, M. Uruichi, and K. Yakushi, *Solid State Sciences*, **10**, 1780-1785 (2008).
- 106 Effects of pressure and shear stress on the absorption spectra of thin films of pentacene, I. Shirotani, J. Hayashi, K. Takeda, H. Kawamura, M. Inokuchi, K. Yakushi, H. Inokuchi, *Mol. Cryst. Liq. Cryst.* **461**, 111-122 (2007).
- 105 Shear stress effect on the absorption spectra of organic thin films under high pressure, I. Shirotani, J. Hayashi, K. Takeda, H. Kawamura, M. Inokuchi, K. Yakushi, H. Inokuchi, *Mol. Cryst. Liq. Cryst.* **455**, 75-79 (2006).
- 104 Structural, optical, and electrical properties of one-dimensional bis(dimethylgyoximato) nickel(II), Ni(dmg)₂ at high pressure, K. Takeda, J. Hayashi, I. Shirotani, H. Fukuda, and K. Yakushi, *Mol. Cryst. Liq. Cryst.* **460**, 131-144 (2006).

- 103 Unusual electronic state of layered θ -(ET)₂X studied by Raman spectroscopy, K. Yakushi, K. Suzuki, K. Yamamoto, T. Yamamoto, and A. Kawamoto, *J. Low Temp. Phys.*, **143**, 659-662 (2006).
- 102 Phase separation in the monovalent-to-divalent phase transition of biferrocenium-(F₁TCNQ)₃, M. Uruichi, K. Yakushi, and T. Mochida, *J. Low Temp. Phys.*, **143**, 655-658 (2006).
- 101 Incoherent-coherent crossover behavior of electron on κ -(BEDT-TTF)₂X system, probed by ¹³C-NMR and optical studies, A. Kawamoto, Y. Honma, K. Kumagai, K. Yamamoto, and K. Yakushi, *J. Low Temp. Phys.*, **143**, 519-522 (2006).
- 100 Shear stress effect on thin films of molecular crystals, M. Inokuchi , Y. Sakka, K. Yabuuchi, I. Shirotani, J. Hayashi, K. Yakushi, H. Kawamura, H. Inokuchi, *J. Low Temp. Phys.*, **143**, 213-217 (2006).
- 99 Raman spectroscopic study of Bis(diphenylglyoximato)metal Complexes under high pressure, K. Yabuuchi, D. Kawamura, M. Inokuchi, I. Shirotani, J. Hayashi, K. Yakushi, H. Kawamura, H. Inokuchi, *Mol. Cryst. Liq. Cryst.* **455**, 81-85 (2006).
- 98 Shear stress effect on the absorption spectra of organic thin films under high pressure, I. Shirotani, J. Hayashi, K. Takeda, H. Kawamura, M. Inokuchi, and K. Yakushi, *Mol. Cryst. Liq. Cryst.* **455**, 75-79 (2006).
- 97 Vibrational spectra of β'' -(ET)₃X₂ (X=HSO₄, ClO₄) salts, T. Yamamoto, M. Uruichi, K. Yamamoto, K. Yakushi, and A. Kawamoto, *Synthetic Metals* **155**, 628-630 (2005).
- 96 Optical studies of shear stress on thin films, M. Inokuchi, A. Nagaoka, I. Shirotani, H. Kawamura, K. Yakushi, and H. Inokuchi, *Synthetic Metals* **152**, 421-424 (2005).
- 95 Humidity sensitive conductivity of (BEDO-TTF)₂Br(H₂O)₃ as a bulk property, H. Yamochi, T. Haneda, A. Tracz, J. Ulanski, O. Drozdova, K. Yakushi, and G. Saito, *J. Phys. IV France* **114**, 591-593 (2004).
- 94 Charge disproportionate state of BEDT-TTF β'' -salts, T. Yamamoto, M. Uruichi, K. Yakushi, J. Yamaura, H. Tajima, and A. Kawamoto, *J. Phys.*

- (France), **114**, 397-399 (2004).
- 93 Raman studies of the charge ordering and semiconductor-metal phase transition in polymorphic forms of (BEDT-TTF)₂Br_{1.3}I_{1.1}Cl_{0.6}, R. Wojciechowski, A. Kowalska, J. Ulanski, M. Mas-Torrent, E. Laukhina, C. Rovira, V. Tkacheva, K. Yamamoto, K. Yakushi, *J. Phys. (France)*, **114**, 393-395 (2004).
- 92 Charge-ordering in θ -(BEDT-TTF)₂MM'(SCN)₄ [M=Cs, Rb, Tl, M'=Zn, Co], K. Suzuki, K. Yamamoto, and K. Yakushi, *J. Phys. (France)*, **114**, 379-381 (2004)..
- 91 Electron-molecular vibration coupling effect on the Raman spectrum of organic charge-transfer salts, K. Yamamoto and K. Yakushi, *J. Phys. (France)*, **114**, 153-155 (2004).
- 90 Dynamical Fluctuation of the site-charge density in metallic β''-(BEDT-TTF)(TCNQ), K. Yakushi, M. Uruichi, H. M. Yamamoto, and R. Kato, *J. Phys. (France)*, **114**, 149-151 (2004).
- 89 Phase transition in the organic conductor (TTM-TTP)I₃ studied by infrared and Raman spectroscopies, R. Swietlik, K. Yakushi, K. Yamamoto, T. Kawamoto, and T. Mori, *J. Phys. (France)*, **114**, 87-90 (2004).
- 88 Quantum chemical study of oxidation processes in metal-phthalocyanines, P. Toman, S. Nespurek, and K. Yakushi, *Macromolecular Symposia*, **212**, 327-334 (2004).
- 87 Infrared and Raman studies of the charge ordering in the organic semiconductor κ-[(Et)₄N](ET)₄Co(CN)₆.3H₂O, R. Swietlik, L Ouahab, J. Guillevic, and K. Yakushi, *Macromolecular Symposia*, **212**, 219-224 (2004).
- 86 Spectroscopic studies of charge-ordering system in organic conductors, K. Yakushi, K. Yamamoto, R. Swietlik, R. Wojciechowski, K. Suzuki, T. Kawamoto, T. Mori, Y. Misaki, and K. Tanaka, *Macromolecular Symposia*, **212**, 159-168 (2004).
- 85 Raman study of charge disproportionation in α-(BEDT-TTF)₂I₃, R. Wojciechowski, K. Yamamoto, K. Yakushi, A. Kawamoto, *Synthetic Metals* **135-136**, 587-588 (2003).

- 84 Charge disproportionation in the charge-transfer salts of TTP, K. Yakushi, R. Swietlik, K. Yamamoto, T. Kawamoto, T. Mori, Y. Misaki, and K. Tanaka, *Synthetic Metals* **135-136**, 583-585 (2003).
- 83 Charge distribution and molecular arrangement in (DI-DCNQI)₂Ag studied by high-pressure vibrational spectroscopy, K. Yamamoto, K. Yakushi, K. Hiraki, T. Takahashi, K. Kanoda, M. Meneghetti, and C. Pecile, *Synthetic Metals* **135-136**, 563-564 (2003).
- 82 Charge ordering in θ -(BEDT-TTF)₂TlM(SCN)₄ (M=Co and Zn) studied by vibrational spectroscopy, K. Suzuki, K. Yamamoto, and K. Yakushi, *Synthetic Metals* **135-136**, 525-526 (2003).
- 81 Insulator to metal transition and electronic spectra of bis(1,2-benzoquinonedioximato)- platinum(II), Pt(bqd)₂ at high pressure, K. Takeda, I. Shirotani, and K. Yakushi, *Synthetic Metals*, **133-134**, 415-416 (2003).
- 80 Characterization of quasi-1D conductors, (BDTFP)₂X(PhCl)_{0.5} (X=PF₆, AsF₆), M. Uruichi, K. Yakushi, T. Shirahata, K. Takahashi, T. Mori, and T. Nakamura, *Synthetic Metals*, **133-134**, 407-409 (2003).
- 79 Thermoelectric power and Raman spectra of (Me₂DCNQI)₂Cu_xLi_{1-x}, T. Yamamoto, H. Tajima, R. Kato, M. Uruichi, and K. Yakushi, *Synthetic Metals*, **133-134**, 291-292 (2003).
- 78 Charge ordering and phase transition in θ -(BDT-TTP)₂Cu(NCS)₂, K. Yakushi, K. Yamamoto, J. Ouyang, M. Simonyan, C. Nakano, Y. Misaki, and K. Tanaka, *Synthetic Metals*, **133-134**, 287-289 (2003).
- 77 Spectroscopic study of the [0110] charge ordering in (EDO-TTF)₂PF₆, O. Drozdova, K. Yakushi, A. Ota, H. Yamochi, and G. Saito, *Synthetic Metals*, **133-134**, 277-279 (2003).
- 76 Vibrational spectra of BEDT-TTF based 2D charge ordering systems, K. Yamamoto, K. Yakushi, K. Miyagawa, K. Kanoda, A. Kawamoto, J. Yamaura, and T. Enoki, *Synthetic Metals*, **133-134**, 269-272 (2003).

- 75 Effect of uniaxial strain in organic superconductor κ -(BEDT-TTF)₂Cu(NCS)₂, T. Mizutani, M. Tokumoto, T. Kinoshita, J. S. Brooks, Y. Uwatoko, O. Drozdova, K. Yakushi, I. Tamura, H. Kobayashi, T. Mangetsu, J. Yamada, and K. Ishida, *Synthetic Metals*, **133-134**, 229-231 (2003).
- 74 Infrared study of the properties of the normal (metallic) phase of κ -(ET-¹³C₄)₂Cu(CN)[N(CN)₂], O. Drozdova, K. Yakushi, H. Yamochi, G. Saito, and D. B. Tanner, *Synthetic Metals*, **133-134**, 119-121 (2003).
- 73 Charge disproportionation and its ordering pattern in θ and α types of BEDT-TTF salts studied by Raman and infrared spectroscopy, K. Yamamoto, K. Yakushi, M. Inokchi, M. Kinoshita, G. Saito, *Mol. Cryst. Liq. Cryst.*, **380**, 221-226 (2002).
- 72 Formation of mixed crystal system Co_xNi_{1-x}Pc(AsF₆)_{0.5}, Y. Ding, M. Simonyan, Y. Yonehara, M. Uruichi, K. Yakushi, *Mol. Cryst. Liq. Cryst.*, **380**, 283-287 (2002).
- 71 Charge order in θ -(BDT-TTP)₂Cu(NCS)₂, K. Yakushi, J. Ouyang, M. Simonyan, Y. Misaki, K. Tanaka, *Mol. Cryst. Liq. Cryst.*, **380**, 53-59 (2002).
- 70 Synthesis and properties of π -extended TTF analogues and their cation radical and dication salts, Y. Yamashita, M. Tomura, M. Uruichi, and K. Yakushi, *Mol. Cryst. Liq. Cryst.*, **376**, 19-24 (2002).
- 69 Charge transfer degree of BO complexes, O. Drozdova, H. Yamochi, K. Yakushi, M. Uruichi, G. Saito, *Mol. Cryst. Liq. Cryst.*, **376**, 135-140 (2002).
- 68 Magnetic Properties of Organic Spin-Ladder Systems, (BDTFP)₂X(PhCl)_{0.5}, T. Nakamura, K. Takahashi, T. Ise, T. Shirahata, M. Uruichi, K. Yakushi, T. Mori, *Mol. Cryst. Liq. Cryst.*, **376**, 95-100 (2002).
- 67 Novel Inorganic-organic magnet: intercalation compound of α -aminopyridine into layered MnPS₃, C. Yang, X. Chen, J. Qin, K. Yakushi, Y. Nakazawa, K. Ichimura, Y. Liu, *Synthetic Metals*, **121**, 1802-1803 (2001).
- 66 Nanocomposite system of N-methylstilbazoliums intercalated into lamellar FePS₃, X. Chen, C. Yang, J. Qin, M. Inokuchi, Y. Fujii, M. Kinoshita, K. Yakushi, K. Ichimura, Y. Liu, *Synthetic Metals*, **121**, 1307-1308 (2001).

- 65 Study of the phase transitions of (DI-DCNQI)₂X using vibronic and vibrational spectra, M. Meneghetti, C. Pecile, K. Kanoda, K. Hiraki, and K. Yakushi, *Synthetic Metals* **120**, 1091-1092 (2001).
- 64 Low temperature X-ray and ESR study of Quasi-1D DMTCA-BF₄ (C=S, Se) with half-filled band, T. Kambe, N. Fujimura, Y. Nogami, K. Oshima, K. Yakushi, J. Dong, K. Takimiya, T. Otsubo, *Synthetic Metals*, **120**, 931-932 (2001).
- 63 Phase diagrams of (DMe-DCNQI)₂Li_{1-x}Cu_x system, T. Yamamoto, H. Hanasaki, J. Yamaura, S. Aonuma, H. Tajima, K. Yakushi, M. Uruichi, and R. Kato, *Synthetic Metals*, **120**, 873-874 (2001).
- 62 Raman spectroscopy as a method of determination of the charge on BO in its complexes, O. Drozdova, H. Yamochi, K. Yakushi, M. Uruichi, S. Horiuchi, and G. Saito, *Synthetic Metals*, **120**, 739-740 (2001).
- 61 Phase transition of θ-(BDT-TTP)₂Cu(NCS)₂, J. Ouyang, K. Yakushi, Y. Misaki, and K. Tanaka, *Synthetic Metals*, **120**, 843-844 (2001).
- 60 Electronic ground state of θ-(BEDT-TTF)₂RbZn(SCN)₄ studied by Raman spectroscopy, K. Yamamoto and K. Yakushi, *Synthetic Metals*, **120**, 791-792 (2001).
- 59 Observation of plasmons in 2-D organic metal BO_{2.4}I₃ by reflection spectroscopy, J. Ulanski, K. Yakushi, H. Yamochi, and G. Saito, *Synthetic Metals*, **120**, 721-722 (2001).
- 58 Electronic structures of organic salt DMTSA-BF₄ using photoelectron spectromicroscopy, Y. Haruyama, T. Kinoshita, K. Takimiya, T. Otsubo, C. Nakano, and K. Yakushi, *J. Electron Spectrosc.*, **114-116**, 1013-1018 (2001).
- 57 Electron paramagnetic resonance study of magnetic ordering in MnPS₃, Mn_{0.79}PS₃(4,4'-bipy)_(0.42) and Mn_{0.84}PS₃(1,10-Phen)_(0.64) compounds, M. K. Bhide, R. M. Kadam, M. D. Sastry, J. Qin, C. Yang, K. Yakushi, Y. Nakazawa, K. Ichimura, A. K. Sra AK, J. V. Yakhmi, *Mol. Cryst. Liq. Cryst.*, **341**, 923-928 (2000).

- 56 Electron magnetic resonance studies of the intercalation ferromagnet 2,2'-bipyridine-MnPS₃ above and below Curie temperature, M. K. Bhide, M. D. Sastry, J. Qin, C. Yang, K. Yakushi, Y. Nakazawa, K. Ichimura, A. K. Sra, J. V. Yakhmi, *Mol. Cryst. Liq. Cryst.* **348**, 295-300 (2000).
- 55 Preparation of a new nanocomposite of conducting polyaniline into layered MnP₃. D. Zhang, J. Qin, K. Yakushi, Y. Nakazawa, and K. Ichimura, *Materials Science and Engineering*, A286, 183-187 (2000).
- 54 BEDT-TTF being inserted into a layered MnPS₃, C. Yang, J. Qin, K. Yakushi, Y. Nakazawa, and K. Ichimura, *Synthetic Metals*, **102**, 1482-1482 (1999).
- 53 Optical Properties of α' -(BEDT-TTF)₂IBr₂, M. Inokuchi, K. Yakushi, M. Kinoshita, and G. Saito, *Synthetic Metals*, **103**, 2101-2102 (1999).
- 52 Optical Spectra of Phthalocyanine Salts, Y. Yonehara and K. Yakushi, *Synthetic Metals*, **103**, 2214-2215 (1999).
- 51 Temperature-dependent Reflection Spectra of Metallic (BEDT-ATD)₂X(THF) (X=PF₆, AsF₆), M. Uruichi, K. Yakushi, and Y. Yamashita, *Synthetic Metals*, **103**, 2206-2206 (1999).
- 50 Band Structure of (BDT-TTP)₂X (X=SbF₆, AsF₆, ClO₄) Studied by Reflection Spectroscopy, J. Ouyang, K. Yakushi, Y. Misaki, and K. Takimiya, *Synthetic Metals*, **103**, 2207-2207 (1999).
- 49 Metallic properties of 1:1 Charge-Transfer Salt DMTSA-BF₄, K. Yakushi, J. Dong, J. Ouyang, K. Takimiya, T. Otsubo, and H. Tajima, *Synthetic Metals*, **103**, 2208-2209 (1999).
- 48 Competition between electron-correlation in Ni^{III} states and electron-phonon interaction in Pd^{II}-Pd^{IV} mixed-valence states in quasi-one-dimensional halogen-bridged mixed-metal complexes, Ni_{1-x}Pd_x(chxn)₂Br₃, T. Manabe, M. Yamashita, T. Kawashima, H. Okamoto, H. Kitagawa, T. Mitani, K. Toriumi, H. Miyamae, K. Inoue, K. Yakushi, *Proceedings of SPIE*, **3145**, 106-115 (1998).
- 47 Compressibility and high-pressure electrical resistivity of one-dimensional phthalocyanine conductors: the relationship with d- π charge transfer, T. Hiejima, K. Yakushi, T. Adachi, O. Shimomura, K. Takeda, I. Shirotan, K.

- Imaeda, and H. Inokuchi, *Mol. Cryst. Liq. Cryst.*, **296**, 255-268 (1997).
- 46 Low-field microwave absorption and ESR in "conducting polymer-fullerene-alkali metal" superconductors: comparative study of various host matrices, H. Kajii, H. Araki, A. A. Zakhidov, K. Yakushi, and K. Yoshino, *Synthetic Metals*, **86**, 2351-2352 (1997).
- 45 Preparation and study of high-pressure phases of C60 fullerene, M. E. Kozlov, M. Tokumoto, and K. Yakushi, *Synthetic Metals*, **86**, 2349-2350 (1997).
- 44 Competition between Electron-Correlation in Ni(III) and Electron-Lattice Interaction in Pd(II)-Pd(IV) in Mixed-Metal MX-Chain, $\text{Ni}_{1-x}\text{Pd}_x(\text{chxn})_2\text{Br}_3$, T. Manabe, T. Kawashima, M. Yamashita, H. Okamoto, H. Kitagawa, T. Mitani, M. Inokuchi, and K. Yakushi, *Synthetic Metals*, **86**, 2233-2234 (1997).
- 43 Electron-molecular vibration coupling in organic charge-transfer salts: application of spectroscopic and Hubbard models, M. E. Kozlov, V. A. Ivanov, K. Yakushi, and M. Tokumoto, *Synthetic Metals*, **86**, 2177-2178 (1997).
- 42 Pressure and Temperature Dependence of the Electrical Resistivity of One-dimensional Phthalocyanine Conductor, $\text{NiPc}(\text{AsF}_6)_{0.5}$, T. Hiejima and K. Yakushi, *Synthetic Metals*, **86**, 2185-2186 (1997).
- 41 Compressibility of One Dimensional Phthalocyanine Conductors, $\text{NiPc}(\text{AsF}_6)_{0.5}$ and $\text{CoPc}(\text{AsF}_6)_{0.5}$, T. Hiejima, K. Yakushi, T. Adachi, O. Shimomura, and I. Shirotani, *Synthetic Metals*, **86**, 2167-2168 (1997).
- 40 Pressure-Induced Charge Transfer in Phthalocyanine Conductors, K. Yakushi and T. Hiejima, *Synthetic Metals*, **86**, 2137-2138 (1997).
- 39 Electron-electron correlation with particular attention to *m*-BDNT-PF₆: spin susceptibility, V. A. Ivanov, K. Yakushi, and J. Dong, *Synthetic Metals*, **86**, 2107-2108 (1997).
- 38 Synthesis and Ferromagnetism of a New Intercalation Compound: $\text{Mn}_{0.86}\text{PS}_3(\text{bipy})_{0.56}$, J. Qin, C. Yang, K. Yakushi, Y. Nakazawa, K. Ichimura, and D. Liu, *Synthetic Metals*, **85**, 1673-1674 (1997).
- 37 Superconductivity in charge transfer complexes of C60, A. Otsuka, G. Saito, A. A. Zakhidov, and K. Yakushi, *Synthetic Metals*, **85**, 1459-1460 (1997).

- 36 Characterization of the half-filled DMTSA-BF₄ by optical and magnetic measurements, J. Dong, K. Yakushi, K. Takimiya, and T. Otsubo, *Synthetic Metals*, **84**, 633-634 (1997).
- 35 Alkali Metal Doping to C₆₀ CT Complexes, A. Otsuka, G. Saito, A. Zakhidov, K. Yakushi, M. Kusunoki, and K. Sakaguchi, *Mol. Cryst. Liq. Cryst.*, **285**, 187-192 (1996).
- 34 A Search for New Ionic C₆₀ Charge Transfer Complexes, A.Otsuka, G.Saito, T.Teramoto, Y.Sugita, T.Ban, A.A.Zakhidov, and K.Yakushi, *Mol. Cryst. Liq. Cryst.*, **284**, 345-356 (1996).
- 33 Spectroscopic Studies on BDNT Having a Property of One-Step Two-Electron Oxidation: BDNT⁰, BDNT¹⁺, and BDNT²⁺, K.Yakushi, J.Dong, M.Uruichi, and Y.Yamashita, *Mol. Cryst. Liq. Cryst.*, **284**, 223-234 (1996).
- 32 Superconducting properties of Na-doped C₆₀ prepared from sodium azide. I. I. Khairullin, K. Imaeda, K. Yakushi, and H. Inokuchi, *Synthetic Metals*, **70**, 1369-1370 (1995).
- 31 Magnetic and structure characterization of superconducting sodium-doped C₆₀ prepared with the thermal decomposition of sodium azide. K. Imaeda, I. I. Khairullin, K. Yakushi, and H. Inokuchi, *Synthetic Metals*, **70**, 1375-1376 (1995).
- 30 Far-infrared reflectance of β''-(BEDT-TTF)₂AuBr₂: co-existence of free carriers and a single-particle gap at 2Δ=130 cm⁻¹. A. Ugawa, D. B. Tanner, and K. Yakushi, *Synthetic Metals*, **70**, 979-980 (1995).
- 29 Pressure Dependence of the Infrared and Visible Spectra of Metallophthalocyanine Salts. T. Hiejima and K. Yakushi, *Synthetic Metals*, **71**, 2305-2306 (1995).
- 28 Characterization of Poly-CuPc Sheet Polymers Synthesized under High Pressure, K. Yakushi, I. Shirotani, I. I. Khairullin, Y. Nakazawa, K. Kanoda, N. Kosugi, S. Takeda, *Synthetic Metals*, **71**, 2289-2290 (1995).
- 27 Fermi Surface and Magnetoresistance in an Organic Metal β''-(BEDT-TTF)₂AuBr₂, S. Uji, H. Aoki, M. Tokumoto, A. Ugawa, and K. Yakushi, *Mat. Res. Symp. Proc.* **328**, 337-342 (1994).

- 26 ESR and low-field microwave absorption study of sodium-doped C₆₀: peculiarities of the doping using sodium azide. I. I. Khairullin, K. Imaeda, K. Yakushi, and H. Inokuchi, *Advanced Materials '93 I/B*, 1259-1262 (1993).
- 25 Preparation and characterization of Na_xC₆₀ using sodium azide, K. Imaeda, I. I. Khairullin, K. Yakushi, and H. Inokuchi, *Advanced Materials '93 I/B*, 1255-1258 (1993).
- 24 Photoelectron Spectra of Higher Fullerene Compound C₈₂ and its Potassium Complex, S. Hino, K. Matsumoto, S. Hasegawa, K. Iwasaki, K. Yakushi, T. Morikawa, T. Takahashi, K. Seki, K. Kikuchi, S. Suzuki, I. Ikemoto, Y. Achiba, *Synthetic Metals*, **55-57**, 3191-3195 (1993).
- 23 Air Stability of K₃C₆₀ Superconductors: Low Field Microwave Absorption and ESR Study, A. A. Zakhidov, I. I. Khairullin, P. K. Khabibullaev, V. Yu. Sokolov, K. Imaeda, K. Yakushi, H. Inokuchi, Y. Achiba, *Synthetic Metals*, **55-57**, 2967-2972 (1993).
- 22 Infrared and Transport Properties of K_xC₆₀, A. Ugawa, K. Yakushi, K. Kikuchi, S. Suzuki, K. Sato, Y. Achiba, and I. Ikemoto, *Synthetic Metals*, **55-57**, 2997-3001 (1993).
- 21 Structure and Solid State Properties of Conductive (Phthalocyaninato)cobalt Salt, CoPc(AsF₆)_{0.5}, K. Yakushi, H. Yamakado, T. Ida, A. Ugawa, K. Awaga, Y. Maruyama, K. Imaeda, and H. Inokuchi, *Synthetic Metals*, **55-57**, 1699-1704 (1993).
- 20 Ferromagnetic TDAE-C₆₀ versus Paramagnetic TDAE-C₇₀: Faradey Balance and ESR Study, K. Tanaka, A. A. Zakhidov, K. Yoshizawa, K. Okahara, T. Yamabe, K. Yakushi, K. Kikuchi, S. Suzuki, I. Ikemoto, and Y. Achiba, *Int. J. Mod. Phys., B*, **6**, 3953-3958 (1992).
- 19 Evidence for Jahn-Teller Coupling and Fano Resonance of Lower H_g Modes in K_xC₆₀ and Rb₃C₆₀ Films from Raman Scattering, V. N. Denisov, A. A. Zakhidov, R. Danieli, G. Ruani, R. Zamboni, C. Taliani, K. Imaeda, K. Yakushi, H. Inokuchi, Y. Achiba, *Int. J. Mod. Phys. B*, **6**, 4019-4024 (1992).
- 18 Fermi Surface Study of Two-Dimensional Organic Metals (BEDT-TTF)₂X, M. Tokumoto, N. Kinoshita, H. Anzai, A. G. Swanson, J. S. Brooks, S. T. Hannahs, C. C. Agosta, M. Tamura, H. Tajima, H. Kuroda, A. Ugawa, and K.

- Yakushi, *Synthetic Metals*, **41-43**, 2459 (1991).
- 17 The Fermi Surfaces in the κ -Type BEDT-TTF based Organic Superconductors, K. Oshima, K. Araki, H. Yamazaki, K. Kato, Y. Maruyama, K. Yakushi, T. Mori, H. Inokuchi, H. Mori, and S. Tanaka, *Physica C*, **185-189**, 2689-2690 (1991).
- 16 Low-Field Microwave Absorption in Organic Superconductor κ -(ET)₂[Cu(NCS)₂], A. A. Zakhidov, A. Ugawa, K. Yakushi, K. Imaeda, H. Inokuchi, I. I. Khairullin, and P. K. Khabibullaev, *Physica C*, **185-189**, 2669-2670 (1991).
- 15 Microwave Low-Field Signal and ESR in K_x(C₆₀)_{1-y}(C₇₀)_y and K_xC₇₀, A. A. Zakhidov, K. Imaeda, A. Ugawa, K. Yakushi, H. Inokuchi, Z. Iqbal, R. H. Baughman, B. L. Ramakrishna, and Y. Achiba, *Physica C*, **185-189**, 411-412 (1991).
- 14 Reflectance Spectra of some Two-Dimensional Organic Metals based on BEDT-TTF and [Ni(dmit)₂], M. Tamura, R. Masuda, T. Naito, H. Tajima, H. Kuroda, A. Kobayashi, K. Yakushi, R. Kato, H. Kobayashi, M. Tokumoto, N. Kinoshita, and H. Anzai, *Synthetic Metals*, **41-43**, 2499-2502 (1991).
- 13 High-pressure optical study of partially oxidized metallophthalocyanines and metallotetrabenzoporphyrins. T. Ida, D. Kanazawa, H. Yamakado, H. Tajima, H. Kuroda, H. Masuda, and K. Yakushi, *Mol. Cryst. Liq. Cryst.*, **181**, 243-252 (1990).
- 12 Relation between the dimensionality of electronic structure and the correlation effect in (BEDT-TTF)₂X system. A. Ugawa, K. Yakushi, and H. Kuroda, *Mol. Cryst. Liq. Cryst.*, **181**, 269-278 (1990).
- 11 Polarized reflectance spectra of DCNQI salts. K. Yakushi, A. Ugawa, G. Ojima, T. Ida, H. Tajima, H. Kuroda, A. Kobayashi, R. Kato, H. Kobayashi, *Mol. Cryst. Liq. Cryst.*, **181**, 217-232 (1990).
- 10 Reflectance spectra of DCNQI salts. H. Tajima, G. Ojima, T. Ida, H. Kuroda, A. Kobayashi, R. Kato, H. Kobayashi, A. Ugawa, and K. Yakushi, "The Physics and Chemistry of Organic Superconductors" ed. by G. Saito and S. Kagoshima, Springer-Verlag, p49-53 (1990).

- 9 Microwave conductivity of the phthalocyanine and dicyano-quinonediimine salts. H. Yamakado, A. Ugawa, T. Ida, and K. Yakushi, "The Physics and Chemistry of Organic Superconductors" ed. by G. Saito and S. Kagoshima, Springer-Verlag, p311-314 (1990).
- 8 Optical spectra of highly conducting phthalocyanine salts. K. Yakushi, H. Yamakado, T. Ida, A. Ugawa, H. Masuda, H. Kuroda, "The Physics and Chemistry of Organic Superconductors" ed. by G. Saito and S. Kagoshima, Springer-Verlag, p54-57 (1990).
- 7 Preparation and Characterization of the cation radical salts of phthalocyanine and tetrabenzoporphyrin. K. Yakushi, H. Yamakado, M. Yoshitake, N. Kosugi, H. Kuroda, A. Kawamoto, J. Tanaka, T. Sugano, M. Kinoshita, S. Hino, *Synthetic Metals*, **29**, F95-F102 (1989).
- 6 Reflectance spectra of β -, θ -, κ -(BEDT-TTF)₂I₃, and β'' - and β' -(BEDT-TTF)₂ICl₂: Relation between the inter-band and the dimeric structure. H. Kuroda, K. Yakushi, H. Tajima, A. Ugawa, M. Tamura, Y. Okawa, A. Kobayashi, R. Kato, H. Kobayashi, and G. Saito, *Synthetic Metals*, **27**, A491-A498 (1988).
- 5 Infrared properties of a novel organic superconductors, (BEDT-TTF)₂[Cu(SCN)₂]. A. Ugawa, G. Ojima, K. Yakushi, and H. Kuroda, *Synthetic Metals*, **27**, A445-A450 (1988).
- 4 Physical properties of β'' -(BEDT-TTF)₂ICl₂. A. Ugawa, Y. Okawa, K. Yakushi, H. Kuroda, A. Kawamoto, H. Tanaka, M. Tanaka, Y. Nogami, S. Kagoshima, K. Murata, and T. Ishiguro, *Synthetic Metals*, **27**, A407-A412 (1988).
- 3 Preparation and Structure of Phthalocyanine Complexes, K. Yakushi, M. Sakuda, I. Hamada, and H. Kuroda, *Synthetic Metals*, **19**, 769-774 (1987).
- 2 Optical Properties of BEDT-TTF Salts, H. Kuroda, K. Yakushi, H. Tajima, H. Kanbara, and G. Saito, *Synthetic Metals*, **19**, 131-136 (1987).
- 1 Reflectance Spectra of β -(BEDT-TTF)₂X (X = I₃ and IBr₂), H. Tajima, H. Kanbara, K. Yakushi, H. Kuroda, and G. Saito, *Synthetic Metals*, **19**, 137-142 (1987).